K.T.S.P.Mandal's

Hutatma Rajguru Mahavidyalaya,

Rajgurunagar Tal-Khed Dist- Pune

Name of the Faculty – Prof. Dr. S.B.Suryawanshi.

Name of the Department - Chemistry

Academic Year-2021-22

Sr.No	Class	Subject	Number of Students	Online lectures	Offline lectures	Total lectures
01	T.Y.B.Sc	CH-502 Anal.Chemistry	34	05	21	26
02	T.Y.B.Sc	Org.Chem Pract- A	12	-------	45	45
03	T.Y.B.Sc	Org.Chem Pract- B	12	-------	45	45
04	T.Y.B.Sc	Org.Chem Pract- C	10	-------	45	45

Prof. Dr. S.B.Suryawanshi.

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Syllabus Completion Report

Class - T.Y.B.Sc Sem-V

Subject – Analytical Chemistry CH-502

Name of the Teacher- Prof. Dr. S.B.Suryawanshi

Sr. No.	Month	Name of Chapter	Topic Covered	No. of Lect. Taken
1	Dec 2021 Jan 2022	**Gravimetry**	Introduction to Gravimetric Analysis, Common ion effect and solubility product principles, Conditions for good precipitation, Factors affecting precipitation like acid, temperature, nature of solvent, Super saturation and precipitation formation, Precipitation from homogeneous solution and examples, Co-precipitation, post-precipitation and remedies for their minimization, Washing of precipitate and ignition of precipitate, Organic Precipitants (8-hydroxy quinoline, DMG, Cupferron, Nitron, and Benzoin-alfa oxime, Anthranilic acid) Gravimetric Calculations-How Much Analyte is there. **Applications of Gravimetry**: Determination of Al(III) by 8-hydroxy	12 L

			quinoline, Determination of calcium as oxalate, Determination of potassium as potassium tetraphenylborate, .	
		3.Thermal methods of analysis	Differntial Thermal Analysis :Introduction, instrumentation for DTA and DSC, experimental and instrumental factors, applications: DTA of copper sulphate pentahydrate, Purity of pharmaceutical by DSC	03 L

2..	Jan 2022	**4.Parameters of instrumental analysis**	Techiques, Methods, Procedures and Protocols, Selecting an Analytical Methods, Accuracy, Precision, Sensitivity, Selectivity, Robustness and Ruggedness, Scaleof operation, equipment, Time and cost, Making the Final Choice, Developing the Procedure, Calibration and Standardisation, Sampling, Validation, Protocols,	04L
3.	Feb 2022	**5.UV-Visible Spectroscopy**	Introduction, Theory of spectrophotometry and colorimetry-Beer's law, Applications of Beer's law, Spectrophotometry: Wavelength selection by prism and diffraction grating, Radiation souece, cells,and data presentation, single beam spectrophotometer, Double beam spectrophotometers, Choice solvent, general procedure for colorimetric estimation, simultaneous analysis, Application: Estimation of metal ions from aqueous solution : Boron in steel, Chromium in steel with diphenyl carbazide reagent, ammonia in water, Chlorine , Primary amine, Determination of pKa value of indicator, Determination of composition of metal complexes using Job's method of continous variation and mole ratio method,	10 L

			Numericals.	

Organic Chemistry Practicals

BATCH- A, B and C

Sr.No	Month	Name of the Practical	Title of the Experiment	No of lectrures
01	Dec 2021	Organic Chemistry Practical	Separation of water insoluble Solid-Solid mixture -01	05L
02	Dec 2021	Organic Chemistry Practical	Separation of water insoluble Solid-Solid mixture -02	05L
03	Dec 2021	Organic Chemistry Practical	Separation of water insoluble Solid-Solid mixture -03	05L
04	Dec 2021	Organic Chemistry Practical	Separation of Solid-Liquid mixture -01	05L
05	Jan 2022	Organic Chemistry Practical	Separation of Solid-Liquid mixture -02	05L
06	Jan 2022	Organic Chemistry Practical	Separation of Liquid-Liquid mixture -01	05L
07	Feb 2022	Organic Chemistry Practical	**Green Chemistry Preparation** -01 Bromination of Acetanilide using Cerrric ammonium nitrate and KBr in aqueous medium.	05L
08	Feb 2022	Organic Chemistry Practical	**Organic Preparations-01** Preparation of P-Iodonitrobenzene from P-Nitroaniline by Sandmeyer Reaction	05L
09	Feb 2022	Organic Chemistry Practical	**Preparation of Organic Derivative-01** Preparation of Glucosazone derivative of Glucose	05L

E- Contents

T.Y.B.Sc E- contents are uploaded on College website

Book Publications

1. **F.Y.B.Sc Sem-I Physical Chemistry**
2. **T.Y.B.Sc Sem-V Organic Chemistry–I CH-507**
3. **T.Y.B.Sc Sem-V Chemistry of Biomolecules CH-508**
4. **T.Y.B.Sc Sem-VI Organic Chemistry –II CH-607**
5. **T.Y.B.Sc Sem-VI Organic Chemistry –III CH-608**

Prof. Dr. S.B.Suryawanshi.

Head, Dept. of Chemistry

Timetable

Sr. No	Time	Mon	Tue	Wed	Thur	Fri	Sat
01	8.20-9.10 am	-------	-------	-------	-------	-------	-------
02	9.25-10.10 a.m	-------	-------	-------	-------	-------	-------
03	10.10 - 11.00 a.m	-------	-------	-------	-------	-------	-------
04	11.00 - 11.50 a.m	-------	-------	-------	T.Y.	T.Y.	T.Y.
05	12.15 - 4.30 p.m	T.Y. C	T.Y. A	T.Y. B	-------	-------	-------

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Syllabus Completion Report Year 2021-22 **Class:** F. Y. B. Sc., **Sem.**-I

Name of Paper: Physical Chemistry **No. of Lectures allotted per week:** 03 T

Name of Teacher: Dr. S. P. Jadhav

Name of Paper : Physical Chemistry Total No. Of Lectures Taken : 35

Sr. No.	Month	No. of Lect. Taken	Name of Chapter	Topic Covered
1.	**Sep-21**	**03 L**	Chemical Energetics	Review of thermodynamics and the Laws of Thermodynamics. Important principles and definitions of thermochemistry. Concept of standard state and standard enthalpies of formations, integral and differential enthalpies of solution and dilution.
2.	**Oct-21**	**09 L**	Chemical Energetics	Calculation of bond energy, bond dissociation energy and resonance energy from thermochemical data. Variation of enthalpy of a reaction with temperature – Kirchhoff's equation. Statement of Third Law of thermodynamics and calculation of absolute entropies of substances, problems
3.	**Nov-21**	**05 L**	Chemical Equilibrium:	Introduction: Free Energy and equilibrium - Concept, Definition and significance The reaction Gibbs Energy, Exergonic and endergonic reaction.
4.	**Dec-21**	**12 L**	Chemical Equilibrium:	The perfect gas equilibrium, the general case of equilibrium, the relation between equilibrium constants, Molecular interpretation of equilibrium constant. The response of equilibria to conditions-response to pressure , response to temperature, Van't Haff equation, Value of K at different temperature, Problems
5.	**Jan-22**	**04 L**	Ionic Equilibria	Strong, moderate and weak electrolytes, degree of ionization, factors affecting degree of ionization, ionization constant and ionic product of water. Ionization of weak acids and bases, pH scale, common ion effect. Salt hydrolysis-calculation of hydrolysis constant, degree of hydrolysis and pH for different salts.
6.	**Feb-22**	**02L**	Ionic Equilibria	Buffer solutions. Solubility and solubility product of sparingly soluble salts– applications of solubility product principle.

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Syllabus Completion Report Year 2021-22 **Class:** T. Y. B. Sc., **Sem.**-V

Name of Paper: Physical Chemistry **No. of Lectures allotted per week:** 03

Name of Teacher: Dr. S. P. Jadhav

Name of Paper : Physical Chemistry Total No. Of Lectures Taken : 38

Sr. No.	Month	No. of Lect. Taken	Name of Chapter	Topic Covered
1	**Sep-21**	**--**	--	**--**
2	**Oct-21**	**01 L**	Quantum Chemistry	Introduction, de Broglie hypothesis, The Heisenberg's uncertainty principle, quantisation of energy, Operators.
3	**Nov-21**	**05 L**	Quantum Chemistry	Schrodinger wave equation, well behaved function, Particle in a one-, two and three-dimensional box (no derivation), Physical interpretation of the ψ and $\psi 2$,
4	**Dec-21**	**14 L**	Quantum Chemistry	sketching of wave function and probability densities for 1D box, degeneracy, applications to conjugated systems, zero-point energy and quantum tunnelling, Numerical
5	**Jan-22**	**09L**	Investigation of Molecular structure	Molar refraction and molecular structure, Dipole moment and molecular structure, electromagnetic spectrum, energy of molecules, Types of molecular spectra. Microwave Spectroscopy, Infrared Spectroscopy, Raman Spectroscopy.
6	**Feb-22**	**09L**	Photochemistry	Introduction, Difference between thermal and photochemical processes, Laws of photochemistry: i) Grothus - Draper law ii) Stark-Einstein law, Quantum yield, Reasons for high and low quantum yield., Factors affecting Quantum yield, Experimental method for the determination of quantum yield, types of photochemical reactions - photosynthesis, photolysis, photocatalysis, photosensitization, Jablonski diagram depicting various processes occurring in the excited state: Qualitative description of fluorescence and phosphorescence, Chemiluminescence, Problems.

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Syllabus Completion Report Year 2021-22 **Class:** T. Y. B. Sc., **Sem.**-V

Name of Paper: Physical Chemistry Practical - I **No. of Lectures allotted per week:** 05

Name of Teacher: Dr. S. P. Jadhav

Name of Paper : Physical Chemistry Practical - I Total No. Of Lectures Taken : 50 Batch : A

Sr. No.	Month	No. of Lect. Taken	Name of Chapter	Topic Covered
1	**Sep-21**	**--**	--	--
2	**Oct-21**	**--**	--	--
3	**Nov-21**	**05L**	Refractometry	1. To determine the specific refractivity's of the given liquids A and B and their mixture and hence determine the percentage composition their mixture C. 2. To determine the molecular refractivity of the given liquids A, B, C and D.
4	**Dec-21**	**20L**	Spectrophotometry and Colorimetry	1. To titrate Cu2+ ions with EDTA photometrically. 2. To determine the indicator constant of methyl red indicator 3.Simultaneous determination of Cu2+ and Ni2+ ions by colorimetry/spectrophotometry method
5	**Jan-22**	**05L**	Viscosity	1. Determine the radius of glycerol molecule from viscosity measurement.
6	**Feb-22**	**20L**	Conductometry	1.Titration of a mixture of weak acid and strong acid with strong alkali. 2.To determine the velocity constant of hydrolysis of ethyl acetate by NaOH solution by conduct metric method. 3.To determine the normality of citric acid in given fruit by titrating it against standard NaOH solution by conductometric method. 4.To determine $\lambda\infty$ of strong electrolyte (NaCl or KCl) and to verify Onsager equation.

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Syllabus Completion Report Year 2021-22 **Class:** T. Y. B. Sc., **Sem.**-V

Name of Paper: Physical Chemistry Practical - I **No. of Lectures allotted per week:** 05

Name of Teacher: Dr. S. P. Jadhav

Name of Paper : Physical Chemistry Practical - I Total No. Of Lectures Taken : 50

Batch : B

Sr. No.	Month	No. of Lect. Taken	Name of Chapter	Topic Covered
1	**Sep-21**	**--**	--	**--**
2	**Oct-21**	**--**	--	--
3	**Nov-21**	**05L**	Refractometry	1. To determine the specific refractivity's of the given liquids A and B and their mixture and hence determine the percentage composition their mixture C. 2. To determine the molecular refractivity of the given liquids A, B, C and D.
4	**Dec-21**	**20L**	Spectrophotometry and Colorimetry	1. To titrate Cu2+ ions with EDTA photometrically. 2. To determine the indicator constant of methyl red indicator 3.Simultaneous determination of Cu2+ and Ni2+ ions by colorimetry/spectrophotometry method
5	**Jan-22**	**05L**	Viscosity	1. Determine the radius of glycerol molecule from viscosity measurement.
6	**Feb-22**	**20L**	Conductometry	1.Titration of a mixture of weak acid and strong acid with strong alkali. 2.To determine the velocity constant of hydrolysis of ethyl acetate by NaOH solution by conduct metric method. 3.To determine the normality of citric acid in given fruit by titrating it against standard NaOH solution by conductometric method. 4.To determine $\lambda\infty$ of strong electrolyte (NaCl or KCl) and to verify Onsager equation.

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Syllabus Completion Report Year 2021-22 **Class:** T. Y. B. Sc., **Sem.**-V

Name of Paper: Physical Chemistry Practical - I **No. of Lectures allotted per week:** 05

Name of Teacher: Dr. S. P. Jadhav

Name of Paper : Physical Chemistry Practical - I Total No. of Lectures Taken : 50 Batch : C

Sr. No.	Month	No. of Lect. Taken	Name of Chapter	Topic Covered
1	**Sep-21**	**--**	--	--
2	**Oct-21**	**--**	--	--
3	**Nov-21**	**05L**	Refractometry	1. To determine the specific refractivity's of the given liquids A and B and their mixture and hence determine the percentage composition their mixture C. 2. To determine the molecular refractivity of the given liquids A, B, C and D.
4	**Dec-21**	**20L**	Spectrophotometry and Colorimetry	1. To titrate Cu2+ ions with EDTA photometrically. 2. To determine the indicator constant of methyl red indicator 3.Simultaneous determination of Cu2+ and Ni2+ ions by colorimetry/spectrophotometry method
5	**Jan-22**	**05L**	Viscosity	1. Determine the radius of glycerol molecule from viscosity measurement.
6	**Feb-22**	**20L**	Conductometry	1.Titration of a mixture of weak acid and strong acid with strong alkali. 2.To determine the velocity constant of hydrolysis of ethyl acetate by NaOH solution by conduct metric method. 3.To determine the normality of citric acid in given fruit by titrating it against standard NaOH solution by conductometric method. 4.To determine $\lambda\infty$ of strong electrolyte (NaCl or KCl) and to verify Onsager equation.

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Class: T. Y. B. Sc. Chemistry, **Sem.-**VI
Name of Paper: Physical Chemistry CH-601 **No. of Lectures allotted per week:** 03
Name of Teacher: Dr. Sunita P. Jadhav

Sr. No.	Month	Name of Chapter	Topic Covered	No. of Lect. Taken
1.	**March 2022**	Electrochemical Cells	Electrochemical cells, reversible and irreversible cells with examples, The e.m.f. of electrochemical cell and its measurement, The Weston standard cell, Reference electrodes: The primary reference electrode and Secondary reference electrodes, The Nernst equation for E.M.F. of a cell. Types of reversible electrodes, the sign convention for electrode potentials, Thermodynamics of reversible cells and reversible electrodes, E.M.F. and equilibrium constant of cell reaction, Electrochemical series, Types of concentration cells, liquid junction potential, salt bridge,	**06L**
2.	**April 2022**	Electrochemical Cells	Applications of emf measurements: 1. Determination of pH of a solution by using hydrogen electrode, quinhydrone electrode and glass electrodes 2. Potentiometric titrations: i) Acid-base titrations, (ii) Redox titrations. (iii) Precipitation titration, Batteries: Primary and Secondary batteries, applications for Secondary Batteries, Fuel Cells: Types of fuel cells, advantages, disadvantages of fuels cells, comparison of battery Vs fuel cell.	**10L**
3	**April 2022**	Crystal structure	Types of Solids: Isotropy and Anisotropy, Laws of crystallography: Law of constancy of interfacial angles, Law of rational indices, Law of crystal symmetry, Weiss indices and Miller indices, Crystal Structure: Parameters of the Unit Cells, Cubic Unit Cells: Three Types of Cubic Unit Cells, Calculation of Mass of the Unit Cell. Methods of Crystal structure analysis: The Laue method and Braggs method: Derivation of Bragg's equation, Determination of crystal structure of NaCl by Bragg's method, X ray analysis of NaCl crystal system, Calculation of d and λ for a crystal system, Numerical.	**10L**

4	**May 2022**	**Nuclear Chemistry**	Radioactivity, Types of Radiations, Properties of Radiations, Detection and Measurement of Radioactivity: Cloud chamber, Ionization Chamber, Geiger-Muller Counter, Scintillation Counter and Film Badges, Nuclear structure, Classification of nuclides, Types of Radioactive Decay, The Group Displacement Law, Kinetics of Radioactive Decay, Half-life, average life, Energy released in nuclear reaction, Mass Defect, Nuclear Binding Energy, Some applications of radio-isotopes as tracers: Chemical investigation – Esterification, Friedel - Craft reaction, Structural determination – Phosphorus pentachloride, Age determination – use of tritium and C14 dating, Problems.	**10L**

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Class: T. Y. B. Sc. Chemistry, **Sem.-**VI
Name of Paper: Physical Chemistry CH-602 **No. of Lectures allotted per week:** 03
Name of Teacher: Dr. Sunita P. Jadhav

Sr. No.	Month	Name of Chapter	Topic Covered	No. of Lect. Taken
1.	**April 2022**	**Colligative properties of dilute solutions**	Introduction, Solution, electrolytes and nonelectrolytes, Meaning of term colligative property, relative lowering of vapour pressure of solvent in solution, elevation of B.P. of solvent in solution, Landsberger's method, freezing point depression, Beckmann's method, Osmosis and Osmotic pressure, Berkeley and Hartley method, application of colligative properties to determine molecular weight of nonelectrolyte, abnormal molecular weight, Relation between Vant Hoff's factor and degree of dissociation of electrolyte by colligative property, Numerical.	**09L**
2.	**April-May 2022**	**Kinetics of Reactions in the Solid State:**	Some General Considerations, Factors affecting reactions in Solids, Rate Laws for Reactions in Solids , The Parabolic Rate Law, The First-Order Rate Law, The Contracting Sphere Rate Law, The Contracting Area Rate Law, The Prout–Tompkins Equation, Rate Laws Based on Nucleation, Applying Rate Laws, Results of Some Kinetic Studies, The Deaquation-Anation of [Co(NH3)5H2O]Cl3, Two Reacting Solids	**09L**
3	**May 2022**	**Electronic structure and macroscopic properties**	Cohesive energy in ionic crystals, electronic structure of solids, conductors and insulators, Ionic crystals, semiconductors, cohesive energy in metals. Numerical.	**08L**

4	**May 2022**	**Polymers**	Introduction to Polymer Chemistry, Brief History, Polymer definition, Preparation, Classification, Structures, Chemical bonding & Molecular forces in Polymers. Molecular weights of polymers: Average Molecular weight, Number Average & Weight Average Molecular weight, Molecular weight & degree of polymerisation, Practical significance of polymer molecular weights, b) Molecular weight determination by End Group Analysis & Viscosity method and c) Problems based on Number Average & Weight Average Molecular weight.	**10L**

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Class: T. Y. B. Sc. Chemistry, **Sem.-**VI

Name of Paper: Physical Chemistry Practical CH-603

No. of Lectures allotted per week: 03

Name of Teacher: Dr. Sunita P. Jadhav

Sr. No.	Name of Practical	Batch A	Batch C	Batch B
		Date	Date	Date
1	To determine the degree of hydrolysis of aniline hydrochloride.	28/03/2022	29/03/2022	30/03/2022
2	To determine the dissociation constant of oxalic acid by pH-metric titration with strong base.	04/04/2022	05/04/2022	06/04/2022
3	Determination of Pka of given weak acid by pH metry titration with strong base	04/04/2022	05/04/2022	06/04/2022
4	To determine the PKa value of given monobasic weak acid by potentiometric titration.	11/04/2022	19/04/2022	20/04/2022
5	To determine the formal redox potential of Fe2+/ Fe3+ system potentiometrically.	11/04/2022	19/04/2022	20/04/2022

6	To determine the amount of NaCl in the given solution by potentiometric titration against silver nitrate.	02/05/2022	06/05/2022	07/05/2022
7	To determine the solubility product and solubility of AgCl potentiometrically using chemical cell.	02/05/2022	06/05/2022	07/05/2022
8	Estimate the amount of Cl-, Br- and I- in given unknown halide mixture by titrating it against standard AgNO3 solution (mixture of any two ions).	09/05/2022	09/05/2022	09/05/2022
9	To determine the molecular weight of solute by depression in freezing point method	09/05/2022	09/05/2022	09/05/2022
10	Journal Certification	20/05/2022	20/05/2022	20/05/2022
11	Internal Examination	21/05/2022	20/05/2022	20/05/2022

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Class: T. Y. B. Sc. Chemistry **Sem.-**VI
Name of Paper: Analytical Chemistry II (CH-611A)
No. of Lectures allotted per week: 03
Name of Teacher: Prof. Dr.S.B.Suryawanshi

Sr. No.	Month	Name of Chapter	Topic Covered	No. of Lect. Taken
1.	March 2022	Solvent extraction	Introduction to solvent extraction, organic phase, Partition the theory of extraction (distribution coefficient, Distribution ratio, solute remaining unextracted, Separation coefficient), Factors favoring solvent extraction, Quantitative treatment to solvent extraction equilibrium, Ion association complexes, synergic extraction, some extraction reagent specifically used for inorganic ions (Acetylacetone, 8-Hydroxyquinoline, Diphenylthiocarbazone, Sodium diethyldithiocarbamate, Ammonium pyrrolidine dithiocarbamate), some practical aspects, Applications: determination of copper as the diethyldithiocarbamate complex, Determination of Fe(III) with 8-hydroxyquinoline, determination of nickel by synergistic extraction. Solid phase extraction	08
2.	April 2022	Instrumental Methods of Chromatographic Analysis	Principles of Chromatographic Separations, classification, Theory of Column Efficiency in Chromatography, (theoretical plate, rate theory of chromatography - the Van Deemter equation, efficiency and particle size in HPLC, retention factor efficiency and resolution,	04
3	April 2022	High Performance Liquid Chromatography	Introduction, Types of liquid chromatography (liquid-solid, liquid-liquid, bonded phases), Choice of mode of separation, Equipment for HPLC: mobile phase, sample injection and column design (mobile phase, optimization of mobile phase, gradient elution, solvent delivery and sample injection, sample injection system, the column (effect of column length and column diameter), Choosing the Detector, Ultraviolet detector, Luminescence detector, RI detector, electrochemical detector, Column efficiency,	06

			HPLC chromatogram and its characteristics (retention time, peak height, peak area), method of quantitative analysis by HPLC, Example: determination of aspirin, phenacetin and caffeine in a mixture, numerical,	
4	**May 2022**	**Gas Chromatography**	**Introduction, Apparatus: A supply of carrier gas from a high-pressure cylinder, Sample injection system and derivatization, the column (Packed columns, Open tubular columns), the detector (properties, hot wire detector or TCD, FID, ECD), Quantitative analysis by GC (Area normalization method and internal standard addition method), Elemental analysis, numerical**	**06**
3.	**May 2022**	**Atomic Absorption Spectroscopy**	**Introduction, Elementary theory, Instrumentation, flames, the nebulizer-burner system, nonflame techniques, (graphite furnace, cold vapour technique), resonance line sources, monochromator, detectors, interferences, chemical interferences, background correction methods, Atomic absorption spectrophotometers, Experimental preliminaries (calibration curve methods, standard addition method) Preparation of sample (wet ashing, fusion, Dry ashing, microwave dissolution, concentration procedures), Detection limits, Estimation of Ca and Mg in water.**	**08**

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Class: T. Y. B. Sc. Chemistry, **Sem.-**VI

Name of Paper: **Organic Chemistry Practical-II**

No. of Lectures allotted per week: 15

Name of Teacher: Prof. Dr. S.B.Suryawanshi

Sr. No.	Name of Practical	Batch A	Batch B	Batch C
		Date	Date	Date
1	.Estimation of Glucose	30/03/2022	22/03/2022	28/03/2022
2	Estimation of Glycine	06/04/2022	29/03/2022	28/03/2022
3	Estimation of alkali content in antacid using HCl	13/04/2022	05/04/2022	04/04/2022
4	Separation of mixture of O-nitro phenol and P-nitro phenol by column chromatography	20/04/2022	19/04/2022	18/04/2022
5	Separation of mixture of aldehyde and carboxylic acid by column chromatography	27/04/2022	26/04/2022	02/05/2022
6	Estimation of caffine from tea leaves	05/05/2022	05/05/2022	05/05/2022
7	Determination of functional group of organic compounds from IR spectra Determination of structure of organic compound from given NMR spectra.	07/05/2022	07/05/2022	07/05/2022

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Syllabus Completion Report 2021-22 Class: T. Y. B. Sc. Chemistry, **Sem**.-VI

Name of Paper: Inorganic Chemistry-II **No. of Lectures allotted per week**: 03

Name of Teacher: Prof. Dongare N.D.

Sr. No.	Month	Name of Chapter	Topic Covered	Lectures
1	Mar-22	Organometallic Chemistry	Definition of Organometallic compounds and Organometallic chemistry, CO as a π-acid donor ligand, binary metal carbonyls, classification of metal carbonyls, synthesis of metal carbonyls; (a) Direct reaction (b) Reductive carbonylation (c) Photolysis and thermolysis. Hepticity, Molecular and electronic structures of binary metal carbonyls, Electron count in complexes (18 electron rule). Applications of organometallic compounds in industrial catalysis (list of examples). Chemistry of ferrocene; Introduction, synthesis and physical properties of ferrocene. Reactions of ferrocene such as Friedel-Craft Acylation, Friedel-Craft Alkylation, Mannich reaction, Nitration and Halogenation.	8L
2	Mar-22, Apr-22	Homogeneous and Heterogeneous catalysis	Introduction to Catalysis, basic principles, activity and selectivity in catalysis, Types of catalysis, homogeneous vs. heterogeneous catalysis.**Homogeneous catalysis:** catalytic cycles for following reactions: a) Hydrogenation of olefins using Wilkinson complex, b) Hydroformylation of olefins using Cobalt and Rhodium complexes, c) Carbonylation reaction: methanol to acetic acid process i.e. Monsanto processes and d) C-C coupling reactions: Heck reaction. **Heterogeneous catalysis**: Classification of heterogeneous catalysts, supported metal catalyst, Role of support, Promoters and Poisons. Catalytic processes viz., a) Hydrogenation of olefins using Raney Nickel catalyst, b) Zeolites in catalysis: Catalytic cracking, c) Biodiesel synthesis using Heteropolyacids (HPAs) d) Automotive Exhaust catalysts: The catalytic converters.	10L
3.	Apr-22	Bioinorganic Chemistry	Role of metals in bioinorganic chemistry, Classification as enzymatic and non-enzymatic metals, enzymatic redox metals such as Cu (SOD) and enzymatic non-redox metals such as Zn (Hydrolase). Role of metal ions in non-enzymatic processes-Na, K, Ca, Mg. Role of metals in enzymatic processes.II.Metalloproteins-Iron	8L

			proteinsIntroduction of Fe-S proteins, Electron transfer proteins (Fe-S, Fe2S2, Fe3S4, Fe4S4). Transport protein (transferrin) and Storage protein (ferritin) III. Bioinorganic Chemistry of Fe: Hemoglobin and myoglobin, its structure and functions and IV. Bioinorganic Chemistry of Co: Vitamin-B12, its structure and function.	
4.	May-22	Inorganic Polymers	Introduction, Types of inorganic polymers, comparison with organic polymers, synthesis, structural aspects and applications of silicates, silicones, siloxanes, borazines, and phosphazenes.	5L
5.	May-22	Inorganic solids/ionic liquids of technological importance	Inorganic solids, Preparation of inorganic solids: Conventional heat and beat methods, Coprecipitation method, Sol-gel method and Hydro-thermal method. Introduction to Solid electrolytes, inorganic liquid crystals and their examples. Ionic liquids, synthesis and application of imidazolium and phosphonium based ionic liquids.	5L

Prof. Nita D. Dongare **Dr. S. B. Suryawanshi**
Subject Teacher

K.T.S.P. Mandal's Hutatma Rajguru Mahavidyalaya

Rajgurunagar, Tal. Khed Dist. Pune

Syllabus Completion Report 2021-22 Class: T. Y. B. Sc. Chemistry, **Sem**.-VI

Name of Paper: Inorganic Chemistry-III **No. of Lectures allotted per week**: 03

Name of Teacher: Prof. Dongare N.D.

Sr. No.	Month	Name of Chapter	Topic Covered	Lectures
1.	Mar-22, Apr-22	Acid–Base and Donor–Acceptor Chemistry	Acid–Base Models as Organizing Concepts, Arrhenius Concept, Bronsted–Lowry Concept, solvent system concept, Lux Flood concept, Lewis Concept, Frontier Orbitals and Acid–Base Reactions, Hard and soft acids and bases, theory of hard and soft acids bases, Acid and base strength (proton affinity, acidity and basicity of binary hydrogen compounds, inductive effects, steric effect, strength of oxy acids, acidity of cations in aqueous solutions, non-aqueous solvents and acid and base strengths, super acids).	8L
2.	Apr-22	Ionic Solids	Crystalline and amorphous solids, crystal structures simple cubic, body centered cubic and face centered cubic, Properties of ionic solids, packing arrangements of anions in an ionic solids, Voids in crystal structure- tetrahedral and octahedral, Ionic radius, Palings univalent and crystal radii, Conversion of univalent radii to crystal radii, problems based on conversion of radii, Radius ratio effect, Lattice energy, Born-Lande equation, Born Haber cycle and its applications, Schottky and Frenkel defect.	10L
3.	Apr-22, May-22	Chemistry of Zeolites	Historical Background, Natural and artificial Zeolites, 2. Zeolite Framework Types: Classification, Nomenclature, Database of Zeolite Structures, Channels, Building Units, Natural Tiles, Framework Density, Coordination Sequences 3. Zeolite Structures: Framework Composition, Extra-framework Species, Stacking Faults and Disorder 4. Synthesis of Zeolites: Introduction, Basic Zeolite Synthesis, Mineralizing Agents, Effects of water concentration, Gel preparation and crystallization 5. Applications1.Zeolites as Heterogeneous Catalysts: Critical Properties for Catalysis, Catalytic Applications, Zeolites for Fine Chemistry: Acylation and Alkylation Aromatic Hydrocarbons, 2. Zeolites for Adsorption and Separations	8L
4.	May-22	Introduction to Nanochemistry	Synthesis and Stabilization of Nanoparticles by Chemical Reduction, Reactions in Micelles, Emulsions, and Dendrimers. Photochemical and	5L

			Radiation Chemical Reduction, Cryochemical Synthesis, Physical Methods. Particles of Various Shapes and Films, Properties and Application of Nanoparticles in Science and Technology (in bief), Applications of CNTs	
5.	May-22	Chemical Toxicology	Toxic chemicals in the environment, Impact of toxic chemistry on enzymes. Biochemical effect of Arsenic, Cadmium, Lead and Mercury. Biological methylation.	5L

Prof. Nita D. Dongare
Subject Teacher

Dr. S. B. Suryawanshi

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Rajgurunagar, Tal. Khed Dist. Pune

Syllabus Completion Report 2021-22 **Class:** S. Y. B. Sc. **Sem**.-IV

Name of Paper: Chemistry Practical **No. of Lectures allotted per week**: 15

Name of Teacher: Prof. Dongare N.D.

Sr. No.	**Name of Practical**	**Batch A1**	**Batch B1**	**Batch B2**
1	Determine the cell constant of the given cell using 0.01 M KCl solution and determine dissociation constant of a given monobasic weak acid	11/05/2022	11/05/2022	02/05/2022
2	Conductometric titration of Strong acid against strong base	11/05/2022	11/05/2022	02/05/2022
3	Study of the variation of mutual solubility temperature with % concentration for the phenol - water system	05/05/2022	08/04/2022	04/03/2022
4	Study the effect of added electrolyte on the critical solution temperature of phenol-water system and to determine the concentration of the given solution of electrolyte.	05/05/2022	08/04/2022	04/03/2022
5	Verification the Freundlich and Langmuir adsorption isotherm for adsorption of acetic acid on activated charcoal.	22/04/2022	23/04/2022	23/04/2022
6	Synthesis of potassium Tris(oxalate)aluminium(III) using Al metal powder(Scrap aluminium). Comment on colour and magnetic properties of the complex.	29/04/2022	29/04/2022	25/04/2022
7	Synthesis of Tris(acetylacetone)iron(III) by green chemistry method by reaction between Fe(OH)3 and acac. Comment on colour and magnetic properties of the complex.	22/04/2022	29/04/2022	25/04/2022
8	Prepare standard solutions of KMnO4 / CuSO4, record their absorbance and Verify Beer's Law and determine unknown concentration.	21/04/2022	07/05/2022	16/04/2022
9	Prepare solution of Fe(III) and SCNof in different molar proportion, record their absorbance and calculate equilibrium constant of [Fe(SCN)]2+ complex	11/05/2022	07/05/2022	02/05/2022

10	Determination of molecular weight of organic acid by titration against standardized NaOH - a) monobasic acid or b) dibasic acid	13/04/2022	14/04/2022	11/04/2022
11	Determination of the amount of acetamide in given solution by volumetric method	13/04/2022	14/04/2022	11/04/2022
12	Journal Certification	18/05/2022	19/05/2022	20/05/2022
13	Internal Examination (Oral)	24/05/2022	21/05/2022	21/05/2022

Prof. Nita D. Dongare **Dr. S. B. Suryawanshi**

Subject Teacher

K.T.S.P.Mandal's
HUTATMA RAJGURU MAHAVIDYALAYA, RAJGURUNAGAR
DEPARTMENT OF MATHEMATICS
SYLLABUS COMPLETION REPORT
ACADEMIC YEAR-2021-22
Sem-I

Sr. No.	Class	Subject	Name of Teacher
1	F.Y.B.Sc.	Algebra	Prof. Gargote A.M.
		Calculus-I	Prof. Gargote A.M.
2	S.Y.B.Sc.	Calculus of Several Variable	Prof. Wayal R.M.
		Numerical Analysis & its application	Prof. Udhane R.B.
3	T.Y.B.Sc.	Metric Spaces	Prof. Wayal R.M
		Real Analysis-I	Prof. Rakshe A.R.
		Group Theory	Prof. Karle S.N.
		Ordinary Diff. Equation	Prof. Wayal R.M.
		Operation Research	Prof. Rakshe A.R.
		Laplace Transform & Fourier series	Prof. Gargote A.M.
4	F.Y.B.Cs.	Discrete Mathematics	Prof. Rakshe A.R.
		Matrix Algebra	Prof. Karle S.N..
5	S.Y.B.Cs.	Group and coding theory	Prof. Karle S.N..
		Numerical Techniques	Prof. Udhane R.B.
6	F.Y.B.Com	Business Mathematics & Statistics	Prof. Udhane R.B.

Class: S.Y.B.Sc **Subject : Calculus of Several Variables**

Name: R. M. Wayal **No. of Lectures:49**

Month	Topic	No. of lecture
Oct 2021	Limit by using substitution, different paths and polar co-ordinates	**05**
Nov 2021	Functions of Several Variables, Functions of two variables, Domain and Range, Graphs, Level Curves, Functions of Three or More Variables	**09**
Dec 2021	Definition and examples of Higher Derivatives, Clairaut's Theorem (Statement Only), Partial Differential Equations, Wave equation. Differentiable function, Differentials. Chain Rule, Homogeneous Functions, Euler's theorem	**16**
	Extreme values of functions of two variables. Necessary conditions for extreme values. Second Derivative Test. Lagrange Multipliers. Iterated	

Jan 2022	Integrals, Fubini's Theorem. Double integral over general regions, Change of order of integration for two variables.	**12**
Feb 2022	Double integral in Polar coordinates. Triple integrals, Evaluation of triple integrals. Triple integrals in spherical coordinates. Jacobians, Change of variables in multiple integrals	**07**

Class: T.Y.B.Sc **Subject : Metric Spaces**
Name: R. M. Wayal **No. of Lectures:42**

Month	Topic	No. of lecture
Oct 2021	Definition and examples. Open Balls.	**06**
Nov 2021	Open Sets, Convergent Sequences	**07**
Dec 2021	Limit and Cluster points, Cauchy Sequences and Completeness, Bounded Sets, Dense Sets Boundary of a set. Continuous Functions. Equivalent Definitions of Continuity, Topological Property. Uniform Continuity. Limit of a Function	**13**
Jan 2022	Open and closed maps. Compact Spaces and their Properties	**10**
Feb 2022	Connected Spaces	**06**

Class: T.Y.B.Sc **Subject : Ordinary Differential Equation**
Name: R. M. Wayal **No. of Lectures:42**

Month	Topic	No. of lecture
Oct 2021	Constant coefficient homogeneous equations Characteristic equations, distinct real roots, repeated roots	**05**
Nov 2021	Complex roots. Particular solution, Initial value problem,The operator $\frac{1}{f(D)}$ and its evaluation for the functions x^m, e^{ax}, $e^{ax}V$.	**06**
Dec 2021	xV and the operator $\frac{1}{D^2+a^2}$acting on sin ax and cos ax, Principle of superposition, Method of undetermined coefficients 2.3 Method of reduction of order 2.4 Method of variation of parameters.	**12**
Jan 2022	Review the properties of power series, Series solution near an ordinary point, Regular singular points, Euler equations, Introduction to system of differential equations	**10**

Feb 2022	Linear systems: basic theory of homogeneous linear systems, constant coefficient Homogeneous systems.	**07**

Class: T.Y.B.Sc **Subject : LaTeX**

Name: R. M. Wayal **No. of Lectures:40**

Month	Topic	No. of lecture
Dec 2021	Definition and application of LaTeX, Preparation and Compilation of LaTeX input file LaTeX Syntax, Keyboard Characters in LaTeX Unit. Text and Math Mode Fonts. Emphasized and Colored Fonts, Sectional Units, Labeling and Referring Numbered Items, Texts Alignment and Quoted text, New Lines and Paragraphs, Creating and Filling Blank Space Producing Dashes Within Texts Unit	16
Jan 2022	Listing Texts, Tabbing Texts Through the tabbing Environment	14
Feb 2022	Table Through the tabular Environment, Table Through the tabularx Environment, Vertical Positioning of Tables, Sideways (Rotated) Texts in Tables, Adjusting Column Width in Tables, Additional Provisions for Customizing Columns of Tables, Merging Rows and Columns of Tables.	12

Class - F.Y.B.Cs(Comp. Sci) **Subject:- Discrete Mathematics**

Name:-Prof. Rakshe A.R. **Total No. of lectures per week - 53**

Month	Topic	No. of lecture
October 2021	Propositional Logic, Predicates and Quantifiers Rules of Inference, Poset, Hasse diagram. Lattices, Complemented lattice , Bounded lattice and Distributive lattice . Boolean Functions Boolean Function of degree n,	06
November 2021	Boolean identities, Definition of Boolean A lgebra .Representation of Minterm, Maxterm Disjunctive normal form, Conjunctive normal Form. Counting Principles Cardinality of a finite set.	08
December 2021	The Product Rule, The Sum Rule, The Inclusion-Exclusion Principle. The Pigeonhole Principle: Statement, The Generalized Pigeonhole Principle, Its applications.	16
January 2022	Permutation and Combination with Repetitions, Permutations with Indistinguishable Objects, Distributing objects into box.	14
February 2022	Recurrence Relations : Introduction, Formation. Linear Recurrence Relations with constant coefficients. Homogeneous Solutions. Particular Solutions. Total Solutions	09

Class - T.Y.B.Sc **Subject:- Operation Research**
Name:-Prof. Rakshe A.R. **Total No. of lectures - 42**

Month	Topic	No. of lecture
Oct 2021	Two variable LP Model, Graphical LP solution, Selected LP Applications, Graphical Sensitivity analysis. LP Model in equation form,	06
Nov 2021	Transition from graphical to algebraic solutions, the simplex method, Artificial starting solutions.	06
Dec 2021	Unbounded Solution , No Solution, Alternate Solution .	12
January 2022	Definition of the dual problem, How to find primal solution LPP.	13
February 2022	Primal dual relationship , Definition of the Transportation model . The Transportation algorithm , The Hungarian method , Simplex explanation of the Hungarian method.	05

Class - T.Y.B.Sc **Subject:- Real Analysis - I**
Name:-Prof. Rakshe A.R. **Total No. of lectures - 45**

Month	Topic	No. of lecture
October 2021	Operations on sets, Functions, Real-valued functions, Equivalence countability, Real numbers, Cantor set, Least upper bounds	06
November 2021	Definition of sequence and subsequence, Limit of a sequence, Convergent sequences, Monotone sequences, Divergent sequences, Limit superior	06
December 2021	Limit inferior, Cauchy sequences ,Convergent and divergent series, series with non-negative terms, alternating series, Conditional and Absolute convergence, Rearrangement of series	13
January 2022	Tests of absolute convergence, ratio test, comparision test , cauchy condesation test	15
February 2022	series whose terms form a non-increasing sequence, The class $l2$	05

Class - F.Y.B.Sc **Subject:- Algebra**
Name:-Prof. Gargote A.M. **Total No. of lectures -45**

Month	Topic	No. of lecture
October (2021)	Definition of sets,types of sets,def of Relation, Equivalence relation & examples Equivalence classes and partitions of a set ,Def of function & its example, Basic terminology, Types of Function ,Inverse of function, Composition of function	06
November (2021)	Mathematical induction,well ordering principle ,the Division Algorithm,The greatest common Divisor,Euclid's lemma,the Least common multiple,the Euclidean Algorithm	06
December (2021)	The Fundamental theorem of Arithmatic, Def of prime numbers,theorems and examples,Euclid's lemma, The theory of Congruences, Basic proprties of Congruences,theorems and examples,Fermat's theorem and examples.	12
January (2022)	Introduction of Complex number,sum & products of complex no.s,Basic algebraic properties of complex no.s,Moduli, Complex conjugates, Exponential form, Products & Quotients.	14
February (2022)	De-Moivres thm,Roots of complex no.s, The nth roots of unity, Regions in complex plane.	07

Class - F.Y.B.Sc **Subject:- Calculus I**

Name:-Prof. Gargote A.M. **Total No. of lectures - 45**

Month	Topic	No. of lecture
October (2021)	Algebraic properties of R, Order properties of R, Well-Ordering Property of N, Arithmetic mean-Geometric mean inequality, Bernoulli's inequality, Absolute value function and its properties, triangle inequality and its consequences.	06
November (2021)	Definitions of Upper bound, Lower bound, supremum, infimum of subsets of R, completeness property of R, Archimedean property and its consequences, The density theorem**,** sequences of real numbers	06
December (2021)	Definition of limit of sequence and uniqueness of limit, bounded sequence, Monotone sequences, Monotone convergence theorem, Definition of subsequence, Divergence criteria, Monotone Subsequence theorem, Bolzano -Wierstrass theorem, The Completeness Property of R.	12
January (2022)	Functions, domain and range, graphs of functions, Piecewise defined functions, increasing and decreasing functions, symmetry, common functions, limit of a function, divergence criteria, Squeeze theorem, one-sided limits, infinite limits, Definition of continuous function at a point , sequential criterion for continuity, Divergence criterion, combination of continuous functions.	14
February (2022)	Properties of continuous functions on an interval, Boundedness theorem, The minimum -maximum theorem, Location of root theorem, Bolzano's intermediate value theorem. Continuous function maps closed bounded interval to closed bounded interval.	07

Class:- T.Y.B.Sc **Subject:- Laplace Transforms and Fourier series**

Name:-Prof. Gargote A.M. **Total No. of lectures - 38**

Month	Topic	No. of lecture
October (2021)	Definition, Laplace Transform of some elementary functions. Some important properties of Laplace Transform.	06
November (2021)	Laplace Transform of derivatives, Laplace Transform of Integrals., Methods of finding Laplace Transform, Evaluation of Integrals.	05
December (2021)	The Gamma function, Unit step function and Dirac delta function. Definition, Some inverse Laplace Transform. Some important properties of Inverse Laplace Transform, Inverse Laplace Transform of derivative.	12
January (2022)	Inverse Laplace Transform of integrals. Convolution Theorem, Evaluation of Integrals. Solution of Ordinary Differential Equations with constant coefficients.	10
February (2022)	Definition and examples of Fourier Series.	05

Class - S.Y.B.Sc. **Subject:- Numerical Analysis &It's Application**

Name:- Prof. Udhane R.B. **Total No. of lectures - 37**

Month	Topic	No. of lecture
November (2021)	**Solution of Algebraic and Transcendental** Introduction, Error and their computation Bisection method - without derivation and convergence, The method of false position, Newton - Raphson Method - without derivation &convergence.	10
December (2021)	**Interpolation** Introduction, Finite difference operators and their relation, Difference Operators - Forward , Backward , Shift (E), Relations between them. Forward & Backward Difference tables. Factorial notation Newton's Forward Difference & Backward Difference	9
January (2022)	interpolation Formula Lagrange's formula for interpolation with unequallypace points, **Numerical Differentiation** Introduction. Numerical Differentiation. Numerical Integration - A General Quadrature formula, The rapezoidal rule,Simpson's 1/3rd rule, Simpson's 3/8th rule.	6
February (2022)	**Numerical Solutions of Ordinary Differential Equations** Introduction. Taylor's series method, Picard's Method successive approximations.	12

	Euler's & Modified Euler's Methods. Runge Kutta Method (Second and fourth order).	

Class - F.Y.B.Com **Subject:- Business Mathematics & Statistics**

Name:- Prof. Udhane R.B. **Total No. of lectures - 46**

Month	Topic	No. of lecture
November (2021)	**Interest & Annuity** **Interest:-**Concept of Present value and future value, simple interest ,compound interest, nominal and effective rate of interest, example and problems. **Annuity:-** Ordinary Annuity, Sinking Fund, Annuity due, present value and future value, equated monthly installment by interest of reducing balance and flat interest method, examples and problem	06
December (2021)	**Shares and Mutual Funds** **Interest, Share :-**Concept of share, face value, market value, dividend, brokerage, equity shares, preferential shares, examples and problem. **Mutual Funds:-** Concept of mutual funds, problems on calculation of net income ,Change in net asset value.	11
January (2022)	**Population and Sample** Definition of Statistics, Scope of statistics in economics , Management Science and Industry. Concept population and sample, method of data collection: Census and sampling with illustration . method of random sampling -(SRSWR, SRSWOR, Stratified, Systematic)	12
February (2022)	**Measures of Central Tendency and Measures of Dispersion** Frequency distribution : Row data, attributes and variables, classification of data, frequency distribution, cumulative frequency distribution, Histogram and ogive curves. Requisites of ideal	17

Class - S.Y.B.Sc(Comp.Sci) **Subject:- Numerical Techniques**

Name:- Prof. Udhane R.B **Total No. of lectures - 36**

Month	Topic	No. of lecture
November (2021)	***Solution of Algebraic and Transcendental*** Introduction, Error and their computation Bisection method - without derivation and convergence, The method of false position, Newton - Raphson Method - without derivation &convergence.	5
December (2021)	**Interpolation,** Introduction, Finite difference operators and their relation, Difference Operators - Forward , Backward , Shift (E), Relations between them. Forward & Backward Difference tables. Factorial notation Newton's Forward Difference & Backward	11

	Difference	
January (2022)	interpolation Formula, Lagrange's formula for interpolation with unequally, Divided Difference, Newton's Divided Difference formula.***Numerical Integration*** Introduction. Numerical Differentiation. Numerical Integration - A General Quadrature formula, The Trapezoidal rule,Simpson's 1/3rd rule, Simpson's 3/8th rule.	6
February (2022)	**Numerical Solutions of Ordinary Differential Equations** Introduction. Euler's & Modified Euler's Methods. Runge Kutta Method (First, Second,third and fourth order).	9

Class - T.Y.B.Sc. **Subject:- Group Theory**

Name:- Prof. Karle S. N. **Total No. of lectures - 42**

Month	Topic	No. of lecture
October (2021)	Binary Operations,Isomorphic Binary Structures, Groups.	8
November (2021)	Exapmles of groups,Subgroups,Cyclic Groups.	12
December (2021)	Cosets, Groups of Permutations, Orbits,Cycles, Alternating Groups, Cosets,the Theorem of Lagrange	10
January (2022)	Direct Products,Homomorphism,Factor Groups Factor Group Computations.	8
February (2022)	Simple Groups	4

Class - T.Y.B.Sc. **Subject:- Programming in Python–I**

Name:- Prof. Karle S. N. **Total No. of lectures - 35**

Month	Topic	No. of lecture
October (2021)	Installation of Python,Values and types: int, float The Print Function: Print basics,Variables: assignment statements, printing variable values, types of variables.Mathematical Operators, operands and precedence:+, -, /, *, **, % PEMDAS (Rules of precedence)String operations: + : Concatenation, * : Repetition, Boolean operator,Comparison operators: ==, !=, >, =, <=, Logical operators: and, or, not, Mathematical functions from math, cmath modules, random module,Keyboard input: input() statement ,Calculus: Differentiation, Integration, Limit and Series,Strings:Length	15

	(Len function)String traversal: Using while statement, Using for statement,String slice,Comparison operators (>, <, ==),Lists:List operations,Use of range function,Accessing list elements,List membership and for loop,List operations,Updating list: addition, removal or updating of elements of a list, TuplesDefining a tuple,Index operator,Slice operator,Tuple assignment, Tuple as a return value	
November (2021)	**Unit 3: Iterations and Conditional statements** 3.1 Conditional and alternative statements, Chained and Nested Conditionals:, if-else, if-elif-else, nested if, nested if-else,Looping statements such as while, for etc, Tables using while,Functions:Calling functions: type,Type conversion: int, float, str Composition of functions, Returning values from functions, User defined functions, Parameters and argument, Matrix construct, eye(n), zeros(n,m) matrices,Addition, Subtraction, Multiplication of matrices, powers and inverse of a matrix.Accessing Rows and Columns, Deleting and Inserting Rows and Columns,Determinant, reduced row echelon form, nullspace, columnspace, Rank Solving systems of linear equations (Gauss Elimination Method, Gauss Jordan Method,LU-decomposition Method) Eigenvalues, Eigenvectors, and Diagonalization	12
December (2021)	**Unit 5: Numerical methods in Python** 5.1 Roots of Equations 5.2 Newton-Raphson Method 5.3 False Position (RegulaFalsi) Mehtod 5.4 Numerical Integration: 5.4.1 Trapezoidal Rule, 5.4.2 Simpson's 1/3rd Rule, 5.4.3 Simpson's 3/8th Rule **Unit 6: 2D and 3D Graphs** 6.1 Installation of numpy, matplotlib packages 6.2 Graphs plotting of functions 6.3 Different formats of graphs, PyDotPlus (Scalable Vector Graphics), PyGraphviz. **Decorate Graphs with Plot Styles and Types:** Markers and line styles, Control colors, Specifying styles in multiline plots, Control linestyles, Control marker styles. **Polar charts:** Navigation Toolbar with polar plots, Control radial and angular grids. 6.4 Three-dimensional Points and Lines 6.5 Three-dimensional Contour Plots, Wireframes and Surface Plots.	8

	6.5 Three-dimensional Contour Plots, Wireframes and Surface Plots.	

Class - F.Y.B.Sc. (Comp. Sci.) **Subject:- Matrix Algebra**

Name:- Prof. Karle S. N. **Total No. of lectures - 42**

Month	Topic	No. of lecture
October (2021)	**Unit 1. Integers** 1.1 Division Algorithm (without Proof) 1.2 G.C.D. using division algorithm and expressing it as linear combination 1.3 Euclid's lemma 1.4 Equivalence relation (revision), Congruence relation on set of integers, Equivalence class partition	6
November (2021)	**Unit 2. Groups** 2.1 Binary Operation 2.2 Group: Definition and Examples 2.3 Elementary Properties of Groups	6
December (2021)	**Unit 3. Finite Groups and Subgroups** 3.1 Order of a group, order of an element 3.2 Examples (Zn, +) and (U(n), *) 3.3 Subgroup definition, Finite subgroup test, subgroups of Zn 3.4 Generator, cyclic group, finding generators of Zn(Corollary 3,4) 3.5 Permutation group, definition, composition of two permutations, representation as product of disjoint cycles, inverse and order of a permutation, even/ odd permutation 3.6 Cosets: Definition, Examples and Properties, Lagrange Theorem(without	14
January (2022)	**Unit 4. Groups and Coding Theory** 4.1 Coding of Binary Information and Error detection 4.2 Decoding and Error Correction 4.3 Public Key Cryptography I	12
February (2022)	4.3 Public Key Cryptography II	4

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HUTATMA RAJGURU MAHAVIDYALAYA, RAJGURUNAGAR

DEPARTMENT OF MATHEMATICS

SYLLABUS COMPLETION REPORT

ACADEMIC YEAR-2021-22

Sem-II

Sr. No.	Class	Subject	Name of Teacher
1	F.Y.B.Sc.	Analytical Geometry	Prof. Gargote A.M.
		Calculus-II	Prof. Rakshe A.R.
2	S.Y.B.Sc.	Linear Algebra	Prof. Wayal R.M.
		Vector Calculus	Prof. Wayal R.M.
3	T.Y.B.Sc.	Complex Analysis	Prof. Gargote A.M.
		Real Analysis-II	Prof. Rakshe A.R.
		Ring Theory	Prof. Karle S.N.
		Partial Diff. Equation	Prof. Wayal R.M.
		Optimization Technique	Prof. Rakshe A.R.
		Computational Geometry	Prof. Gargote A.M.
4	F.Y.B.Cs.	Graph Theory	Prof. Rakshe A.R.
		Linear Algebra	Prof. Karle S.N..
5	S.Y.B.Cs.	Computational Geometry	Prof. Karle S.N..
		Operation Research	Prof. Udhane R.B.

6	F.Y.B.Com	Business Mathematics & Statistics - II	Prof. Udhane R.B.

Class - F.Y.B.Sc. **Subject:- Analytical Geometry**

Name:-Prof. Gargote A.M. **No. of lectures per week - 03**

MONTH	TOPIC	No. of lecture
April	Analytical Geometry of Two Dimension: Change of axes Translation and Rotation.Conic Section: general equation of second degree in two variables.Reduction to standard form , centre of conic ,nature of conic	12
May	Planes: Direction cosines and direction ratios, equation of plane , normal form ,transform to the normal form , plane passing through three non-linear points ,intercept form ,angle between two planes , Distance of a point from plane ,distance between parallel planes,system of planes,two sides of planes ,bisector of planes	12
June	Lines in three dimensions: Equation of a line in symmetric and unsymmetrical forms, line passing through two points,angle between a line and a plane,perpendicular distance of a point from a plane, condition for two lines to be coplanar Sphere: Equation of a sphere in different forms,plane section of a sphere Equation of a circle, sphere through a given circle ,intersection of sphere and a line , equation of tangent plane to sphere	12

Class - F.Y.B.Sc. **Subject: Calculus -II**

Name:-Prof. Rakshe A.R. **No. of lectures per week - 03**

Month	Topic	No. of Lectures
April	The Derivatives, Definition of the derivative of a function at a point, every differentiable function is continuous, Rules of differentiation, Caratheodary's theorem(without proof), The chain rule, Derivative of inverse function (without proof , only examples). The Mean Value Theorems, Interior extremum theorem, Mean Value theorems and their Consequences, Intervals of increasing and decreasing of a function,first derivative test for extrema.	**14**
May	L'Hospital Rule, Indeterminate forms, L'Hospital Rules(without proof),Taylor's theorem and Maclaurin'stheorem with Lagrange's form of remainder(Without proof), The nth derivative and Leibnitz theorem for successive differentiation Separable equations, Existence and Uniqueness of solutions of nonlinear equations	**12**
June	Linear first order equations. Transformation of nonlinear equations to separable equations. Exact differential equations, Integrating factors.	**10**

Class: S.Y.B.Sc **Subject: Linear Algebra**

Name: Prof. Wayal R.M. **No. of lectures per week-03**

MONTH	TOPIC	No. of Lectures
April	Row echelon form and reduced row echelon form of a matrix, consistency of homogeneous and non-homogeneous system of linear equations using rank, condition for consistency, Gauss elimination and Gauss-Jordan method, Vector spaces, subspaces, Linear dependence and independence.	13
May	Dimension of a vector space, row, column and null space of a matrix, rank and nullity	12
June	Definition and example of a linear transformation, kernel and range of L. T., rank-nullity theorem, matrices and linear transformation, linear isomorphism.	11

Class: S.Y.B.Sc **Subject: Vector Calculus**

Name: Prof. Wayal R.M. **No. of lectures per week-03**

MONTH	TOPIC	No. of Lectures
April	Curves in Space, Limits and Continuity, Derivatives and Motion, Differentiation ,Rules for Vector Function, Vector Functions of Constant Length. Integrals of Vector Functions. Arc Length along a Space Curve, Speed on a Smooth Curve, Unit Tangent Vector. Curvature of a Plane Curve, Circle of Curvature for Plane Curves, Curvature and Normal Vectors for a Space Curve., Line Integral of Scalar Functions, Additivity, Line integral in the Plane. Vector Fields, Gradient Fields, Line Integral of Vector Fields.	15
May	Work done by a Force over a Curve in Space, Flow Integrals and Circulation for Velocity Fields, Flow across the Simple Closed Plane Curve. Path Independence, Conservative and Potential Functions. Divergence, Two forms for Green's Theorem, Green's Theorem in the Plane, Parameterizations of Surfaces. Implicit surfaces, Surface integrals, Orientation of Surfaces. Surface Integrals of Vector Fields.	12
June	The Curl Vector Field, Stokes' Theorem, Conservative Fields and Stokes' Theorem.	09

Class: T.Y.B.Sc **Subject: Complex Analysis**

Name: Prof. Gargote A. M. **No. of lectures per week-03**

MONTH	TOPIC	No. of lecture
March	Sums and products, Basic algebraic properties, Further properties, Vectors and Moduli, Complex Conjugates, Exponential Form, Products and powers in exponential form, Arguments of products and quotients, Roots of complex numbers, Examples.	**10**
April	Regions in the complex plane. Functions of Complex Variables, Limits, Theorems on limits, Limits involving the point at infinity, Continuity, Derivatives, Differentiation formulas, Cauchy- Riemann Equations, Sufficient Conditions for differentiability, Polar coordinates, Analytic functions, Harmonic functions. The Exponential functions, The Logarithmic function, Branches and derivatives of logarithms,	**10**
May	Some identities involving logarithms, Complex exponents, Trigonometric functions, Hyperbolic functions. Derivatives of functions, Definite integrals of functions, Contours, Contour integral, Examples, Upper bounds for Moduli of contour integrals,	**10**
June	Anti-derivatives, Examples, Cauchy-Groursat's Theorem, Simply and multiply Collected domains. Cauchy integral formula, Derivatives of analytic functions. Liouville's Theorem	**6**

Class - T.Y.B.Sc. **Subject:- Real Analysis-II**

Name:-Prof. Rakshe A.R **No. of lectures per week :-03**

MONTH	TOPIC	No. of lecture
March	Sets of measure zero definition and theorem .Definition and existence of Riemann integral, properties of Riemann integral, Fundamental theorem of integral calculus.	13
April	Mean value theorems of integral calculus. Definition of improper integral of first kind, comparison test, test, absolute and conditional convergence, integral test for convergence of series,	10
May	definition of improper integral of second kind, Cauchy principal value. Point wise and uniform convergence of sequences of functions, consequences of uniform convergence	10
June	convergence and uniform convergence of series of functions, integration and differentiation of series of functions.	03

Class - T.Y.B.Sc. **Subject:- Ring Theory**

Name:-Prof. Karle S.N. **No.of Lectures per week :-03**

MONTH	TOPIC	No. of lecture
March	Definition and examples of Rings and Fields,. Integral Domains, The Fields of Quotients of an Integral Domain, Rings of Polynomials, Factorization of Polynomials over a Field	12
April	Homeomorphisms and Factor Rings, Prime and Maximal Ideals	14
May	Gaussian Integers and Multiplicative Norms Unique Factorization Domains , Euclidean Domain Euclidean Domains	10

Class: T.Y.B.Sc **Subject: Partial Differential equation**

Name: Prof. Wayal R.M. **No. of lectures per week-03**

MONTH	TOPIC	No. of Lectures
March	Surface and curves in three dimensions , simultaneous differential equations of the first order and the first degree in three variables. methods of solution of $dx/P=dy/Q=dz/R$.	10

April	Pfaffian differential forms and equations. solution of Pfaffian differential equations in three variables, introduction to partial differential equations, origin of first order partial differential equations, linear equations of first order equations, integral surfaces passing through given curve.	10
May	The origin of second order partial differential equations.linear partial differential equations with constant coefficients. methods of solving linear partial differential equations, solution of reducible equations solution of irreducible equations with constant coefficients, rules of finding complementary functions, rule of finding particular integrals, classification of second order partial differential equations, canonical forms.	12
June	Solution of Laplace equations, periodic differential equations, wave equation by separation variables method.	04

Class - T.Y.B.Sc. **Subject:- Optimization Techniques**
Name:-Prof. Rakshe A.R . **No. of lectures per week:- 04**

MONTH	TOPIC	No. of lecture
March	CPM and PERT, Network representation, Critical Path Computations, Construction of the time schedule, Linear programming formulation of CPM, PERT calculations , Decision under uncertainty, Game theory	10

April	Some basic terminologies, Optimal solution of two person zero sum game, Solution of mixed strategy games, graphical solution of games, linear programming solution of games.	12
May	Replacement of items whose efficiency deteriorates with time. Introduction, Notation, terminology and assumptions, processing n jobs through two machines, processing n jobs through three machines. Unconstrained problems, Necessary and sufficient conditions,	10
June	Newton Raphson method, Constrained problems, Equality constraints	04

Class - T.Y.B.Sc. **Subject:- Computational Geometry**

Name:-Prof. Gargote A.M. **No. of lectures per week - 03**

MONTH	TOPIC	No. of lecture
March	Introduction, Representation of Points, Transformations and Matrices, Transformation of Points, Transformation of Straight Lines, Midpoint Transformation, Transformation of Parallel Lines, Transformation of Intersecting Lines, Rotation, Reflection, Scaling, Combined Transformations, Transformation of the Unit Square, Solid Body Transformation, Translations and Homogeneous Coordinates, Rotation About an Arbitrary Point, Reflection Through an Arbitrary Line, Projection - A Geometric Interpretation of Homogeneous Coordinates,	14

	Overall Scaling,	
April	Points at Infinity. Three Dimensional Scaling and Shearing, Three Dimensional Rotation. Three Dimensional Reflection. Three Dimensional Translation. Multiple Transformations, Rotations about an Axis Parallel to a coordinate axis, Rotation about an Arbitrary Axis in Space, Reflection Through an Arbitrary Plane. Affine and Perspective Geometry, Orthographic Projections, Axonometric Projections,	10
May	Oblique Projections, Perspective Transformations. Techniques for generating perspective views, Vanishing points. Curve representation, non-parametric curves, parametric curves, parametric representation of a circle, parametric representation of an Ellipse, parametric representation of a parabola, parametric representation of a Hyperbola.	09
June	Introduction, definition, properties curve fitting (up to n = 3), equation of the curve in matrix form (up to n = 3).	03

Class - F.Y.B.Cs. **Subject:- Graph Theory**

Name:-Prof. Rakshe A.R . **No. of lectures per week-03**

Month	Topics	No. of lecture
March	Definition, Elementary terminologies and results, Graphs as Models. Special types of graphs. Isomorphism Adjacency and Incidence	12

	Matrix of a Graph Subgraphs, induced subgraphs,Vertex delition, Edge delition. Complement of a graph and self-complementary graphs. Union, Intersection and Product of graphs. Fusion of vertices.	
April	Connected Graphs Walk, Trail, Path, Cycle : Definitions and elementary properties. Connected Graphs : definition and properties. Distance between two vertices, eccentricity, center, radius and diameter of a graph. Isthmus, Cutvetex : Definition and properties. Cutset, edge-connectivity, vertex connectivity. Weighted Graph and Dijkstra's Algorithm Eulerian and Hamiltonian Graphs 05 Lectures Seven Bridge Problem, Eulerian Graph : Definition and Examples, Necessary and Sufficient condition. Fleury's Algorithm.	10
May	Hamiltonian Graphs : Definition and Examples, Necessary Condition. Introduction of Chinese Postman Problem and Travelling Salesman Problem. Definition, Properties of trees. Center of a tree. Binary Tree : Definition and properties. Tree Traversal : Ordered rooted Tree, Preorder traversal, inorder traversal and postorder traversal, Prefix Notation. Spanning Tree : Definition, Properties, Shortest Spanning Tree, Kruskal's Algorithm.	10
June	Definition, Examples Elementary Terminologies and properties. Special Types of Digraphs. Connectedness of digraphs.	

	Network and Flows : definition and examples.	04

Class - F.Y.B.Cs. **Subject:- Linear Algebra**

Name:-Prof. Karle S. N. **No. of lectures per week - 03**

Month	Topic	No. of Lectures
March	Real vector space ,subspace, linear independence ,basis & dimension	12
April	row space, column space & null space,rank & nullity,,Eigen value & eigen vectors, Diagonalization , quadratic form	10
May	general linear transformation ,kernel & range,inverse linear transformation,,Matrix of general linear transformation,Cyclic group,normal subgroup,Product &quotient of group,Coding of binary information &erroe detection, Decoding & error correction	10
June	public key cryptology	04

Class - S.Y.B.Cs. **Subject:- Operational Research**

Name:-Prof. Udhane R.B. **No. of lectures per week - 03**

Month	Topic	No. of Lectures
March	Graphical method_Two-Variable LP Model , Graphical LP Solution, Linear Programming Applications	12
April	LP Model in Equation Form , Transition from Graphical to Algebraic Solution ,The Simplex Method , Artificial Starting Solution , Special Cases in Simplex Method	10
May	Dual problem , Definition of the dual problem , Primal dual relationships ,Examples, Transportation problem ,Definition of the Transportation problem	10
June	The Transportation Algorithm ,The Assignment Model Optimal solution of two person zero sum games , Solution of mixed strategy games	04

Class - S.Y.B.C.S. **Subject:- Computational Geometry**

Name:-Prof. Karke S.N. **No. of lectures per week: 03**

Month	Topics	No. of Lectures
March	Two dimensional transformations ,Introduction , Representation of points, Transformation of a unit square, Solid body transformations, Transformation and homogeneous coordinates. Translation , Rotation about an arbitrary point ,Reflection through an arbitrary line , Projection – a geometric interpretation of homogeneous coordinates, Overall Scaling , Point at infinity,	12
April	Three dimensional transformations , Introduction, Three dimensional – Scaling, shearing, rotation, reflection, translation. Multiple transformations , Rotation about – an axis parallel to coordinate axes, an arbitrary axis in space. Reflection through – coordinate planes, planes parallel to coordinate planes, arbitrary planes , Affine and perspective transformations, Orthographic projections , Axonometric projections.	12
May	Oblique projections , Single point perspective transformations Vanishing points , Plane Curves ,Introduction.Curve representation ,Non – parametric curves , Parametric curves. Parametric representation of an ellipse and generation of ellipse. Parametric representation of a parabola and generation of parabolic , segment , Parametric representation of a hyperbola and generation of	12

	hyperbolic, segment , Bezier Curves – Introduction, definition, properties, curve fitting (up to n = 3), equation of the curve in matrix form (up to n = 3)	

Class - F.Y.B. Com. **Subject:- Business Mathematics and Statistics-II**

Name:-Prof. Udhane R.B. **No. of lectures per week:-04**

Month	Topics	No. of Lectures
March	Definition of a Matrix, Types of Matrices, Algebra of Matrices, Determinants, Adjoint of a Matrix, Inverse of a Matrix via Adjoint Matrix, Homogeneous System of Linear equations, Condition for Consistency of homogeneous system, Solution of Non-homogeneous System of Linear equations ,Applications in Business and Economics, Examples and Problems.	12
April	Concept of index number, price index number, price relatives. Problems in construction of index number. Construction of price index number: Weighted index Number, Laspeyre's, Paasche's and Fisher's method. Cost of living / Consumer price index number: Definition, problems in construction of index number. Methods of construction: Family budget and aggregate expenditure. Inflation, Uses of index numbers, commonly used index numbers. Examples and problems.	12

May	Definition and terms in a LPP, formulation of LPP, Solution by Graphical method, Examples and Problems , Concept and types of correlation, Scatter diagram, Interpretation with respect to magnitude and direction of relationship. Karl Pearson's coefficient of correlation for ungrouped data. Spearman's rank correlation coefficient.	10
June	Concept of regression, Lines of regression for ungrouped data, predictions using lines of regression. Regression coefficients and their properties. Examples and problems.	02

Class - S.Y.B.B.A. **Subject:- Business Mathematics**

Name:-Prof. Rakshe A.R. **No. of lectures per week - 04**

Month	Topic	No. of lecture
March	Multivariable data, Definition of a Matrix, Types of Matrices, Algebra of Matrices, Determinants, Ad joint of a Matrix, Inverse of a Matrix via ad joint Matrix, Homogeneous System of Linear equations, Condition for Uniqueness for the homogeneous system, Solution of Non homogeneous System of Linear equations Condition for existence and uniqueness of solution, Solution using inverse of the coefficient matrix .	12
April	Ratio- Definition, Continued Ratio, Inverse Ratio, Proportion, Continued Proportion, Direct, Proportion , Inverse Proportion, Variation, Inverse Variation, Joint .Variation, Percentage- Meaning and Computations of	14

	Percentages , Simple Interest, Compound interest (reducing balance & Flat Interest rate of interest), Equated Monthly Installments(EMI), Problems	
May	Terms and Formulae, Trade discount, Cash discount, Problems involving cost price, Selling Price, Trade discount and Cash Discount. Introduction to Commission and brokerage, Problems on Commission and brokerage Statement and meaning of T.P.methods of finding initial basic feasible solution by North West corner Rule, Matrix Minimum method and Vogel's approximation method. Simple numerical problems.	15
June	Problems Meaning of LPP, Formulation of LPP, and solution by graphical methods.	07

	Percentages , Simple Interest, Compound interest (reducing balance & Flat Interest rate of interest), Equated Monthly Installments(EMI), Problems	
May	Terms and Formulae, Trade discount, Cash discount, Problems involving cost price, Selling Price, Trade discount and Cash Discount. Introduction to Commission and brokerage, Problems on Commission and brokerage Statement and meaning of T.P.methods of finding initial basic feasible solution by North West corner Rule, Matrix Minimum method and Vogel's approximation method. Simple numerical problems.	15
June	Problems Meaning of LPP, Formulation of LPP, and solution by graphical methods.	07

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K. T. S. P. Mandal's
Hutatma Rajguru Mahavidyalaya , Rajgurunagar
Department Of Statistics
Syllabus Completion Report
Academic Year 2021-22
Term- I

Sr.No	Class	Paper	Name of Teacher
1	F.Y.B.Sc	Descriptive Statistics I	Thorat S.R.
2	F.Y.B.Sc	Discrete Probability	Thorat S.R.
3	S.Y.B.Sc	Discrete Probability Distributions and Time series	Thorat S.R.
4	S.Y.B.Sc	Continuous Probability Distributions	Thorat S.R.

Paper : Descriptive Statistics I. **Class: F.Y.B.Sc**

Month	Topic	Subtopic	No. of Lectures
Sept 2021	1. Introduction to Statistics	1.1 Meaning of Statistics as a Science. 1.2 Importance of Statistics. 1.3 Scope of Statistics: 1.4 Statistical organizations in India and their functions:	04
Oct 2021	2. Population and Sample	2.1 Types of characteristics: 2.2 Types of data: 2.3 Notion of a statistical population 2.4 Methods of sampling	05

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	3.Presentation of data	3.1 Classification 3.2 Frequency Distribution 3.3 Methods of classification 3.4 Cumulative frequencies 3.5 Relative frequency 3.6 Guidelines for choice of classes 3.7 Graphical representation of statistical data 3.8 Stem and leaf chart 3.9 Data Analysis and interpretation	04
Oct 2021	**4. Measures of central tendency**	4.1 Introduction 4.2 Objectives of Measures of Central Tendency 4.3 Arithmetic Mean (A.M.) 4.4 Trimmed mean 4.5 Median	03
Nov 2021		4.7 Geometric mean 4.8 Mode Harmonic mean 4.9 Weighted means 4.9 Partition values 4.10 Box and whisker plot	05
	5. Measures of Dispersion	5.1 Introduction 5.2 Measures of Dispersion 5.3 Range and Coefficient of range 5.4 Quartile deviation	04
Dec 2021		5.5 Mean deviation and coefficient of mean deviation 5.6 Mean square deviation 5.7 Variance , standard deviation , coefficient of variation	04
Dec 2021	**6. Moments**	6.1 Raw moments (m'r) for ungrouped and grouped data 6.2 Central moments (mr) for ungrouped and grouped data	04

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Jan 2022	**7. Skewness and Kurtosis**	6.3 Relations between central moments and raw moments, upto 4-th order 7.1 Concept of skewness of frequency distribution, positive skewness, negative skewness, symmetric frequency distribution. 7.2 Bowley's coefficient of skewness 7.3 Karl Pearson's coefficient of skewness. 7.4 Measures of skewness based on moments ($\beta 1, \gamma 1$). 7.4 Concepts of kurtosis, leptokurtic, mesokurtic and platykurtic frequency distributions. 7.5 Measures of kurtosis based on moments ($\beta 2, \gamma 2$).	03 05
Jan/ feb 2022	**8. Theory of Attributes**	8.1 Attributes: 8.2 Consistency of data upto 2 attributes. 8.3 Concepts of independence and association of two attributes. 8.4 Yule's coefficient of association (Q), $-1 \leq Q \leq 1$, interpretation.	07

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Paper : Discrete Probability and probability Distributions I

Class: F.Y.B.Sc

Month	Topic	Subtopic	No. of Lectures
Sept/Oct 2021	**1. Basics of Probability**	1.1 Experiments/Models, Ideas of deterministic and non-deterministic models. Random Experiment, concept of statistical regularity. 1.2 Definitions of - (i) Sample space, (ii) Discrete sample space: finite and countably infinite, (iii) Event, (iv) Elementary event, (v) Complement of an event. (vi) Certain event (vii) Impossible event Concept of occurrence of an event. Algebra of events and its representation in set theory notation. Occurrence of following events. (i) at least one of the given events, (ii) none of the given events, (iii) all of the given events, (iv) mutually exclusive events, (v) mutually exhaustive events, (vi) exactly one event out of the given events. 1.3 Classical definition of probability and its limitations. Probability model, probability of an event, equiprobable and non-equiprobable sample space, 1.4 Axiomatic definition of probability. Theorems And results on probability with proofs based on axoomatic approach. Such as, $P(A \cup B) = P(A)+P(B)- P(A \cap B)$ Generalisation $P(AUBUC), 0 \leq P(A) \leq 1, P(A)+P(A')=1, P(\phi)=0,$	8 2

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		$P(A) \leq P(B)$ if A is subset of B, Boole's inequality	
	2.Conditional Probability and Baye's theorem	2.1 Definition of conditional probability of an event. Definition of independence of two events $P(A \cap B) = P(A) \cdot P(B)$ Pairwise independence and mutual independence for three events Multiplication theorem $P(A \cap B) = P(A) \cdot P(B\|A)$. Generalization to $P(A \cap B \cap C)$.	4
Nov/Dec 2021		2.2 Partition of the sample space Proof of Bayes' theorem. Applications of Bayes' theorem in real life True Positive, False positive and sensitivity of test as application of Baye's theorem.	3
	3. Univariate Probability Distributions (Defined on Discrete Sample Space)	3.1 Concept and definition of a discrete random variable. 3.2 Probability mass function (p.m.f.) and cumulative distribution function (c.d.f.), $F(\cdot)$ of discrete random variable, properties of c.d.f.. 3.3 Mode and median of a univariate discrete probability distribution	5
	4. Mathematical Expectation (Univariate Random Variable)	4.1 Definition of expectation (Mean) of a random variable, expectation of a function of a random variable, m.g.f. and c.g.f. Properties of m.g.f and c.g.f. 4.2 Definitions of variance, standard deviation (s.d.) and Coefficient of variation (c.v.) of univariate probability distribution, effect of change of origin and scale on mean, variance and s.d.	6

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Jan 2022	**5. Some Standard Discrete Probability Distributions - I**	4.3 Definition of raw, central and factorial raw moments of univariate probability Distributions and their interrelations (without proof). 4.4 Coefficients of skewness and kurtosis based on moments. 5.1 Degenerate distribution, mean and variance 5.2 Uniform discrete distribution, p.m.f., c.d.f., mean, variance, real life situations, comments on mode and median 5.3 Bernoulli Distribution: p.m.f., mean, variance	2 9
Feb 2022		5.4 Binomial Distribution: p.m.f., mean, variance 5.5 Hypergeometric Distribution : p.m.f., Computation of probability, situations where this distribution is applicable, binomial approximation to hypergeometric probabilities, mean and variance of the distribution	7

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Paper : Discrete Probability Distributions and Time series
Class: S.Y.B.Sc (Sem-III)

Month	Topic	Subtopic	No. of Lectures
Oct 2021	**1. Statndard Discrete Distributions**	**1.1 Negative Binomial Distribution:** Probability mass function (p. m. f.) Notation: X ~ NB (k, p). Nature of p. m. f., negative binomial distribution as a waiting time distribution, M.G.F., C.G.F., mean, variance, skewness, kurtosis (recurrence relation between moments is not expected). Relation between geometric and negative binomial distribution. Poisson approximation to negative binomial distribution. Real life	**08**
Oct/Nov 2021		**1.2 Multinomial Distribution:** Probability Mass function, Notation use of MGF to obtain means, variances, covariances, total correlation coefficients, multiple and partial correlation coefficients for k= 3, univariate marginal distribution, distribution of $X_i + X_j$, conditional distribution of X_i given $X_i + X_j = r$, variance – covariance matrix, rank of variance – covariance matrix and its interpretation and real life situations and applications.	**10**
Dec 2021/ Jan 2022		**1.3 Truncated Distributions:** Concept of Truncated distribution, truncation to the right, left and on both sides. Binomial distribution B(n, p) left truncated at X=0 (value zero is discarded), its p.m.f., mean, variance . Poisson distribution P(m) left truncated at X=0 (value zero is discarded), its p.m.f. , mean, variance. Real life situations and applications.	**07**

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Jan/ Feb 2022	**2.Time Series:**	2.1 Meaning and utility of time series, Components of time series: trend, seasonal variations, cyclical variations, irregular (error) fluctuations or noise. 2.2 Exploratory data analysis: Time series plot to (i) check any trend, seasonality in the time series (ii) learn how to capture trend. 2.3 Methods of trend estimation and smoothing: (i) moving average, (ii) curve fitting by least square principle, (iii) exponential smoothing. 2.4 Measurement of seasonal variations : i) simple average method, ii) ratio to moving average method, iii) ratio to trend where trend is calculated by method of least squares. 2.5 Choosing parameters for smoothing and forecasting. 2.6 Forecasting based on exponential smoothing. 2.7 Double exponential smoothing i.e. Holt-Winters method 2.8 Fitting of autoregressive model AR (1), plotting of residuals. 2.9 Data Analysis of Real Life Time Series:	13

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Paper : Continuous Probability Distributions-I Class: S.Y.B.Sc (Sem-III)

Month	Topic	Subtopic	No. of Lectures
Oct / Nov 2021	**1.Continuous Univariate Distributions:**	1.1 Continuous sample space: Definition, illustrations. Continuous random variable: Definition, probability density function (p.d.f.), cumulative distribution function (c.d.f.), properties of c.d.f. (without proof), probabilities of events related to random variable. 1.2 Expectation of continuous r.v., expectation of function of r.v. E[g(X)], mean, variance, geometric mean, harmonic mean, raw and central moments, skewness, kurtosis. 1.3 Moment generating function(M.G.F.):Definition and properties,cumulant generating function (C. G. F.) : definition, properties. 1.4 Mode, median, quartiles. 1.5 Probability distribution of function of r. v.: $Y = g(X)$ using i) Jacobian of transformation for g(.) monotonic function and one-to-one, on to functions, ii) Distribution function for $Y = X^2$, $Y = \|X\|$ etc., iii) M.G.F. of g(X).	10
Nov /Dec 2021	**2.Continuous Bivariate Distributions:**	2.1 Continuous bivariate random vector or variable b(X, Y): Joint p. d. f. , joint c. d. f , properties (without proof), probabilities of events related to r.v. (events in terms of regions bounded by regular curves, circles, straight lines). Marginal and conditional distributions. 2.2 Expectation of r.v., expectation of function of r.v. E[g(X, Y)], joint moments, Cov (X,Y), Corr (X, Y), conditional mean, conditional variance, $E[E(X\|Y = y)] = E(X)$, regression as a conditional expectation.	09

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		2.3 Independence of r. v. (X, Y) and its extension to k dimensional r. v. Theorems on expectation: i) $E(X + Y) = E(X) + E(Y)$, (ii) $E(XY) = E(X) E(Y)$, if X and Y are independent, generalization to k variables. $E(aX + bY + c)$, $Var(aX + bY + c)$. 2.4 M.G.F. : $M_{X,Y}(t_1, t_2)$, properties, M.G.F. of marginal distribution of r. v.s., properties $M_{X,Y}(t_1, t_2) = M_X(t_1, 0)\, M_Y(0, t_2)$, if X and Y are independent r. v.s., $M_{X+Y}(t) = M_{X,Y}(t, t)$, $M_{X+Y}(t) = M_X(t)\, M_Y(t)$ if X and Y are independent r.v.s. 2.5 Probability distribution of transformation of bivariate $U = f_1(X, Y)$, $V = f_2(X, Y)$.	
Dec 2021	**3.Standard Univariate Continuous Distributions:**	**3.1 Uniform or Rectangular Distribution:** Probability density function (p.d.f.) Notation : $X \sim U[a, b]$. p. d. f., sketch of p. d. f., c. d. f., mean, variance, symmetry. Distribution of i) $X - a$, ii) $b - X$, iii) $Y = F(X)$, where F(X) is the c. d. f. of continuous r. v. X. Application of the result to model sampling.	**04**
Dec 2021/ Jan 2022		**3.2 Normal Distribution:** p. d. f. curve, identification of scale and location parameters, nature of probability curve, mean, variance, M.G.F., C.G.F., central moments, cumulants, b_1, b_2, g_1, g_2, median, mode, quartiles, mean deviation, additive property, computations of normal probabilities using normal probability integral tables, probability distribution of : i) $X - m$,	**10**

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		ii) aX + b, iii) aX + bY + c, iv) X^2 , where X and Y are independent normal variates. Probability distribution of $\bar{X}$, the mean of n i. i. d. $N(m, s^2)$ r. v s. Normal probability plot, q-q plot to test normality. Model sampling from Normal distribution using (i) Distribution function method and (ii) Box-Muller transformation as an application of simulation. Statement and proof of central limit theorem (CLT) for i. i. d. r. v. s with finite positive variance.(Proof should be using M.G.F.) Its illustration for Poisson and Binomial distributions.	
Jan/Feb 2022		1.1 Continuous sample space: Definition, illustrations. Continuous random variable: Definition, probability density function (p.d.f.), cumulative distribution function (c.d.f.), properties of c.d.f. (without proof), probabilities of events related to random variable. 1.2 Expectation of continuous r.v., expectation of function of r.v. E[g(X)], mean, variance, geometric mean, harmonic mean, raw and central moments, skewness, kurtosis. 1.3 Moment generating function(M.G.F.):Definition and properties,cumulant generating function (C. G. F.) : definition, properties. 1.4 Mode, median, quartiles. 1.5 Probability distribution of function of r. v.: Y = g(X) using i) Jacobian of transformation for g(.) monotonic function and one-to-one, on to functions, ii) Distribution function for $Y = X^2$, $Y = \|X\|$ etc., iii) M.G.F. of g(X).	**04**

Prof .Thorat S.R.

HEAD,
DEPARTMENT OF STATISTICS
H. R. MAHAVIDYALAYA, RAJGURUNAGAR

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Sr.No.	Class	Paper	Name of Teacher
1	F.Y.B.C.S.	Descriptive Statistics-I	Wayal V.M.
2	F.Y.B.C.S.	Mathematical Statistics	Wayal V.M.
3	F.Y.B.B.A (C.A)	Business Statistics	Wayal V.M.

Paper : Descriptive Statistics-I **Class: F.Y.B.Sc(Computer Science)**

Month	Topic	Subtopic	No. of Lectures
Oct -Nov 2021	**1.Data Condensation and Presentation of data**	1.1 Meaning of Statistics as a Science. 1.2 Importance of Statistics. 1.3 Scope of Statistics: 1.4 Data Condensation: Types of data, attributes & variables 1.5. Graphical representation of statistical data Histogram, Ogive curves, Stem and leaf chart	10
Nov -Dec 2021	**2. Descriptive Statistics**	2.1 **Measures of central tendency** 2.2 Objectives of Measures of Central Tendency 2.3 Arithmetic Mean (A.M.) 2.4 Trimmed mean 2.5 Median & mode: Definition, Formula, merits & Demerits, graphical method for computation 2.6 Empirical relation 2.7 Partition values 2.8 Box and whisker plot	15

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		2.9 Measures of Dispersion Introduction 2.10 Measures of Dispersion 2.11 Range and Coefficient of range 2.12 Quartile deviation 2.13 Mean deviation and coefficient of mean deviation 2.14 Mean square deviation 2.15 Variance , standard deviation , coefficient of variation	
Dec 2021 - Jan 2022	**3. Moments, Skewness and Kurtosis**	**Moments:** 3.1 Raw moments (m'r) for ungrouped and grouped data 3.2 Central moments (mr) for ungrouped and grouped data 3.3 Relations between central moments and raw moments, upto 4-th order 3.4 Concept of skewness of frequency distribution, positive skewness, negative skewness, symmetric frequency distribution. 3.5 Bowley's coefficient of skewness 3.6 Karl Pearson's coefficient of skewness. 3.7 Measures of skewness based on moments ($\beta 1, \gamma 1$). 3.8 Concepts of kurtosis, leptokurtic, mesokurtic and platykurtic frequency distributions. 3.9 Measures of kurtosis based on moments ($\beta 2, \gamma 2$).	**10**

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Feb 2022	**4. Theory of Attributes**	4.1 Attributes: 4.2 Consistency of data upto 2 attributes. 4.3 Concepts of independence and association of two attributes. 4.4 Yule's coefficient of association (Q), $-1 \leq Q \leq 1$, interpretation.	6

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Paper : Mathematical Statistics **Class: F.Y.B.Sc(Computer Science)**

Sr. No.	Month	Topic	No. of lectures
1	Oct-Nov 2021	**1. Theory of Probability** 1.1 Counting Principles, Permutation, and Combination. 1.2 Deterministic and non-determination models. 1.3 Random Experiment, Sample Spaces (Discrete and continuous) 1.4 Events: Types of events, Operations on events. 1.5 Probability - classical definition, probability models, axioms of probability, probability of an event. 1.6 Theorems of probability (without proof) i) $0 \leq P(A) \leq 1$ ii) $P(A) + P(A') = 1$ iii) $P(\Phi) = 0$ iv)$P(A) \leq P(B)$ when A□B iv) $P(A \cup B) = P(A) + P(B) - P(A \square B)$ 1.7 Numerical problems related to real life situations.	10
2	Nov-Dec 2021	**2. Conditional Probability and Independence** 2.1Concepts and definitions of conditional probability, multiplication theorem $P(A \cap B)=P(A).P(B\|A)$ 2.2 Bayes' theorem (without proof). True positive , false positive and sensitivity of test as application of Bayes' theorem. s 2.3 Concept of Posterior probability, problems on posterior probability. 2.4 Concept and definition of independence of two events. 2.5 Numerical problems related to real life situations.	9

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3	**Jan 2022**	**3: Random Variable** 3.1 Definition of random variable (r.v.) , discrete and continuous random variable. 3.2 Definition of probability mass function (p.m.f.) of discrete r.v. and Probability density function of continuous r.v.. 3.3 Cumulative distribution function (c.d.f.) of discrete and continuous r.v. and their properties. (Characteristic properties only) 3.4 Definition of expectation and variance of discrete and continuous r.v., theorem on expectation and variance (statement only). 3.4 Determination of median and mode using p.m.f. only. 3.5 Numerical problems related to real life situations.	**09**
4	**Jan-Feb 2022**	**4 : Standard Discrete Distributions** 4.1Discrete Uniform Distribution: definition, mean, variance. 4.2 Binomial Distribution: definition, mean, variance, additive property, Bernoulli distribution as a particular case with n = 1. 4.3 Geometric Distribution (p.m.f $p(x) = pqx$, x = 0,1,2.....): definition,mean, variance. 4.4 Poisson Distribution: definition, mean, variance, mode, additive property, limiting case of B(n, p) 4.5 Illustration of real life situations. 4.6 Numerical problems related to real life situations.	**12**

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Paper : Business Statistics **Class: F.Y.B.B.A. (Sem-I)**

Month	Topic	Subtopic	No. of lectures
Oct 2021	**1.Concept of Statistics**	1.1 Meaning of Statistics as a Science. 1.2 Importance of Statistics. 1.3 Scope of Statistics: 1.4 Data Condensation: Types of data, attributes & variables 1.5. Graphical representation of statistical data Histogram, Ogive curves, Cumulative frequency curve	12
Nov- Dec 2021	**2. Measures of central tendency**	2.1 **Measures of central tendency** 2.2 Objectives of Measures of Central Tendency 2.3 Arithmetic Mean (A.M.) 2.4 Trimmed mean 2.5 Median & mode: Definition, Formula, merits & Demerits, graphical method for computation 2.6 Empirical relation 2.7 Partition values 2.8 Box and whisker plot	13
Dec 2021- Jan 2022	**3. Measures of Dispersion**	**Measures of Dispersion** Introduction 3.1Measures of Dispersion 3.2 Range and Coefficient of range 3.3Quartile deviation 3.4 Mean deviation and coefficient of mean deviation 3.5 Mean square deviation 3.6 Variance , standard deviation , coefficient of variation	**12**

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Jan-Feb 2022	**4. Correlation and Regression**	4.1 Concept of Correlation 4.2 Types of correlation 4.3 Karl Pearson's coefficient of correlation 4.4 Meaning of Regression 4.5 Two regression equations 4.6 Numerical problems.	12

VMWayal

Prof V.M. Wayal

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K. T. S. P. Mandal's
Hutatma Rajguru Mahavidyalaya , Rajgurunagar
Department Of Statistics
Syllabus Completion Report
Academic Year 2021-22 Term II

Sr.No	Class	Paper	Name of Teacher
1	F.Y.B.Sc	Descriptive Statistics II	Thorat S.R.
2	F.Y.B.Sc	Discrete Probability Distributions	Thorat S.R.
3	S.Y.B.Sc	Test of Significance and Statistical Methods	Thorat S.R.

Paper : Descriptive Statistics II. **Class: F.Y.B.Sc**

Month	Topic	Subtopic
April/ May 2022	**1. Correlation**	1.1 Bivariate data, Scatter diagram and interpretation. 1.2 Concept of correlation between two variables 1.3 Covariance between two variables (m11) : 1.4 Karl Pearson's coefficient of correlation (r) 1.5 Spearman's rank correlation coefficient: compute Karl Pearson's correlation coefficient between ranks.
May 2022	**2. Fitting of Curve (Regression Line)**	2.1 Concept of dependent and independent variables. 2.2 Identification of response and predictor variables and relation between them. 2.3 Simple linear regression model: $Y= a + b X + \varepsilon$ 2.4 Concept of residual, plot of residual, coefficient of determination
May 2022	**3. Curve fitting**	3.1 Necessity and importance of drawing second degree curve.

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		3.2 Fitting of second degree curve 3.3 Fitting of exponential Curve of the type $Y=ab^x$ and $Y=aX^b$
June 2022	**4. Index Number**	4.1 Introduction. 4.2 Definition and Meaning. 4.3 Problems/considerations in the construction of index numbers. 4.4 Simple and weighted price index 4.5 Simple and weighted price index 4.6 Laspeyre's, Paasche's and Fisher's Index numbers. 4.7 Consumer price index number (i) family budget method (ii) aggregate expenditure method. 4.3 Shifting of base, splicing, deflating, purchasing power. 4.4 Description of the BSE sensitivity and similar index numbers.

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Paper : Discrete probability Distributions **Class:F.Y.B.Sc**

Month	Topic	Subtopic
April/ May 2022	**1. Some Standard Discrete Probability Distributions**	**1.1 Poisson distribution:** m.g.f. and c.g.f. Moments, mean, variance, skewness and kurtosis, Additive Property for Poisson distribution Conditional distribution of X given (X+Y) for Poisson distribution. **1.2 Geometric distribution:** Mean, variance, m.g.f. and c.g.f. Lack of memory Property.
June 2022	**2. Bivariate Discrete Probability Distribution**	2.1 Definition of two-dimensional discrete random variable, its joint p.m.f. and its distribution function and their properties 2.2 Concept of identically distributed random variables. 2.3 Computation of probabilities of events in bivariate probability distribution. 2.4 Concepts of marginal and conditional probability distributions. 2.5 Independence of two discrete random variables based on joint and marginal p.m.f.s
June 2022	**3.Mathematical Expectation (Bivariate Random Variable)**	3.1 Definition of raw and central moments, m.g.f, c.g.f. 3.2 Theorems on expectations .3.3 Conditional expectation. 3.4 Definitions of conditional mean and conditional variance. 3.5 Definition of covariance, coefficient of correlation, independence and uncorrelatedness of two variables. 3.6 Variance of linear combination of variables Var(aX + bY).Correlation coefficient

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Paper : Test of Significance and Statistical Methods
Class: S.Y.B.Sc (Sem-IV)

Month	Topic	Subtopic
April/May 2022	**I) Tests of Hypothesis**	Statistics and parameters, statistical inference : problem of estimation and testing of hypothesis. Estimator and estimate. Unbiased estimator (definition and illustrations only). Statistical hypothesis, null and alternative hypothesis, Simple and composite hypothesis, one sided and two sided alternative hypothesis, critical region, type I error, type II error, power of the test, level of significance, p-value. Two sided confidence interval, finding probabilities of type I error and type II error when critical regions are specified . i) Test for population mean equal to specified value ii) Test of equality of two population mean iii) Test for population proportion equal to specified value. iv) Test for equality of two population proportions.
May 2022	**II) Multiple Linear Regression Model:**	Definition of multiple correlation coefficient $R_{Y.XX}$. Derivation of the expression for the multiple correlation coefficient. Properties of multiple correlation coefficient Interpretation of coefficient of multiple determination r^2 Definition of partial correlation coefficient Fitting of regression plane of Y on X_1 and X_2 by the method of least squares; obtaining normal equations, solutions of normal equations Residuals : Definition, order, derivation of variance, properties. Definition and interpretation of partial regression coefficients Properties of partial correlation coefficient:
June 2022	**III) Dempgraphy**	Vital events, vital statistics, methods of obtaining vital statistics, rates of vital events, sex ratios, dependency ratio. Death/Mortality rates: Crude death rate, specific (age,

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		sex etc.) death rate, standardized death rate (direct and indirect), infant mortality rate. Fertility/Birth rate: Crude birth rate, general fertility rate, specific (age, sex etc.) fertility rates, total fertility rate. Growth/Reproduction rates : Gross reproduction rate, net reproduction rate. Interpretations of different rates, uses and applications. Trends in vital rates as revealed in the latest census.
June 2022	**IV) Queuing Model**	M/M/1: FIFO as an application of exponential distribution, Poisson distribution and geometric distribution : Inter arrival rate , service rate (μ), traffic intensity ,queue discipline probability distribution of number of customers in queue, average queue length, average waiting time in: i) queue, ii) system.

Thorat S.R.
HEAD,
DEPARTMENT OF STATISTICS
H. R. MAHAVIDYALAYA -RAJGURUNAGAR

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Syllabus Completion Report

F. Y. B. Sc. - Botany: 2021-22

Plant life and utilization I (BO 111)

(Semester – I; Paper – I)

Sr. No.	Month	Topics
1	September	**INTRODUCTION** - General outline of plant kingdom (Lower Cryptogams: Thallophytes- Algae, Fungi & Lichens; Higher Cryptogams: Bryophytes and Pteridophytes; Phanerogams: Gymnosperms and Angiosperms- Dicotyledons and Monocotyledons). Distinguishing characters of these groups and mention few common examples from each. **Revision and Assignment**
2	October	**ALGAE** – Introduction, General Characters, Classification (Bold and Wynne 1978) up to classes with reasons. Life Cycle of ***Spirogyra***w.r.t. Habit, Habitat, Structure of thallus, structure of typical cell, Reproduction- Vegetative, Asexual and Sexual, systematic position with reasons.Utilization of Algae in Biofuel Industry, Agriculture, Pharmaceuticals, Food and Fodder **Revision and Assignment**
3	November	**LICHENS** – Introduction, General Characters, Nature of Association, forms- Crustose, Foliose and Fruticose. Utilization of lichens. **FUNGI** – Introduction, General Characters, Classification (Ainsworth, 1973). Life Cycle of Mushroom- ***Agaricusbisporus***w.r.t. Habit, Habitat, Structure of thallus, Structure of SporocarpStructure of Gill, Reproduction- Asexual and sexual, Systematic position. Utilization of Fungi in Industry, Agriculture, Food and Pharmaceuticals. **Revision and Assignment**
4	December and January	**BRYOPHYTES** – Introduction, General Characters, Classification (G.M. Smith 1955) Life Cycle of ***Ricciaw***.r.t. Habit, habitat, external and internal structure of thallus, Reproduction- vegetative, asexual and sexual- Structure of sex organs, fertilization, **Revision and Assignment** **Theory Internal Exam**
5	February	**BRYOPHYTES** Structure of mature sporophyte, structure of spore, systematic position with reasons. Utilization:. Bryophytes as ecological indicators, agriculture, fuel, industry and medicine **Practical Internal Exam**

Total lectures conducted:37 lectures

Student's strength: 73

22/4/2022

Dr. K. M. Nitnaware

Syllabus Completion Report

F. Y. B. Sc. - Botany: 2021 -22

Plant Morphology and Anatomy(BO 112)

(Semester – I; Paper – II)

Sr. No	Month	Topics
2	October	**Anatomy** Introduction and definition Importance in Taxonomy, Physiology, Ecological interpretations, Pharmacongnosy and Wood identification.
3	November	**Anatomy (cont.)** Importance in Pharmacongnosy and Wood identification. **Types of Tissues** Outline with brief description, simple and complex tissues
4	December	**Types of Tissues (cont.)** Meristmatic tissues: Meristem, characters and types based on origin, position and plane of division, functions. Permanent tissues:Simple tissues - parenchyma, collenchymas, chlorenchyma and sclerenchyma.
5	January	**Types of Tissues (cont.)** Complex/Vascular tissues:Components of xylem and phloem, types of vascular bundles and functions. Epidermal tissues:Epidermis, structure of typical stomata, trichomes, motor cells; functions. **Internal Organization of Primary Plant body** Internal structure of dicotyledon and monocotyledon root. Seminar and revision **Revision and Assignment** **Theory Internal Examination**
6	February	**Internal Organization of Primary Plant body (cont.)** Internal structure of dicotyledon and monocotyledon stem. Internal structure of dicotyledon and monocotyledon leaf. **Revision and Assignment** **Question paper discussion** **Practical Internal Exam**

Total lectures conducted:19 lectures

Student's strength: 73

Sangeetha J.S. 22/02/22

Dr. Sahgeetha J.S.

Syllabus Completion Report

S.Y.B.Sc. Botany (CBCS): 2021 - 22
BO-231. Taxonomy of Angiosperms and Plant Ecology
(Semester III, Paper I)

Sl. No	Month	Topic
1	October	**1. Introduction to Angiosperm Taxonomy** Definition, Scope, objectives and importance of taxonomy, Exploration, Description, Identification, Nomenclature and Classification Concept of Systematics with brief historical background. **2. System of classification: Comparative account of various system of classification, Artificial system-Carl Linnaeus**
2	November	2. **System of classification**– Natural System- Bentham and Hooker, Phylogenetic system -Engler and Prantl, APG system -A brief review **3. Study of plant families** Study of following families with reference to systematic position (As per Betham and Hooker's System of classification), Salient features, floral formula, floral diagram and any five examples with their economic importance- Annonaceae , Myrtaceae, Rubiaceae
3	December	**Study of Plant Families** Solanaceae, Apocynaceae,Nyctaginaceae and Amaryllidaceae **Introduction to Ecology:** Definition, concept, scope and interdisciplinary approach, autecology and synecology **Species diversity:** definition, concept, scope and types: Alpha, Beta, and Gamma diversity. **Methods of vegetation sampling:** quadrate method, transect method, plot less method
4	January	Ecological grouping of plants with reference to their significance of adaptive external and internal features: a)Hydrophytes, b) Mesophytes c) Xerophytes d) Halophytes with examples. **Botanical Nomenclature** Concept of nomenclature, brief history, Binomial nomenclature, International code of nomenclature of Algae, Fungi and Plants (ICN),Principles, **Theory Internal Exam**
5	February	Rules and Recommendation, Type specimen and its types (Holotype, Paratype, Isotype, Lectotype, Neotype). Concept of Typification, Ranks and endings of taxa names,. Coining of Genus names and species names Single,double and multipleauthority citation. **Revision and Assignment**

Total lectures conducted:37 lectures
Student's strength: 70

24/2/2022
Dr. K.M. Nitnaware.

Syllabus Completion Report

S. Y. B. Sc. Botany; CBCS 2021 -22

BO: 232; Plant Physiology

(Semester III, Paper II)

Sr. No.	Month	Topic
1	October	**Introduction to Plant Physiology** Brief history, Scope and applications of plant physiology
2	December	**Absorption of water** Role of water in plants Mechanisms of water absorption with respect to crop plants Factors affecting rate of water absorption **Revision, Assignment** **Ascent of sap** Introduction and definition. Transpiration pull or cohesion-tension theory; evidences and objections Factors affecting ascent of sap
3	January	**Transpiration** Definition Types of transpiration – cuticular, lenticular and stomatal Structure of stomata Mechanism of opening and closing of stomata –Steward's hypothesis, Active K+ transport mechanism Factors affecting the rate of transpiration **Theory Internal Examination**
4	February	**Transpiration (cont.)** Significance of transpiration Antitranspirants Guttation Exudation **Revision, Assignment** **Question paper discussion** **Practical Internal Examination**

Total lectures conducted:16 lectures

Student's strength: 70

Sangeetha 22/02/22

Dr. Sahgeetha J.S.

Syllabus Completion Report

T. Y. B. Sc. - Botany: 2021 - 22

BO: 351 Cryptogamic Botany

(Semester– V; Paper – I)

Sr. No	Month	Topics
1	October	**Introduction:** Cryptogams- meaning. Types- Lower Cryptogams, brief Review with examples **Algae:** General characters, distribution, Thallus organization, habit and Habitat reproduction and Classification (G.M.Smith 1955) up to classes.
2	November	**Study of life cycle** of algae with reference to taxonomic position, Occurrence, Thallus structure, and reproduction of *Nostoc*, *Oedogonium Chara*, *Sargassum* and *Batrachospermum*. Economic importance of algae- Role in industry, agriculture, fodder and medicine.
3	December	**Fungi:** General characters, Habit and habitats, thallus organization, cell wall composition, nutrition and Classification. (Alexopoulos and Mims 1979) up to classes. Study of life cycle of fungi with reference to taxonomic position, thallus structure, and reproduction of Mucor (Zygomycotina),
4	January	*Saccharomyces* (Ascomycotina), *Puccinia* (Basidiomycotina), *Penecillium* and *Cercospora* (Deuteromycotina) [Two members of Deutero.] Symbiotic Associations - Lichens, *Mycorrhiza* and their significance **Theory Internal Exam**
5	February	**Revision and Assignment** **Practical Internal Exam**

Total lectures conducted: 46 lectures

Student's strength: 13

Pookakad
22/02/22

Prof. P. D. Kad.

Syllabus Completion Report

T. Y. B. Sc. - Botany: 2021 -22

BO.352: Archegoniate

(Semester– V; Paper – II)

Sr. No	Month	Topics
1	October	**Introduction to Archegoniate:** **Introduction**, general characters, distribution of Bryophytes to land habit, classification of **Bryophytes** according to G.M. Smith (1955) up to classes with reasons. **Range of thallus organisation**, origin of Bryophytes - Pteridophytes and Algal hypothesis, evolution of sporophyte.
2	November	Study of Life Cycle of Bryophytes with respect to Taxonomic position, Morphology, Anatomy, Reproduction, Gametophytes and sporophytes of ***Marchantia***, ***Anthoceros*** and ***Funaria.*** Ecological and economic importance of **Bryophyte.**
3	December	**Introduction-** Vascular Cryptogams, General characteristics, Classification according to K.R. Sporne (1975) up to classes with reasons, Diversity and Distribution of **Pteridophytes.** Resemblances of Pteridophytes with Bryophytes, Differences between Pteridophytes and Bryophytes, Origin of Pteridophytes -Algal and Bryophytes, Evolution of **Pteridophytes-** Telome Theory and Enation Theory.
5	January	Study of Life Cycle of **Pteridophytes** with respect to Taxonomic position, Morphology, Anatomy, Reproduction, Sporophytes and Gametophytes of ***Psilotum***, ***Selaginella*** and ***Equisetum.*** Ecological and Economical Importance of Pteridophytes. **Theory Internal Exam**
6	February	**Practical Internal Exam** **Revision, Assignment and Question paper discussion.**

Total lectures conducted:45 lectures
Student's strength: 13

Mechkar R.V.
22/2/22

Prof. R.V. Mechkar.

Syllabus Completion Report

T. Y. B. Sc. - Botany: 2021- 22

BO.353: Spermatophyta and Palaeobotany

(Semester– V; Paper – III)

Sr. No	Month	Topics
1	October	**Introduction to Gymnosperms** General characters, economic importance and classification according to Chamberlain (1934).
2	November	**Study of life cycle of *Pinus*** with reference to distribution,morphology, anatomy, reproduction, gametophyte, sporophyte, seed structure and alternation of generations. **Revision and Assignment**
3	December	**Study of life cycle of *Gnetum*** with reference to distribution, morphology, anatomy, reproduction, gametophyte, sporophyte, seed Structure and alternation of enerations. **Fossil-** Definition, process of fossil formation, types of fossils.-Impression, Compression, Petrifaction, Pith cast and Coal ball. **Origin of angiosperms:**with reference to time, place and ancestry- 1) Pseudanthial theory 2) Transitional-Combinational Theory **Revision and Assignment**
4	January	**Classification:** Outline, Merit and Demerits of Cronquist's System and APG IV system of classification. Study of following families with reference to systematic position (As per Bentham & Hooker), Diagnostic characters,floral formula, floral diagram and any five examples with their economic importance – Nymphaeaceae, Oleaceae, Amaranthaceae, Cannaceae **Herbaria and Botanical Gardens** Functions of Herbarium, Important herbaria (World: Kew herbarium; India: Central National Herbarium, Kolkata). Botanic gardens of the world (Royal Botanic Garden, Kew) and India **Theory Internal Exam** **Revision and Assignment**
5	February	**Speciation & Endemism** Species concept (Biological, Taxonomic & Phylogenetic Species Concept), Speciation (Allopatric, Sympatric &Parapatric), Endemism and its types (Palaeoendemism, Holoendemism and Neoendemism) **Practical Internal Exam** **Revision, Question paper discussion**

Total lectures conducted:44 lectures

Student's strength: 13

Sangeetha J. S. 22/02/22

Dr. Sangeetha J. S.

Syllabus Completion Report

T. Y. B. Sc. - Botany: 2021-22

BO.354: Plant Ecology

(Semester– V; Paper – IV)

Sr. No	Month	Topics
1	October	**Introduction**, interrelationship between the living world and the environment, levels of organization, components and dynamism of ecosystem, homeostasis, niche concept, concept of limiting factors
2	November	**Biogeography**: Floristic realms, speciation and its types, biogeographic regions of India,Plant indicators Population ecology:Definition, characteristics, population growth form, r and k selection
3	December	**Community ecology**: Introduction and Definition, community structure, physiognomy, Raunkiaer's life form classification, keystone species, edge and ecotone Biogeochemical cycles: The carbon cycle, Nitrogen cycle, Phosphorus cycle, and Hydrologic cycle Ecological Impact Assessment (EIA) Introduction, Historical Review of EIA, Objectives of EIA, Stages of EIA process: Screening; Scoping; Baseline study; Impact prediction and assessment; Mitigation; Producing Environmental Impact Statement (EIS); EIS review; Decision making; Monitoring, Compliance and Enforcement; Benefits of EIA.
4	January	Environmental Audit Meaning and concept, need, objectives, benefits, types, audit protocol, process, certification, personnel environmental audit Remote Sensing Definition, basic principles, process of ecological data acquisition and interpretation, global positioning system,application of remote sensing in ecology. **Theory Internal Exam**
5	February	Ecological management: Concepts, sustainable development, sustainability indicators **Revision, Seminars and Question paper discussion** **Practical Internal Exam**

Total lectures conducted:31 lectures
Student's strength: 13

Kadakal
22/02/22

Prof. P. D. Kad.

Syllabus Completion Report

T. Y. B. Sc. - Botany: 2021-22

BO.355: Cell and Molecular Biology

(Semester– V; Paper – V)

Sr. No	Month	Topics
1	October	**Introduction to Cell Biology** : Definition, Brief history of Cell Biology, Units of measurement for cell, Interdisciplinary nature of Cell Biology
2	November	**Cell organelles**: Ultrastructure, components and functions of Cell wall and cell membranes, mitochondria and Chloroplast, endoplasmic Reticulum, Golgi apparatus, Lysosomes, Vacuoles
3	December	**Nucleus**: Morphology and ultrastructure of nucleus, nucleolus and nucleolar organizer Nuclear envelope – structure of nuclear pore complex, transport of molecules across nuclear envelope. **Chromosomes**: Euchromatin and heterochromatin Histones, Packing of DNA into chromosomes in eukaryotes, Karyotype and ideogram, Polytene chromosomes and lampbrush chromosomes.
4	January	**Genetic material DNA**: historical perspective from 1953 to 2020, Griffith's and Avery's transformation experiments, Hershey-Chase bacteriophage experiment. DNA replication (Prokaryotes and Eukaryotes): Molecular mechanism of DNA replication. Enzymes involved in both prokaryotic and eukaryotic DNA replication and their inhibitors (antibiotics). **Gene expression**:Transcription (Prokaryotes in details and passing remarks on Eukaryotes) Types of RNA: mRNA, tRNA, rRNA; **Theory Internal Exam**
5	February	Types of promoters; types of RNA polymerase enzymes in eukaryotes; molecular mechanism of transcription. **Translation** (Prokaryotes and Eukaryotes): Definition, concept and properties of genetic code; molecular mechanism of translation. **Regulation of gene expression**: Concept of operon, *lac* operon and *trp* operon, positive and negative control, one gene one enzyme hypothesis. **Cell signaling:** Introduction and definition, Signaling molecules and receptors, Calcium signaling pathway in plants **Practical Internal Exam** **Revision, Question paper discussion**

Total lectures conducted:47 lectures
Student's strength: 13

22/02/2022

Dr. K.M. Nitnaware.

Syllabus Completion Report

T. Y. B. Sc. - Botany: 2021-22

Skill Enhancement course

BO.3510: Medicinal Botany

(Semester– V; Paper – X)

Sr. No	Month	Topics
1	October	**Medicinal Plants**: History, Scope and Importance 01 2 Indigenous Medicinal Sciences; Definition and Scope **Ayurveda**: History, origin, panchamahabhutas, saptadhatu and tridosha concepts, Rasayana, plants used in ayurvedic treatments.
2	November	**Siddha**: Origin of Siddha medicinal systems, Basis of Siddha system, plants used in Siddha medicine. **Unani**: History, concept: Umoor-e- tabiya, tumors treatments/ therapy, polyherbal formulations. **Conservation** of endangered and endemic medicinal plants: Definition: endemic and endangered medicinal plants, Red list criteria; *In situ* conservation: Biosphere reserves, sacred groves, National Parks; *Ex situ* conservation: Botanic Gardens, Ethnomedicinal plant Gardens.
3	December	**Propagation of Medicinal Plants**: Objectives of the nursery, its classification, important components of a nursery, sowing, pricking, use of green house for nursery production, propagation through cuttings, layering, grafting and budding.
4	January	**Theory Internal Exam** **Assignment** **Ethnobotany** and Folk medicines: Definition; Ethnobotany in India: Methods to study ethnobotany; Applications of Ethnobotany: National interacts, Palaeo-ethnobotany. **Folk medicines** of ethnobotany, ethnomedicine, ethnoecology, ethnic communities of India. Application of natural products to certain diseases. Jaundice, cardiac, infertility, diabetics, Blood pressure and skin diseases. **Theory Internal Exam**
5	February	**Revision, Question paper discussion& Seminars**

Total lectures conducted:41 lectures
Student's strength: 13

Mechkar R.V.
22/02/22

Prof. R.V. Mechkar.

Syllabus Completion Report

T. Y. B. Sc. - Botany: 2021-22

Skill Enhancement course

BO.3511: Plant Diversity and Human Health

(Semester– V; Paper – XI)

Sr. No	Month	Topics
1	January	**Plant diversity and its scope-** Genetic diversity, Species diversity, Plant diversity at the ecosystem level. **Theory Internal Exam**
2	February	**Agrobiodiversity** and cultivated plant taxa, wild taxa. Values and uses of Biodiversity: Ethical and aesthetic values, Precautionary principle, Methodologies for valuation, Uses of plants, Uses of microbes. **Loss of Biodiversity**: Loss of genetic diversity, Loss of species diversity, Loss of ecosystem diversity, Loss of agrobiodiversity, Projected scenario for biodiversity loss. **Revision, Question paper discussion**

Total lectures conducted:19 lectures
Student's strength: 13

Mechkar R.V.
22/02/22

Prof. R.V.Mechkar.

Syllabus Completion Report

T. Y. B. Sc. - Botany: 2021-22

Skill Enhancement course

BO.3511: Plant Diversity and Human Health

(Semester– V; Paper – XI)

Sr. No	Month	Topics
1.	December	**Conservation of Biodiversity:** Conservation of genetic diversity, species diversity and ecosystem diversity, In situ and ex situ conservation, Social approaches to conservation, Biodiversity awareness programmes, Sustainable development. **Theory Internal Exam**
2.	February	**Management of Plant Biodiversity:** Organizations associated with biodiversity management-Methodology for execution-IUCN, UNEP, UNESCO, WWF, NBPGR; Biodiversity legislation and conservations. **Revision, Question paper discussion.**

Total lectures conducted:10 lectures
Student's strength: 13

22/02/2022
Prof. P.D. Kad.

Syllabus Completion Report

T. Y. B. Sc. - Botany: 2021-22

Skill Enhancement course

BO.3511: Plant Diversity and Human Health

(Semester– V; Paper – XI)

Sr. No	Month	Topics
1	January & February	**Role of plants in relation to Human Welfare** a) Importance of forestry their utilization and commercial aspects b) Avenue trees c) Ornamental plants of India. d) Alcoholic beverages through ages. Fruits and nuts: Important fruit crops their commercial importance. Wood and its uses. **Theory Internal Exam** **Practical Internal Exam** **Revision, Question paper discussion**

Total lectures conducted:10 lectures

Student's strength: 13

Sangeetha J.S. 22/02/22

Dr. Sangeetha J.S.

Syllabus Completion Report

T.Y.B.Sc. Botany CBCS Pattern

(Semester V, Paper VI) 2021-2022

BO 356: Genetics - 2 Credits (30 Lectures)

Sr. No.	Month	Topic Covered
1	October	**Credit-I** 1.Introduction to Genetics. History, Definition, Concept, branches and applications of Genetics. 2.Mendelism Genetical terminology, Monohybrid cross, Law of dominance, Incomplete dominance, Law of segregation, Dihybrid cross, Dihybrid ratio, Law of independent assortment, Back cross and Test cross.
2	November	3.Neo Mendelism (Gene Interaction) Genetic interaction, Epistatic interactions –supplementary gene (recessive epistasis 9:3:4), Inhibitory genes (13:3), Masking genes (12:3:1), Non- Epistatic inter-allelic genetic interactions-Complementary genes (9:7), Duplicate genes (15:1) 4.Multiple alleles Definition, Concept, Characters of multiple alleles, Examples of multiple alleles – Blood group in human and self-incompatibility in Nicotiana.
3	December	5.Linkage, Recombination and Crossing Over Linkage-Definition and Types, Crossing over: Definition and Types, Construction of a linkage map by two point test cross and three point test cross, Recombination: Concept, definition and types 6.Mutation: Concept, definition and types **Credit-II** 7.Numerical alterations of chromosomes.: Euploidy, Aneuploidy-Concept 03 and Types, Aneuploidy in Plants and Human, Polyploidy in Plants & Animals, Induced Polyploidy, applications of Polyploidy

4	January and Feb	8.Structural alterations of chromosomes.:Types, cytology and genetic 04 effects of Deletion, Duplication Inversion and Translocation with examples. 9. Cytoplasmic & Quantitative Inheritance: Concept of quantitative inheritance, Inheritance of quantitative trait in Maize (Cob length), Cytoplasmic inheritance Definition and concept, Chloroplast-Varigation in Four O'clock plants, Mitochondria- Petite mutants in yeast. 10. Sex Linked Inheritance: Concept of Sex chromosomes and autosomes, Inheritance of X- linked genes –Inheritance of colour blindness in humans, Inheritance of Y-linked (Holandric genes) in humans, Sex influenced genes, Sex-limited genes. **Revision and Question paper discussion**

Dr Jagtap S.M.
Dept of Botany

Syllabus Completion Report
F.Y.B.Sc. Botany CBCS Pattern
(Semester I, Paper II) 2021-2022
BO-112: PLANT MORPHOLOGY AND ANATOMY (30 Lectures)

Sr. No.	Month	Topic Covered
1	October	**Credit-I** **1. MORPHOLOGY:** 1.1: Introduction, definition, descriptive and interpretative morphology. 1.2: Importance in identification, nomenclature, classification, phylogeny and Plant breeding.
2	November	**2. MORPHOLOGY OF REPRODUCTIVE PARTS:** 2.1: INFLORESCENCE: 2.1.1 Introduction and definition 2.1.2 Types: a) Racemose - Raceme, Spike, Spadix, Corymb, Umbel, Catkin and Capitulum. b) Cymose -Solitary, Monochasial- Helicoid and scorpiod; Dichasial and Polychasial. c) Special types -Verticillaster, Cyathium and Hypanthodium. 2.1.3 Significance
3	December	2.2: FLOWER: 2.2.1 Introduction and definition 2.2.2 Parts of a typical flower: Bract, Pedicel, Thalamus- forms, Perianth- Calyx and Corolla, Androecium and Gynoecium. 2.2.3 Symmetry: Actinomorphic and zygomorphic, Sexuality- Unisexual ands bisexual, Insertion of floral whorls on thalamus- Hypogyny, Epigyny and perigyny, Merous condition-Trimerous, tetrmerous and pentamerous. 2.2.4 Floral whorls: a) Calyx: Nature- Polysepalous, Gamosepalous; Aestivation- types, Modifications of Calyx- Pappus, Petaloid and Spurred. b) Corolla: Forms of Corolla- i) Polypetalous- Cruciform and Papilionaceous. ii) Gamopetalous- Infundibuliform, Bilabiate, Tubular and Campanulate. iii) Aestivation- types and significance. c) Perianth: Nature- Polytepalous, Gamotepalous. d) Androecium: Structure of typical stamen, Variations- cohesion and adhesion. e) Gynoecium: Structure of typical carpel, number, position, cohesion and adhesion; placentation- types

4	January and Feb	**2.3: FRUITS:** 2.3.1 Introduction and definition 2.3.2 Types of fruits: a) Simple: Indehiscent - Achene, Cypsela, Nut and Caryopsis. Dehiscent - Legume, Follicle and Capsule, b) Fleshy: Drupe, Berry, Hespiridium and Pepo. c) Aggregate: Etaerio of Berries and Etaerio of Follicles. d) Multiple fruits: Syconus and Sorosis. **Revision and Question paper discussion**

Dr Jagtap S.M.
Dept of Botany

Syllabus Completion Report

S.Y.B.Sc. Botany CBCS Pattern

(Semester III, Paper II) 2021-2022

BO 232: Plant Physiology - 2 Credits (30 Lectures)

Sr. No.	Month	Topic Covered
1	October	**Credit II:** **5. Nitrogen metabolism** 5.1 Introduction and role of nitrogen in plants 5.2 Nitrogen fixation by Rhizobium and BGA 5.2.1 Symbiotic nitrogen fixation, nitrogenase enzyme- structure and function
2	November	5.2.2 Non-symbiotic nitrogen fixation 5.3 Importance and production technique of BGA 5.4 Denitrification, ammonification and nitrification 5.5 Reductive amination and transamination
4	December	**6. Seed dormancy and germination** 6.1 Definition, types of seed dormancy and germination 6.2 Methods to break seed dormancy 6.3 Metabolic changes during seed germination 6.4 Role of phytohormones to improve seed germination 6.5 Vigor Index
5	January and Feb	**7. Physiology of flowering** 7.1 Photoperiodism – Concept, definition, short day plants, long day plants and day neutral plants. 7.2 Phytochrome theory, role of phytohormones in induction and inhibition of flowering 7.3 Applications of photoperiodism 7.4 Vernalization–concept and definition, mechanism of vernalisation, applications of vernalisation and devernalization **Revision and Question paper discussion**

Dr Jagtap S.M.

Dept of Botany

KTSP MANDAL'S
HUTATMA RAJGURU MAHAVIDYALAYA, RAJGURUNAGAR, PUNE

DEPARTMENT OF BOTANY
A.Y. 2021-22

All the practicals of F.Y. B.Sc., S.Y. B.Sc. and T.Y. B.Sc., Term-I were completed on time as per the guidelines of Savitribai Phule Pune University. Practical internal examinations of the respective classes also were conducted on time.

Faculty:

1. Dr. K.M. Nitnaware
2. Dr. Sangeetha J.S.
3. Prof. P.D. Kad
4. Prof. R.V. Mechkar

Dr. K.M. Nitnaware
Head
Department Of Botany
Hutatma Rajguru Mahavidyalaya
Rajgurunagar-410 505

Syllabus Completion Report

F.Y.B.Sc. Botany CBCS Pattern

(Semester II, Paper I) 2021-2022

BO-121: PLANT LIFE AND UTILIZATION II

Sr. No.	Month	Topic Covered
1	April	**Credit-I** 1.INTRODUCTION: Introduction to plant diversity- Pteridophytes, Gymnosperms and Angiosperms with reference to vascular plants. 2.PTERIDOPHYTES: General characters, Outline classification according to Sporne (1976) up to classes with reasons. Life cycle of Nephrolepis w.r.t. Habit, habitat, distribution, morphology, anatomy of stem and leaf, Reproduction – vegetative and sexual. 3.Utilization and economic importance of Pteridophytes
2	May	**Credit-II** 1. GYMNOSPERMS: General characters, Outline classification according to Sporne (1977) up to classes with reasons. Life cycle of Cycas w.r.t. Habit, Habitat, Distribution, Morphology and Anatomy of Stem, leaf and reproductive organs- Male cone, Microsporophyll, microspores and megasporophyll, megaspore; structure of seed; Utilization and economic importance of gymnosperms.
3	June	2. ANGIOSPERMS: General characters, Outline of classification of Bentham and Hooker's system up to series, comparative account of monocotyledons and dicotyledons. 3. Utilization and economic importance of Angiosperms: In food, fodder, fibers, horticulture and medicines. **Revision & Assignment**

Syllabus Completion Report
F. Y. B. Sc. [Botany]: 2021-22 - CBCS

BO-122; Principles of Plant Sciences
(Semester II, Paper II)

Sr. No	Month	Topics
1	April	**Credit - I** Introduction to Plant Physiology Diffusion Osmosis Plasmolysis **Revision & Assignment**
2	May	Structure of Prokaryotic & Eukaryotic plant cell Plant Cell wall Ultra structure of Chloroplast **Theory Internal Examination** **Practical Internal Examination** **Practical External Examination**
3	June	Growth – Definition, factors affecting growth, plant growth regulators Cell Cycle in Plants- Mitosis, Meiosis **Revision & Assignment**

Sangeetha J.S

Dr. Sangeetha J.S.

Syllabus Completion Report
S. Y. B. Sc. [Botany]: 2021-22
CBCS
BO: 241: Plant Anatomy and Embryology
(Semester IV, Paper I)

Month	Topics
April	**Credit – 1; Plant anatomy** **Introduction** – Definition and scope of plant anatomy Epidermal **tissue system** Structure, types and function of epidermis, Structure, types and function of stomata, Epidermal outgrowths - glandular and non-glandular., Motor cells **Revision & Assignment**
May	Mechanical **tissue system** Principles involved in distribution of mechanical tissues with one example each – inflexibility, incompressibility, inextensibility and shearing stress Vascular tissue system - Structure and function of xylem, phloem and cambium Structure and function of cambium **Theory Internal Examination** **Practical Internal Examination** **Practical External Examination**
June	**Normal secondary growth** Introduction Normal secondary Growth in Dicotyledonous stem Development of annual rings, periderm, bark, tyloses and lenticels. **Anomalous secondary growth** Introduction Causes, anomalous secondary growth Anomalous secondary growth in: Dicot stem (*Bignonia*), Dicot root (*Raphanus*) and monocot stem (*Dracaena*) **Revision & Assignment**

Sangeetha J.S.

Dr. Sangeetha J.S.

Syllabus Completion Report

S.Y.B.Sc. Botany (CBCS): 2021-22

BO 242:Plant Biotechnology

(Semester IV, Paper II)

Sr. No.	Month	Topics
1	April	**Chapter 1 Introduction to Plant Biotechnology** History and definition, Scope and importance of plant biotechnology, Current status of biotechnology in India.
2	May	**Chapter 2 Plant Tissue Culture** Concept of plant tissue culture and cellular totipotency; Basic techniques: Types of culture, Media preparation, sterilization, inoculation, incubation, hardening;Applications with reference to: Micropropagation, Somaclonal variation, Haploid production, Protoplast fusion & Somatic hybrids, Embryo rescue, Production of secondary metabolites; Commercial Plant Tissue culture laboratories in Maharashtra and India. **Chapter 3 Single Cell Protein** (SCP) Concept and definition ; Importance of proteins in diet ; Production of SCP from *Spirulina* and Yeast; Importance & acceptability of SCP **Chapter 4 Plant Genetic Engineering** Introduction, concept ; Tools of genetic engineering (restriction enzymes, ligases, plasmid vectors); Gene cloning Technique; Applications of plant genetic engineering: insect pest resistance, abiotic stress tolerance, herbicide resistance **Theory Internal Examination** **Practical Internal Examination** **Practical External Examination**
5	June	**Chapter 5 Genomics, Proteomics and Bioinformatics** Genomics- concept, types, methods used for whole genome sequencing; Proteomics-concept, types, methods used in proteome analysis; Bioinformatics-concept, database and its classification, data retrieval tools. **Chapter 6 Bioremediation** Introduction and concept; Microbial remediation ; Phytoremediation **Chapter 7 Biofuel technology** Definition, Concept and types of Renewable and nonrenewable energy sources Definition and concept of Biogas, Bioethanol, Biobutanol, Biodiesel & Biohydrogen Revision

Dr. K.M. Nitnaware

Syllabus Completion Report
T. Y. B. Sc. - Botany: 2021-22

BO. 341: PLANT PHYSIOLOGY AND METABOLISM

(Semester– VI; Paper – I)

Month	Topics
March	**Photosynthesis:** Mechanism of photosynthesis- Electromagnetic spectrum, Organization of Light-Absorbing Antenna Systems
April	**Photosynthesis (cont.)** Structure of chloroplast, Light Reaction: (Cyclic and Non-cyclic photophosphorylation) Dark Reaction: Calvin–Benson Cycle, Photorespiration, C4 cycle and CAM pathway. **Respiration:** Types of respiration (Aerobic and anaerobic), Mechanism of aerobic respiration (Glycolysis, TCA cycle, Terminal oxidation and phosphorylation in respiratory chain); Pentose Phosphate Pathway. **Revision & Assignment** **Mineral nutrition:** Classification of mineral elements, macro and micronutrients; Role of essential elements; Transport of ions across cell membrane, Ionophores , Carriers and Channels.
May	**Stomatal Biology:** Light-dependent Stomatal Opening, Mediation of Bluelight Photoreception in Guard Cells by Zeaxanthin, Reversal of Blue Light–Stimulated Opening by Green Light, The Resolving Power of Photophysiology (Overview). **Translocation in phloem:** Composition of phloem sap, girdling experiment; Pressure flow model. **Plant growth regulators:** Discovery and physiological roles of auxins, gibberellins, cytokinins, ABA, ethylene. **Revision & Assignment** **Theory Internal Examination** **Practical Internal Examination** **Practical External Examination**
June	**Photomorphogenesis:** Red and far red light responses on photomorphogenesis; Phytochrome (discovery and mode of action).

Sangeetha J.S.

Dr. Sangeetha J.S.

Syllabus Completion Report

T. Y. B. Sc. - Botany: 2021-22

BO.362: Biochemistry

(Semester– VI; Paper – II)

March	**Water: The solvent of life:** Physical properties of water, structure of water molecule, polarity of water molecule, weak interactions in aqueous solutions. **Amino acids and proteins:** Structure, classification, properties and functions of amino acids. Structure (primary, secondary, tertiary and quaternary), properties and functions of proteins Biological disorders of amino acid metabolism. Commercial applications.
April	**Enzymes:** Definition, nature of enzymes and co-factors, classification and properties of enzymes, active site. Mechanism of enzyme action: free energy, activation energy, binding energy, transition state, lock and key hypothesis, induced fit theory. Factors affecting enzyme activity: pH, temperature, substrate concentration, enzyme concentration. Enzyme inhibition: Competitive, uncompetitive, non-competitive.Reversible and irreversible inhibition, feedback inhibition.
May	**Carbohydrates:** Definition, classification of carbohydrates- Monosaccharides: aldoses and ketoses, configurations, linear to ring structure; Oligosaccharides: glycosidic bond, reducing and non-reducing sugars; Polysaccharides: homopolysaccharides, heteropolysaccharides, examples, their structures, locations and role. Properties and functions of carbohydrates. Commercial applications. **Lipids:** Definition, classification of lipids: simple, conjugate and derived lipids, properties and functions of lipids. Biological disorders of lipid metabolism. Commercial applications. **Vitamins:** Definition, classification of vitamins. source and functions of vitamins. **Foundation of Biochemistry :** From molecules to the first cell (origin of a cell), Miller and Urey experiment. Biomolecules of a cell, functional groups in biomolecules, conformations and configurations of biomolecules. **Revision, assignment** **Theory internal and practical external examination**

Prof. P. D. Kad

Syllabus Completion Report

T. Y. B. Sc. - Botany: 2021-22

BO.363: Plant Pathology

(Semester– VI; Paper – III)

March	**Fundamentals of Plant Pathology**: Introduction, Important terminology-Incitants, Host, Symptoms, Parasite, Pathogen, Inoculum, Penetration, Infection, Incubation, Disease. Economic importance of plant diseases. History of plant pathology, Introduction to Indian Agriculture Research Institute (IARI),International Crop Research Institute for Semi-Arid Tropics (ICRISAT), Contribution of Anton De Bary and Prof. B.B. Mundkur **Disease Development:** Concept of disease cycle, Inoculation, Prepenetration, Penetration, Infection, Dissemination. Epidemics-Forms, Decline, Exponential model.
April	**Defense Mechanisms**: Concept and Definition, Types-Preexisting- Structural and chemical, Induced- Structural and Biochemical. **Methods of Studying Plant Diseases.** Macroscopic study, Microscopic study, Koch"s postulates. Types of culture Media, Pure culture methods- Streak plate, Pour plate, Spread plate. **Fungal Plant Diseases** Introduction to fungi as plant pathogens. Study of Diseases- Downy mildew of Grapes, Head smut of Jowar, Tikka diseases of Groundnut with reference to causal organism, symptoms and disease management. **Bacterial Plant Diseases.** Introduction to bacteria as plant pathogens, Study of Diseases- Citrus Canker, Black arm of Cotton with reference to causal organism, symptoms and disease management.
May	**Mycoplasma Plant Diseases:** Introduction to Mycoplasma as plant pathogens, Study of Diseases- Grassy shoot disease of sugarcane, Little leaf of brinjal with reference to causal organism,symptoms and disease management. **Viral Plant Diseases**: Introduction of Virus as plant pathogens. Study of Diseases- Papaya Mosaic Disease, Bunchy top of Banana with reference to causal organism, symptoms and causal organism **Nematodal Plant Diseases:** Introduction to Nematodes as plant pathogens. Study of Diseases- Root knot diseases of vegetables, Soyabean cyst Nematodes with reference to causal organism,symptoms, Integrated management of Nematodal diseases. **Non-Parasitic Diseases.** The impact and abiotic causes- Temperature, Soil moisture and relative humidity, Poor oxygen, Poor light, Air pollutants, mineral deficiencies. Herbicidal injury, Study of Mango necrosis, Black Heart of Potato. **Principles of plant diseases control:** General account, Quarantine, Eradication, cultural control practices, Biological control. Curative measures, chemical control, Use of Effective Microorganism solution (EMS), Microbial Pesticides. **Revision, assignment** **Theory internal and practical external examination**

Prof. P. D. Kad

Syllabus Completion Report

T. Y. B. Sc. - Botany: 2021-22

BO.364: Evolution and population genetics

(Semester– VI; Paper – IV)

March	**Organic Evolution**: Distinction between Origin of life and Organic Evolution, Historical account of Origin of life, Origin of Earth Vs Origin of life: Gaia Hypothesis, Earliest Fossils, Prebiotic Evolution, Abiotic synthesis of organic matter, Primordial soup, origin of membranes, Oparin's Coacervate model, Theory of Panspermia, Early life and RNA and Origin of genetic code **Organic Evolution:**The concept of organic evolution, Theories of Evolution, Pre-Darwinian period, Theory of Inheritance of acquired characters (Lamark's), Darwinism- Theory of Natural Selection, Post-Darwinian period- Modern synthetic theory
April	**Evidences of Evolution** Direct evidences and conclusions from fossil records, Indirect evidences, Evidences from Genetics, Evidences from bio-geographical relations **Evolution Through Ages**: Fossils and Geological Time scale: Fossils and Fossilization, Conditions of fossilization, Dating of fossils: Uranium Lead method, Radio-carbon method, U-series and ESR method, Geological Time scale: Eras, Periods, epochs, and duration in millions of years and plant life.
May	**Population Genetics and Evolution**: Concept of Mendelian population, Gene Pool and its models, Hardy-Weinberg law of gene frequencies, Factors affecting allelic frequency, Genetic polymorphism **Speciation and Isolating Mechanisms:** Introduction, Morphological Criteria for Species and Races, Allopatric and Sympatric Populations, Isolating Mechanisms: Pre zygotic Isolation mechanisms: Concept, Spatial & Ecological:, Seasonal Isolation, Ethological Isolation, Mechanical Isolation, Post zygotic Isolation mechanisms: Concept, Hybrid in viability, Hybrid sterility & Hybrid breakdown. **Revision, assignment** **Theory internal and practical external examination**

Prof. R.V.Mechkar

Syllabus completion report

T. Y. B. Sc. - Botany: 2021-22

BO: 365 Advanced Plant Biotechnology

(Semester– VI; Paper – V)

Sr. No	Month	Topics
1	March	**Biotechnology:** Introduction, Traditional and modern Biotechnology. Impact of Biotechnology on Health care, Agriculture, and Environment
2	April	**Plant Tissue Culture:** Concepts of Cell theory & Cellular totipotency, Landmarks in plant tissue culture. Pluripotency, Differentiation, dedifferentiation, redifferentiation, Hormones used in PTC, 'Explant' for plant tissue culture and Response of explants in vitro– callus formation, organogenesis (direct and indirect) and embryogenesis (direct and indirect). Micro propagation of Banana (in detail from Selection of explant to hardening and marketing)
3	May	**Techniques of Genetic Engineering and Methods of gene transfer in Plants-** **Cryopreservation and Germplasm Conservation** Definition and concept, techniques of cryopreservation, cold storage, long term and short term storage, applications. Germplasm Conservation: Preservation of Cell, tissue, organ, whole organism. Concept of Gene Bank, DNA Bank, Seed Bank, Pollen Bank etc.
4	June	**Biotechnology and Society:** Biotechnology- Benefits, GM foods and its safety, Recombinant foods and religious beliefs, Recombinant therapeutic product for human health care. Patenting of biotechnological inventions and Intellectual property rights **Microbial Biotechnology:** Biochemistry of fermentation, Microorganism used in fermentation, fermentable substrate, Ethanol fermentation methods, Distilleries producing alcohols. Commercial production: Alcoholic beverages, organic acids, citric acids. Advantages of fermentation. Transgenic Plants as Bioreactors: Metabolic engineering of starch, cyclodextrins, fructans, Bioplastics, Genetically engineered plants as protein factories, Production of therapeutic proteins from plants.

Dr. K. M. Nitnaware

Syllabus Completion Report

T. Y. B. Sc. - Botany: 2021-22

BO 3610: Nursery and Gardening Management

(Semester– VI; Paper – X)

March	**Nursery**: definition, objectives and scope and building up of infrastructure for nursery, planning and seasonal activities - Planting - direct seeding and transplants. **Seed**: Structure and types - Seed dormancy; causes and methods of breaking dormancy - Seed storage: Seed banks, factors affecting seed viability, genetic erosion –Seed production technology - seed testing and certification.
April	**Vegetative propagation**: air-layering, cutting, selection of cutting, collecting season, treatment of cutting, rooting medium and planting of cuttings - Hardening of plants– greenhouse - mist chamber, shed root, shade house and glass house. **Gardening**: definition, objectives and scope - different types of gardening - landscape and home gardening - parks and its components - plant materials and design -computer applications in landscaping - Gardening operations: soil laying, manuring, watering, management of pests and diseases and harvesting.
May	**Sowing/raising of seeds and seedlings** - Transplanting of seedlings - Study of cultivation of different vegetables: cabbage, brinjal, lady's finger, onion, garlic, tomatoes,and carrots - Storage and marketing procedures. **Revision, assignment** **Theory internal and practical external examination**

Mechkar R.V.

Prof. R.V.Mechkar

Syllabus Completion Report
T. Y. B. Sc. - Botany: 2021-22

BO 3611: BIOFERTILIZERS
(Semester– VI; Paper – XI)

Month	Topics
June	**Fungal Biofertilizers** Introduction, Occurrence and Distribution of Mycorrhizal association. Types of Mycorrhizal association, growth and yield – colonization of VAM - Vesicular Arbuscular Mycorrhiza. Mycorrhizal applications in agriculture.

Sangeetha J.S.

Dr. Sangeetha J.S.

Syllabus Completion Report

T. Y. B. Sc. - Botany: 2021-22

BO 3611: Biofertilizers

(Semester– VI; Paper – XI)

May	**Bacterial Biofertilizers** Isolation of Rhizobium, Identification, Mass multiplication, Carrier based inoculants. Azospirillum isolation and mass multiplication, carrier based inoculants and associative effect of different organisms Azotobacter, classification and characteristics Crop response to Azotobacter inoculums, Mass multiplication of Azotobacter Applications of Azospirillum Phosphate solubilizing Bacteria **Algal Biofertilizers** Cyanobacteria (Blue Green Algae): Isolation of Anabaena from Azolla, Mass Multiplication of Anabaena Azolla - Anabaena relationship Biological Nitrogen fixation Blue Green algae in a rice cultivation. Applications of BGA **Revision, assignment** **Theory internal and practical external examination**

Prof. P. D. Kad

Syllabus Completion Report

T. Y. B. Sc. - Botany: 2021-22

BO 3611: Biofertilizers

(Semester– VI; Paper – XI)

April	**Introduction:** Introduction, Scope and importance of Biofertilizers General account of the microbes used as Biofertilizers
May	**Compost and Manure** Organic Farming, green manuring, organic manures and their uses Recycling by composting method of biodegradable, municipal, agricultural and industrial wastes Biocompost making methods, Types and methods of vermicomposting Benefits of vermicompost, field applications **Revision, assignment** **Theory internal and practical external examination**

Mechkar R.V

Prof. R.V.Mechkar

T. Y. B. Sc. (Zoology)

Course Title: Genetics
Course code: ZO 354

Sr.No	Month	Topics	Teacher
1	Oct	**1. Introduction to genetics:** 1.1 Classical and Modern concept of Gene, Cistron, Muton, Recon. 1.2 Mendel's laws of Inheritance.	DNB
2	Oct & Nov	**2 Exceptions to Mendelian Inheritance** 2.1 Incomplete dominance. 2.2 Co-dominance. 2.3 Multiple alleles: Concept, characteristics and importance of multiple. alleles, ABO & Rh - blood group system and its medico legal importance. 2.4 Lethal alleles.	DNB
3	Nov	**3. Gene Mutation:** 3.1 Definition. 3.2 Types of mutations: spontaneous, induced, somatic, gametic, forward, reverse. Types of point mutation - deletion, insertion, substitution, transversion, transition. 3.3 Mutagenic agents a) UV radiation and ionising radiation. b) Base analogs, alkylating and intercalating agents.	DNB
4	Dec	**4. Sex-determination:** 4.1 Introduction. 4.2 Types of sex determination: -XX-XY, ZZ-ZW, XX-XO and Parthenogenesis, Hypodiploidy. 4.3 Gynandromorphism.	DNB
5	Dec	**5. Population Genetics:** 5.1 Basic Concepts in population genetics: Mendelian population, gene pool, gene / allele, Frequency, chance mating (Panmictic mating). 5.2 Hardy Weinberg law and its equilibrium.	DNB
6	Jan	6.1 Karyotype. 6.2 Genetic disorders, Structural & numerical alterations of chromosomes (chromosomal aneuploidy - Down, Patau, Edward, Turner and Klinefelter syndromes).	DNB

7	Jan	**7. Sex linked inheritance in human:** 7.1 Colour – blindness. 7.2 Haemophilia. 7.3 Hypertrichosis.	DNB
8	Feb	**8. Application of genetics:** 8.1 Genetic counselling. 8.2 Diagnostics & breeding technology.	DNB

As per above mention theory syllabus of Semester I completed successfully.

Prof. D. N. Birhade

T.Y. B. Sc. (Zoology)
Course Title: Developmental Biology
Course code: ZO 355

Sr. No	Month	Topics	Teacher
1	Oct	**1. Fundamentals of Developmental Biology:** 1.1 Definition and scope. 1.2 Concepts in Developmental Biology : Growth, Differentiation, Dedifferentiation, Cell determination, Cell communication, Morphogenesis, Induction and Regeneration.	DRB
2	Nov	**2. Theories of Developmental Biology:** 2.1 Preformation. 2.2 Pangenesis. 2.3 Epigenesis. 2.4 Axial gradient. 2.5 Germplasm.	DRB
3	Nov	**3. Gametogenesis:** 3.1 Spermatogenesis & Structure of sperm with respect to human. 3.2 Oogenesis & Structure of ovum with respect to human. 3.3 Types of eggs.	DRB
4	Dec	**4.Fertilization:** 4.1 Concept and types. 4.2 Chemotaxis. 4.3 Sperm penetration: Acrosome reaction, Capacitation & Decapacitation. 4.4 Activation of ovum: Fertilization cone. 4.5 Prevention of polyspermy: Fast block & Slow block. 4.6 Significance of fertilization.	DRB
5	Dec	**5. Cleavage and Blastula:** 5.1 Planes and symmetry of cleavage. 5.2 Types of cleavage. 5.3 Significance of cleavage. 5.4 Definition and types of Blastula.	DRB
6	Jan	**6. Gastrulation:** 6.1 Definition and Concept. 6.2 Basic cell movements in gastrulation: Epiboly, Emboly, Convergence, Invagination, Ingression & Involution with reference to frog. 6.3 Concept of Organizer : Primary, Secondary and Tertiary.	DRB

Syllabus completion Report (A.Y.2021 – 2022)

F. Y. B. Sc. Zoology
Course Title: Animal Diversity –I
Course Code: ZO – 111

Sr.No	Month	Topics	Teacher
1	Sept & Oct	**Principles of Classification:** Taxonomy & Systematics 1.1 **Taxonomy**: Basic terminology and Introduction •Alpha, Beta and Gamma levels of taxonomy, Micro-taxonomy •Macro taxonomy: Phenetics (numerical taxonomy, Cladistics (Phylogenetic systematics), Evolutionary taxonomy (evolutionary systematics) •Classical taxonomy and experimental or neo taxonomy (biochemical taxonomy and Cytotaxonomy) •Significance of Taxonomy 1.2 Systematics: definition introduction 1.3 Linnaean system of classification (Six level classification: Phylum, class, order, family, genus, species) 1.4 Concept of Species: Biological & Evolutionary 1.5 Introduction to Binomial Nomenclature. 1.6 Introduction to Five kingdom system	DNB
2	Oct	**General Features of kingdom Animalia:** 2.1 General characters of Kingdom Animalia, Grades of organization 2.2 Symmetry.	DNB
3	Nov	**Kingdom Protista (Phylum: Protozoa)** 3.1 Introduction to Phylum Protozoa 3.2 Salient features of Phylum Protozoa 3.3 Classification of Phylum Protozoa up to classes with two examples of each class (names only) Class Rhizopoda (e.g :Entamoebahistolytica, Arcella), Class Mastigophora (e.g: Euglena viridis, Trypanosomagambiense), Class Ciliata (e.gParamoeciumcaudatum, Opalinaranarum), Class Sporozoa (e.gPlasmodium vivax, Toxoplasmagondii) 3.4 Locomotion in Protozoa: Amoeboid, Ciliary and Flagellar with suitable examples 3.5 Type Study: Paramecium caudatum: Classification, Habit and Habitat, External morphology, Feeding and digestion, Excretion, Reproduction (binary fission and Conjugation) 3.6. Economic importance of Protozoa (three harmful and one useful protozoan) 3.6.1-Harmful Protozoa: Plasmodium vivax (malaria parasite), Entamoeba histolytica (Amoebic dysentery), Trypanosomagambiense (Gambian sleeping sickness). 3.6.2- Useful Protozoa: Trichonympha	DNB
4	Dec	**Origin of Metazoa :** 4.1 Introduction Origin and importance of Metazoa	DNB

5	Dec	**Phylum :Porifera** 5.1 Introduction to Phylum Porifera 5.2 Classification of Phylum Porifera up to classes with two examples of each class (names only, no description of specimens). Class Calcarea (e.g.: Leucosolenia, Sycon (Scypha) Class Hexactinellida (e.g: Euplectella (venus flower basket), Hyalonema (glass sponge)) Class Demospongiae (e.g: Chalina (Mermaid's gloves, Spongilla (fresh water sponge)) 5.3 Canal system in sponges: Ascon, Leucon and Rhagon type. 5.4 Skeleton in sponges: Spicules, its types: Microscleres&Megascleres, Monoaxon – monactinal, diactinal, Amphidiscs, Triaxon, Polyaxon, Spongin fibres. 5.5 Regeneration in sponges 5.6 Economic importance of Phylum Porifera.	DNB
6	Jan	**Phylum: Cnidaria** 6.1 Introduction to Phylum Cnidaria 6.2 Salient features of Phylum Cnidaria 6.3 Classification of Phylum Cnidaria up to class level with given examples each class (names of examples only) Class Hydrozoa e.g.: Hydra, Physalia (Portuguese man of war) Class Scyphozoae.g: Aurelia (Jelly fish), Leucernaria (trumpet shaped Jellyfish) Class Anthozoa: e.g; Metridium (Common sea anemone) 6.4 Polymorphism in Hydrozoa: Polyps & Medusa (polyp types: gastrozooids, dactylozooids, gonozooids) and functions 6.5 Economic importance of Cnidarians with reference to Corals and Coral reefs.	DNB
7	Feb	**Phylum :Platyhelminthes** 7.1 Introduction to Phylum Platyhelminthes 7.2 Salient features of Phylum Platyhelminthes 7.3 Classification of Phylum Platyhelminthes up to classes with two examples each class (names of examples only). Class: Turbellaria (e.g: Dugesia, Bipalllium) Class: Trematoda (e.g: Fasciola hepatica, schistosomahaematobium) Class Cestoda: (Taeniasolium (pork tape worm),Echinococcusgranulosus (dog tapeworm) 7.4 Parasitic adaptations in Platyhelminthes: structural and physiological. 7.5 Economic importance of Platyhelminthes	DNB

As per above mention theory syllabus of Semester I completed successfully.

Prof. D. N.Birhade

Syllabus completion Report (A.Y.2021 – 2022)

S.Y. B. Sc. (Zoology)
Course Title: Animal Diversity - III
Course Code: ZO – 231

Sr.No	Month	Topics	Teacher
1		**1. Introduction to Phylum Chordata –** 1.1 Origin & Ancestry of Chordates. 1.2 Comparative account of fundamental characters of Chordates with Non Chordates. 1.3 Salient features of Phylum Chordata. 1.4 Classification of Phylum Chordata upto classes – Pisces, Amphibia, Reptilia, Aves, Mammalia.	DNB
2		**2. Introduction to Group – Protochordata.** 2.1 Salient features of Protochordata. 2.2 Salient features of subphylumswith two example each - Names only. Hemichordata – *Balanoglossus* and *Rhabdopleura*, Urochordata - *Herdmania* and *Salpa*, Cephalochordata –*Branchiostoma* (Amphioxus) and *Asymmetron*.	DNB
3		**3. Introduction to subphylum – Vertebrata** 3.1 Salient features of Vertebrata. 3.2 Introduction and General characters of sections with two examples - Names only. Agnatha–*Petromyzon & Myxine*&Gnathostomata–Frog & *Labeo*	DNB
4		**4. Introduction to Class – Pisces** 4.1 Salient features of Class – Pisces. 4.2 Introductionand Salient features of sections with two examples - Names only. Class – Chondrichthyes–*Scoliodon*and *Chimaera* & Osteichthyes – *Labeo* and *Catla* 4.3 Types of Scales in Fishes. 4.4 Types of Fins in Fishes.	DNB

5		**5. Introduction to Class – Amphibia** 5.1 Salient features of Class – Amphibia. 5.2 Introduction to order – Apoda-*Ichthyophis*.Urodela-*Salamandra*(Salamander) & Anmura - *Rana*. 5.3 Parental care in Amphibia.	DNB
6		**6. Study of *Scoliodon*** *Scoliodon* – 6.1 - Systematic position, Geographical distribution, Habit, Habitat 6.2 - External characters 6.3 - Digestive System, Food and feeding mechanism. 6.4 - Respiratory System – Structure of Holobranch only. 6.5- External & Internal Structure of heart, Working of heart. 6.6 - Nervous System – Brain only. 03 6.7 - Male urinogenital system & Female reproductive System. 6.8- Yolk sac placenta.	DNB

As per above mention theory syllabus of Semester I completed successfully.

Prof. D. N. Birhade

Syllabus completion Report (A.Y. 2021 – 2022)

T. Y. B. Sc. Zoology

ZO – 351 Pest Management

Sr. No	Month	Topic	Professor
1	October	**1. Pest:** 1.1. Definition. 1.2. Types of pests. 1.3. Types of damages caused by the pest.	SVT
2	October	**2. Pest management using Regulatory control:** 2.1. Quarantine. 2.2. Eradication. 2.3. Control districts. 2.4. "Crop-free" periods.	SVT
3	November	**3. Pest management using Cultural control:** 3.1. Sanitation. 3.2. Tillage. 3.3. Crop rotation. 3.4. Cropping systems.	SVT
4	November	**4. Pest management using Biological control:** 4.1. Ecological considerations. 4.2. Biological control of insects. 4.3. Biological control of plant disease. 4.4. Biological control of weeds.	SVT
5	November	**5. Biotechnology approaches in pest management:**	SVT

		5.1. Introduction. 5.2. Recent advance in use of fungi and viruses. 5.3. Methodology in Biotechnology. 5.4. Somaclonal variability. 5.5. Concept of Genetic engineering and Transgenic plants.	
6	December	**6. Integrated pest management (IPM):** 6.1. Principles and its components. 6.2. Advantages and disadvantages. 6.3. Biological control - Predators, Parasitoids, Entomopathogens, Weed killers and their mass production.	SVT
7	December	**7. Insecticides:** 7.1. Classification of insecticides based on mode of entry. 7.2. Action and chemical nature. 7.3. Insecticides formulations and their uses. 7.4. Safe handling of insecticides.	SVT
8	January	**8. Insecticide residue:** 8.1. Methods of residue detection – Organochlorine, Organophosphates, Synthetic Pyrithroides, Systemic. 8.2. Problems in fruits, vegetables, medicinal plants. 8.3. Maximum permissible residue limits (MRLs).	SVT

As per above mention SPPU T.Y.B.Sc Zoology theory syllabus of Semester I completed successfully. For completion of this syllabus 45 lectures are conducted.

Prof. Dr. Theurkar S.V.

Department of Zoology

Syllabus completion Report (A.Y.2021 – 2022)

T. Y. B. Sc. Zoology

Course Code: ZO – 352

Course Title: Histology

Sr.No.	Month	Topics	Teacher
1.	Oct	**1. Introduction:** Definition and Scope of Histology. **2. Definitions and Review of Types of Tissues:** 2.1 Epithelial tissue. 2.2 Connective tissue. 2.3 Nervous tissue. 2.4 Muscular tissue.	SSN
2.	Nov	**3.Histological study of following mammalian organs:** 3.1 Skin (V. S.). 3.2 Tooth (V. S.). **5** 3.3 Tongue (C. S.) with reference to mucosa papillae and taste buds **4.Histological study of Alimentary canal and Liver:** 4.1 Oesophagus (T. S.). 4.2 Stomach (T. S.). 4.3 Duodenum (T. S.). 4.4 Rectum (T. S.). 4.5 Liver (C. S.).	SSN
3.	Dec	**5.Histological study of Respiratory organs:** 5.1 Trachea (T. S.). 5.2 Lung (C. S.).	SSN
4.	Jan	**6. Histological study of Excretory organs:** 6.1 Kidney (L. S.). 6.2 Juxtaglomerular complex.	SSN

5.	Jan	**7.Histological study of Reproductive organs:** 7.1 Testis (T. S.) with reference to Seminiferous Tubules and Cells of Leydig. 7.2 Ovary (C. S.).	SSN
6.	Feb	**8.Histology of Endocrine glands:** 8.1 Pituitary gland. 8.2 Thyroid gland. 8.3 Adrenal gland. 8.4 Pancreas (C. S.) including both exocrine and endocrine components.	SSN

As per above mention theory syllabus of Semester I completed successfully. For completion of this syllabus 45 lectures are conducted.

Prof. S.S. Nakare

Syllabus completion Report (A.Y.2021 – 2022)

T. Y. B. Sc. Zoology

Course Code: ZO – 353

Course Title: Biological chemistry

Sr. no.	Month	Topics	Teacher
1.	Oct	**Introduction of Biochemistry:** Importance of Biochemistry in Life Sciences.	PPS
2.	Dec	**pH and Buffers:** 2.1 Concept of pH. 2.2 Concept of pH scale, biological significance of p H 2.3 Concept of acid and base, Ionization of acids and bases. 2.4 Derivation of Henderson-Hassel Balch equation & its applications. 2.5 Buffer - Definition, Concept, Functions, Types of buffer and Buffering Capacity.	PPS
3.	Dec	**Carbohydrates:** 3.1 Definition, Classification & Biological importance of Carbohydrates. 3.2 Isomerism in carbohydrates - Structural and Stereoisomerism. 3.4 Significance of Gluconeogenesis, Glycogenolysis and Glycogenesis. 3.3 Clinical Significance - Hypoglycemia and Hyperglycemia.	PPS
4.	Jan	**Amino acids and Proteins:** 4.1 General Structure of amino acids and Peptide bond. 4.2 Essential and non-essential amino acids. 4.3 Types of proteins, protein structures (primary, secondary, tertiary and quaternary structures with suitable example), Forces responsible for their stability. 4.4 Biological importance of proteins – Biocatalysts, Carrier proteins Contractile proteins, Hormonal role of proteins.	PPS
5.	Jan	**Enzymes:** 5.1Nomenclature, Types and properties of enzymes. 5.2 Regulatory and non-regulatory enzymes. 5.3 Enzyme inhibition. 5.4 Factors influencing enzyme activity (pH, temperature, substrate concentration). 5.5 Introduction of isoenzymes and cofactor. 5.6 Clinical significance of enzymes - PKU and AKU.	PPS

6.	**Feb**	**Lipids:** 6.1 Introduction. 6.2. Fatty acids - Types and nomenclature (saturated and unsaturated). 6.3 Clinical significance (obesity, atherosclerosis, myocardial infarction). 6.4 Biological importance of lipids.	PPS

As per above mention theory syllabus of Semester I completed successfully. For completion of this syllabus 45 lectures are conducted.

Prof. P. P. Shindekar

Syllabus completion Report (A.Y.2021 – 2022)

T. Y. B. Sc. Zoology

Course Code: ZO – 356

Course Title: Parasitology

Sr. no.	Month	Topic	Teacher
1.	Oct	**1. Introduction, Scope and Branches of Parasitology:** 1.1. Definition: host, parasite, vector, commensalisms, mutualism and parasitism. 1.2. Branches of parasitology	PPS
2.	Oct	**2. Types of Parasites and Hosts:** 2.1 Ectoparasites 2.2 Endoparasites and its subtypes. 2.3 Types of hosts - Intermediate, definitive, paratenic and reservoir.	PPS
3.	Nov	**3. Host - Parasite relationship:** 3.1 Host specificity. 3.2 Types of host specificity: structural specificity, physiological specificity and ecological specificity. 3.3 Effects of parasite on host.	PPS
4.	Nov & Dec	**4. Study of Parasitic Protists:** 4.1 Entamoeba histolytica - Morphology, Life Cycle, Prevalence, Epidemiology, Pathogenicity, Diagnosis, Prophylaxis and Treatment. 4.2 Plasmodium vivax - Morphology, Life Cycle, Prevalence, Epidemiology, Pathogenicity, Diagnosis, Prophylaxis and Treatment.	PPS
5.	Dec	**5. Study of Parasitic worms:** 5.1 Ascaris lumbricoides - Study of Morphology, Life Cycle, and Prevalence. 5.2 Epidemiology, Pathogenicity, Diagnosis, Prophylaxis and Treatment. 5.3 Taenia solium (Tapeworm) - Study of Morphology, Life Cycle, Prevalence, Epidemiology, Pathogenicity, Diagnosis,	PPS

		Prophylaxis and Treatment.	
6.	Jan	**6. Study of Parasitic Arthropoda:** Morphology, pathogenicity and control measures of – 6.1 Soft tick. 6.2 Head louse. 6.3 Rat flea. 6.4 Bed bug.	PPS

As per above mention theory syllabus of Semester I completed successfully. For completion of this syllabus 39 lectures are conducted.

Prof. P. P. shindekar

Syllabus completion Report (A.Y.2021 – 2022)

T. Y. B. Sc. Zoology

Course Code: ZO – 3510

Course Title: Aquarium management

Sr. no.	Month	Topic	Teacher
1.	Oct	**1.Introduction to Aquarium Fish Keeping:** 1.1 The potential scope of Aquarium Fish Industry as a Cottage Industry. 1.2 Exotic and Endemic species of Aquarium Fishes. 1.3 Nutritional value of fish	SSN
2.	Oct	**2.Introduction to Aquarium Fish Keeping:** 1.1 The potential scope of Aquarium Fish Industry as a Cottage Industry. 1.2 Exotic and Endemic species of Aquarium Fishes. 1.3 Nutritional value of fish	SSN
3.	Nov	**3.Food and feeding of Aquarium Fishes:** 3.1 Use of live fish feed organisms. 3.2 Preparation and composition of formulated fish feeds. 3.3 Overview on types of fish food.	SSN
4.	Nov & Dec	**4.Fish Transportation:** 4.1 Live fish transport: a) Fish handling b) Fish packing. c) Fish forwarding techniques. 4.2 Causes of mortality in transport.	SSN
5.	Dec	**5.Maintenance of Aquarium:** 5.1 General Aquarium Maintenance - budget for setting up an Aquarium. 5.2 Fish Farm as a Cottage Industry, Rules & regulations of fish rearing. 5.3 Common diseases of Aquarium fish.	SSN

6.	Jan	**6.Physico-chemical parameters of water for fish culture:** 6.1 Acidity, Alkalinity, Calcium, Nitrate, Ammonia, Total hardness **7. Fish preservation:** 7.1 Fish preservation and processing.	SSN
7.	Feb	**8.Fish breeding:** 8.1 Types of fish breeding - a) Natural fish breeding. b) Induced fish breeding	SSN

As per above mention theory syllabus of Semester I completed successfully. For completion of this syllabus 38 lectures are conducted.

Prof S.S. Naikare

Syllabus completion Report (A.Y. 2021 – 2022)

T. Y. B. Sc. Zoology

ZO – 3511 Poultry Management

Sr. No	Month	Topic	Professor
1	November	**Introduction to Poultry Farming:** 1.1 Definition of Poultry, Importance of Poultry Farming and Poultry Development in India. 1.2 Present and future prospects.	SVT
2	December	**Breeding Management:** 2.1 Male and female reproductive system of chicken. 2.2 Breeds and strains of broilers and layers of chicken. 2.3 General aspects of breeding for better egg production and body weight gain. 2.4 Selection and culling. 2.5 Artificial insemination.	SVT
3	December	**Housing Management:** 3.1 Establishment of poultry farm. 3.2 Housing and equipment. 3.3 Incubation and hatching of eggs. 3.4 Broiler and layer management. 3.5 Lighting schedule for poultry. 3.6 Transport strategy of Poultry birds.	SVT
4	January	**Feeding Management:** 4.1 Digestive system and Digestion Mechanism of chicken. 4.2 Feed ingredients. 4.3 Feed processing.	SVT

		4.4 Formulation of feed viz., Starter, Grower, Layer, Finisher and Breeder ration, Feed conversion ratio (FCR), Nutritional deficiency conditions.	
5	January	**Health Management:** 5.1 Vaccination schedule for poultry birds. 5.2 Common poultry diseases, i. e. Ranikhet, Marek, Chicken pox, Gumboro, Infectious bronchitis and Chronic Respiratory Disease (CRD). 5.3 Control of internal and external parasites.	SVT
6	February	**Poultry Products:** 6.1 Preservation and storage of eggs. 6.2 Grading of eggs and AGMARK standard of egg. 6.3 Egg powder. 6.4 Slaughtering and processing of chicken. 6.5 Poultry By Products – Feathers and Poultry Manure.	SVT

As per above mention SPPU T.Y.B.Sc Zoology theory syllabus of Semester I completed successfully. For completion of this syllabus 45 lectures are conducted.

Prof. Dr. Theurkar S. V.

Department of Zoology

K.T. S. P. Mandal's

Hutatma Rajguru Mahavidyalaya, Rajgurunagar.

Department of Zoology

Syllabus Completion report

A.Y.-2021-2022(Semester VI)

T.Y. B. Sc.

Course Title: Animal Physiology

Course Code: ZO-362

Month	Title	Teacher Name
April 2022	**1.Nutrition and digestion:** 1.1 Nutritional requirement & balanced diet. 1.2 Digestion and absorption of carbohydrates, proteins and lipids. 1.3 Vitamins - outline of fat soluble and water-soluble vitamins; Sources, deficiency and diseases.	SSN
April 2022	**2.Respiration:** 2.1 Mechanism of respiration: Regulation of ventilation in lungs, exchange of gases at respiratory surface. 2.2 Respiratory pigments in animals: Haemoglobin, Hemocyanin, Hemerythrin, Chlorocruorin. 2.3 Transport of gases : O2 and CO2 transport. **3.Circulation:** 3.1 Blood: Definition and its constituents, functions of blood. 3.2 Heart: Structure of human heart, Pace maker, Cardiac Cycle. 3.3 Origin and conduction of heart beat.	SSN
May 2022	**4. Excretion:** 4.1 Structure of Uriniferous tubule. 4.2 Mechanism of urine formation. 4.3 Normal and abnormal constituents of urine. Elementary idea of dialysis.	SSN
May 2022	**5.Muscles:** 5.1 Structure of smooth, skeletal and cardiac muscles. 5.2 Mechanism of muscle contraction by Sliding filament theory.	SSN
June 2022	**6.Reproduction and Endocrine Glands:** 6.1 Physiology of male reproduction, hormonal control of spermatogenesis. 6.2 Physiology of female reproduction, hormonal control of menstrual cycle.Structure and functions of pituitary, thyroid, parathyroid, pancreas and adrenal glands.	SSN

T.Y.B.Sc

Course Title: Evolutionary Biology

Course Code: ZO 366

Semester: VI

Month	Title	Teacher Name
March 2022	**1.Introduction:** 1.1 Concept of Evolution. 1.2 Origin of life. 1.3 Origin of eukaryotic cell (Origin of mitochondria, plastids & symbionts) **2. Evidences of Evolution:** 2.1 Analogy and Homology. 2.2 Embryological Evidences of Evolution. 2.3 Evolutionary & Paleontological Evidences.	SSN
April 2022	**3. Historical Review of Evolutionary Concept:** 3.1 Theories of Evolution. 3.2 Lamarckism. 3.3 Darwinism and Neo Darwinism. 3.4 Mutation Theory. 3.5 Modern Synthetic theory. **4. Sources of Variations:** 4.1 Variation and Mutations.	SSN
May 2022	**5. Isolation**	SSN
May 2022	**6.Speciation:** 6.1 Types of speciation (Allopatric & Sympatric). 6.2 Mechanism of speciation. 6.3 Patterns of speciation. 6.4 Factors influencing speciation	SSN
May 2022	**7.Population Genetics:** 7.1 Hardy-Weinberg Law & Genetic Drift. 7.2 Types of Natural Selection.	SSN
May 2022	**8.Origin of Man:** 8.1 Evolution of Man (Evolution of anthropoids including man) - Kenyapithecus to Homo sapiens.	SSN
June 2022	**9.Zoogeographical Realms With reference to fauna:**	SSN
June 2022	**10.Extinctions:** **10.1** Extinction - An Overview.	SSN

As per mention above 75% syllabus is completed and remaining will be complete in first week of June.

K.T. S. P. Mandal's

Hutatma Rajguru Mahavidyalaya, Rajgurunagar.

Department of Zoology

Syllabus Completion report

A.Y.-2021-2022(Semester VI)

T. Y. B. Sc.

Course Title: Molecular Biology

Course Code: ZO-363:

Month	Title	Teacher Name
April	1. Nucleic Acids and Chromatin: 1.1 Structure of RNA & DNA. 1.2 Types of RNA. 1.3 DNA as genetic material - evidences (Griffith's, Avery et al., Hershey and Chase experiment), RNA as genetic material - TMV 4. 1.4 Structure of Chromatin, packaging of DNA, Heterochromatin, Euchromatin.	PPS
April	2. Central Dogma of Molecular Biology: 2.1 DNA Replication - Semiconservative (Messelson and Stahl experiment), Basic mechanism of replication in prokaryotes and eukaryotes. 2.2 Transcription - 2.2.1 Basic mechanism of transcription in prokaryotes and eukaryotes, RNA polymerase enzyme in prokaryotes. 2.2.2 RNA modifications and processing (splicing - mRNA, modifications at 3'and 5' end). 2.3 Translation - Genetic code, properties of genetic code, Basic mechanism of Translation in E. coli and eukaryotic cells.	PPS
May	3. Lac operon:	PPS
May	4. DNA repair mechanism: Photo repair, dark repair, base excision repair.	PPS
June	5. Recombinant DNA Technology: Introduction, restriction enzymes, cloning vector, PCR (polymerase chain reaction), DNA finger printing.	PPS

T.Y.B.Sc

Course Title: **Techniques in Biology**

Course Code: **ZO 365**

Semester: **VI**

Month	Title	Teacher Name
March	**1. Microscopy:** 1.1 Definitions - Resolving Power, Limit of Resolution and Magnification, Numerical Aperture. 1.2 Basic principle of microscopes - Light, Fluorescence, Phase Contrast, Stereo Microscope, SEM and TEM.	PPS
April	**2. Microtomy:** Tissue fixation and Processing 2.1 Methods of tissue fixation: Chemical fixation and physical fixation. 2.2 Procurement of tissue and importance of fixation of tissues. 2.3 Dehydration, clearing, impregnation, embedding and block making. 2.4 Types of microtomes. 2.5 Section cutting: steps and precautions, common faults in section cutting, reasons & remedies. 2.6 Mounting and spreading of ribbons. 2.7 General procedure for staining of sections. 2.8 Demonstration of Nucleic acid (Feulgen Reaction).	PPS
May	**3. Haematological Techniques:** 3.1 Total count of RBCs, WBCs and Differential count of WBCs and their significance. 3.2 Bleeding time, clotting time and their significance.	PPS
May	**4. Immunological Techniques:** 4.1 Antigen-Antibody Interactions – Immunodiffusion. 4.2 Principle & Working of ELISA. 4.3 Raising Monoclonal Antibodies. 4.4 Application of Immunological techniques in disease diagnosis.	PPS
May	**5. Types of PCR & DNA Barcoding**	PPS
May	**6. Methods in Biodiversity:** 6.1 Introduction to sampling and sample size. 6.2 Biodiversity Indices - Species richness, Simpson Diversity Index, Shannon Diversity Index.	PPS

	6.3 Measuring Biodiversity- Quadrat sampling, Transect sampling, Insect survey - Active (sweep netting, aquatic nets) and Passive methodology (Pit fall traps, Light traps).	
June	7. **Instruments in Field Biology:** 7.1 Binoculars, GPS, Basic digital camera techniques: Camera lens - prime and kit lens, Aperture mode, Shutter mode, Megapixels, Telepheto lens, macro lens. 7.2 Adapters for camera and microscopes, Mobile's camera.	**PPS**
June	8. **Laboratory techniques:** 8.1 Microphotographic techniques - CCD and CMOS camera, digital camera. 8.2 Software for image analysis - Image J and GIMP.	**PPS**

As per mention above 75% syllabus is completed and remaining will be complete in first week of June.

	6.3 Measuring Biodiversity- Quadrat sampling, Transect sampling, Insect survey - Active (sweep netting, aquatic nets) and Passive methodology (Pit fall traps, Light traps).	
June	**7. Instruments in Field Biology:** 7.1 Binoculars, GPS, Basic digital camera techniques: Camera lens - prime and kit lens; Aperture mode, Shutter mode, Megapixels, Telephoto lens, macro lens. 7.2 Adapters for camera and microscopes, Mobile's camera.	PPS
June	**8. Laboratory techniques:** 8.1 Microphotographic techniques - CCD and CMOS camera, digital camera. 8.2 Software for image analysis - Image J and GIMP.	PPS

As per mention above 75% syllabus is completed and remaining will be complete in first week of June

Syllabus completion Report (A.Y. 2021 - 2022)

T. Y. B. Sc. Zoology

ZO- 364 Entomology

Sr. No	Month	Topic	Professor
1	March	**1. Fundamentals of Entomology** 1.1 Definition and scope of Entomology. 1.2 General Classification of Insects. 1.3 General Characters of Insects.	SVT
2	March	**2. Insect Morphology:** 2.1 Insect Integument and its derivatives. 2.2 Insect Head, Head Orientations, Head articulations, Insect antennae and Mouth parts. 2.3 Insect Thorax, Insect Wing and modifications, Insect Leg and Modifications – a) Cursorial – Cockroach, b) Fossorial – Mole cricket, c) Saltorial – Grasshopper, d) Raptorial – Praying mantis, e) Pollen basket – Honey bee. 2.4 Insect Abdomen, Genital and Pre – genital appendages of Grasshopper.	SVT
3	April	**3. Insect Anatomy (Grasshopper):** 3.1 Digestive System. 3.2 Circulatory System. 3.3 Nervous System. 3.4 Respiratory System. 3.5 Reproductive System.	SVT
4	April	**4. Insect Ecology:** 4.1 Definition of Insect Ecology.	SVT

		4.2 Abiotic Factors (Photoperiod, Temperature and Humidity) and Biotic Factors (Food, Foraging and Nesting). 4.3 Mimicry in insects with suitable examples.	
5	April	**5. Insect Metamorphosis:** 5.1 Definition. 5.2 Types and examples of Metamorphosis.	SVT
6	April	**6. Insects as social groups:** 6.1 Definition & significance of Eusociality, Intraspecific and Interspecific relationships among insects. 6.2 Social organization in Wasps and Termites.	SVT
7	May	**7. Economic Importance of Insects:** 7.1 Insects in Research. 7.2 Insects in Medicines and Cosmetics. 7.3 Insects as Vectors. 7.4 Insects as food.	SVT

As per above mention SPPU T.Y.B.Sc Zoology theory syllabus of Semester II completed successfully.

Prof. Dr. Theurkar S.V.

Department of Zoology

Syllabus completion Report (A.Y. 2021 – 2022)
T. Y. B. Sc. Zoology
ZO – 3610 Environmental Impact Assessment

Sr. No	Month	Topic	Professor
1	April	**1. Environment:** 1.1 Definition. 1.2 Divisions. 1.3 Importance	SVT
2	April	**2. Pollution:** 2.1 Definition and types. 2.2 Impact on wildlife, natural resources, development	SVT
3	May	**3. Sustainable development:** 3.1 Definition and need. 3.2 Exploitation of natural resources. 3.3 Concept of carrying capacity. 3.4 Three pillars of Sustainability. 3.5 UN 17 Sustainable Development Goals (SDGs)	SVT
4	May	**4. Overview of Environmental Protection acts:** 4.1 The Air (Prevention and Control of Pollution) Act 1981. 4.2 The Water (Prevention and Control of Pollution) Act 1974. 4.3 The Environment Protection Act 1986. 4.4 The National Green Tribunal Act 2010. 4.5 Biological Diversity Act 2002	SVT

5	May	**5. Environmental Impact Assessment (EIA):** 5.1 Definition, need and importance of EIA. 5.2 EIA notification 2006 - key elements, History and Evolution of EIA. 5.3 Categories of Industries / establishments requiring EIA, Types of EIA - strategic EIA, regional EIA, sectoral EIA, project level EIA and life cycle assessment. 5.4 Rapid and comprehensive EIA	SVT
6	May	**6. EIA Process:** 6.1 Screening, Scoping and consideration of alternatives. 6.2 Baseline data collection, Impact analysis, Mitigation, Reporting, Public hearing. 6.3 Review of EIA. 6.4 Decision-making, monitoring clearance conditions	SVT
7	June	**7. Stakeholders in EIA process:** 7.1 Project proponent, Environmental consultant. 7.2 CPCB / MPCB. 7.3 Public, EIA agency (IAA).	SVT
8	June	**8. Overview of Scheme for Accreditation of EIA Consultant Organizations (NABET / QCI):** 8.1 Eligibility and benefits. 8.2 EIA coordinator (EC), Functional area experts (FAEs). 8.3 Functional area associate (FAA) and team members: Role, educational qualification, experience and functions.	SVT

As per above mention SPPU T.Y.B.Sc Zoology theory syllabus of Semester II completed successfully.

Syllabus completion Report (A.Y.2021 – 2022)

Course Title - Applied Zoology I
Course Code - ZO - 232

Sr.No	Month	Topics	Teacher
1	Oct	**1) Sericulture:** 1.1 An introduction to Sericulture, Study of different types of silk moths, their distribution, Taxonomic position and varieties of silk produced in India : Mulberry, Tansar, Eri and Muga silk moths. 1.2 ExternalMorphology and life cycle of *Bombyxmori*.	DRB
2	Nov	1.3 Cultivation of mulberry : a) Varieties for cultivation, b) Rain fed and Irrigated mulberry cultivation- Fertilizer schedule, Pruning methods and leaf yield. 1.4 Harvesting of mulberry : a) Leaf plucking, b) Branch cutting, c) Whole shoot cutting 1.5 Silk worm rearing : a) Varieties for rearing, b) Rearing house, c) Rearing techniques, d) Important diseases and pests.	DRB
3	Dec	1.6 Preparation of cocoons for marketing. 1.7 Post harvest processing of cocoons : a) Stiffling, sorting, storage, deflossing and riddling, b) Cocoon cooking, reeling equipment and rereeling, washing and polishing. 1.8 Biotechnological and biomedical applications of silk.	DRB

4	Jan	**2) Agricultural Pests and their control:** 2.1 An introduction to Agricultural Pests, types of pests (agricultural, store grain, veterinary). 2.1 Major insect pests of agricultural importance (Marks of identification, life cycle, nature of damage and control measures). **a)** Jowar stem borer, **b)** Red cotton bug, **c)** Brinjal fruit borer, **d)** Mango stem borer, **e)** Blister beetle, **f)** Rice weevil, **g)** Pulse beetle, **h)** Tick.	DRB
5	Feb	2.3 Non insect pests: Rats, Crabs, Snails, and Squirrels 2.4 Pest control practices in brief: Cultural control, Physical control, Mechanical control, Chemical control, Biological control, Pheromonal control, Autocidal control and Concept of IPM in brief. 2.5 Plant protection appliances: Shoulder type Rotary duster, Knapsack sprayer, Cynogas Pump	DRB

As per above mention theory syllabus of Semester I completed successfully.

Prof. D. R. Borhade

F. Y. B. Sc. Zoology
Course Title: Animal Ecology
Course Code: ZO – 112

Sr.No	Month	Topics	Teacher
1	Oct	**Introduction to Ecology** 1.1 Concepts of Ecology, Environment, Population, Community, Ecosystem, Biosphere, Autecology and synecology.	DRB
2	Nov	**Ecosystem** 2.1 Types of ecosystems: Aquatic (Freshwater, estuarine, Marine and terrestrial (Forest, Grassland and Desert) 2.2 Structure and Composition of Ecosystem (Abiotic components and biotic components. 2.3 Food chain: Detritus and grazing food chains, Food web, Energy flow through the ecosystem, Ecological pyramids: Number, Biomass, and Energy. 2.4 concept of Eutrophication in lakes and rivers.	DRB
3	Dec	**Population** 3.1Characteristic of population: Density, Natality, Mortality, Fecundity tables, survivorship curves, age ratio, sex ratio, dispersal and dispersion. 3.2Exponential and logistic growth. 3.3 Population regulation – density-dependent and independent factors. Population interactions, Gause's Principle with laboratory and field interactions. 3.4 Quadrate, line and belt transect methods.	DRB
4	Jan	**Community** 4.1Community characteristics: species richness, dominance, diversity, abundance, vertical stratification, Eco tone and edge effect; Ecological succession with one example.	DRB
5	Jan & Feb	**Animal interactions** 5.1 Introduction to Animal interactions 5.2 Types of Animal interactions with at least to suitable examplesof each 5.2.1-Competition: Interspecific and intraspecific 5.2.2- Beneficial Associations: Commensalism (remora fish on shark, Cattle egrets on livestock). Mutualism (Termite and Trichonympha, bees and flowers, cleaning symbiosis in fish by prawns. 5.3 Antagonistic associations: Parasitism (Ascaris and man, lice and humans), Prey predation (Lion and deer).	DRB

As per above mention theory syllabus of Semester I completed successfully.

Prof. D. R. Borhade

Dr. V.D.Kulkarni,
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HutatmaRajguruMahavidyalaya,
Rajgurunagar (Pune)

Syllabus Completion Report (Sem-I)

(2021-22)

T.Y.B.Sc. PH 335: Computational Physics

Sr. No.	CompletedTopics	Month
01	**1.Concepts of programming:** Definition and Properties of algorithms, Algorithm development,	28/10/2021 To 01/11/2021
02	Algorithm development, Flow charts- symbols and simple flowcharts	
03	Flow charts and Algorithms for Kinematic equations, Free fall, Equation of state, Factorial of a number.	
04	Types of programming language: Lower, middle and higher level languages.	
05	**1. C Programming** Structure of C program, Character set, key words,	15/11/2021 To 15/12/2021
06	Constants andvariables, Variable names,	
07	Data types and their declarations, Symbolic Constants.	
08	Input/output functions: scanf ( ), printf ( ), getchar ( ), putchar ( ), getch ( ), gets ( ), puts ( ).	
09	Operators and Expressions: Arithmetic Operators, Relational Operators, LogicalOperators,	
10	Assignment Operators, Conditional Operator. Formatted input/output	
11	Control statements: If, if else, while, do while for loop, nested control structures	

12	(nested if, nested loops), break, continue, switch- case statement, goto statement.	
13	Use of Library functions: e.g. mathematical, trigonometric, graphics.	
14	**3. Arrays and Pointers in C** Arrays: 1-D, 2-D and String	20/12/2021 To 21/12/2021
15	Examples: Arranging numbers in descending and ascending order,	
16	Sum of matrices, multiplication of matrices.	
17	Concept of Pointers	
18	**4. User Defined Function in C** User defined functions: Definitions and declaration of function, function prototype.	22/12/2021 To 29/12/2021
19	Passing arguments (Call by value, Call by reference).	
20	Storage Classes: Auto, External, Static, Register variables.	
21	**5. Graphics in C**: Some simple graphic commands	04/01/2022 To 06/01/2022
	- Line, Circle, Arc, Ellipse, Bar.,Problems	
22	**6. Computational Physics:** Errors in Computation: Inherent errors in storing numbers due to finite bit representation to use inComputer, Truncation error, round off errors	07/01/2022 to 12/02/2022
23	Iterative methods: Discussion of algorithm and flowcharts and writing Cprograms for finding	
24	single root of equation using bi-section method, NewtonRaphsonmethod.	
25	Discussion of algorithm and flowcharts and writing C program for trapezoidalrule and Simpson's 1/3rd rule	

Dr. V.D.Kulkarni

T.Y.B.Sc. PH 353 Classical Mechanics (Sem-I)

Sr. No.	CompletedTopics	Dates
1	**4. Langrangian and Hamiltonian formulation** 1 Limitations of Newtonian formulation	12/02/2022 To 02/02/2022
2	Types of constraints, degrees of freedom, generalized coordinates, configuration space	
3	D' Alembert's principle of virtual work	
4	Langrangian equation from D' Alembert's principle, cyclic coordinates,problems	
5	Phase space, Hamiltonian's equations State of Systems, Ensembles	

Prof. V.D.Kulkarni

Dr. V.D.Kulkarni,
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HutatmaRajguruMahavidyalaya,
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Syllabus Completion Report (2021-22)

T.Y.B.Sc. (Sem-VI)

Thermodynamics and Statistical Physics (PH-363)

Sr. No.	Completed Topics	Dates
01	**Ch-1 - Kinetic Theory of gases** Mean Free Path Theory of gases	30/03/2022
02	Transport Phenomena, Viscosity	31/03/2022
03	Thermal conductivity and diffusion	01/04/2022
04	Thermodynamic functions	04/04/2022
05	Enthalpy, Entropy, Internal Energy, Helmholtz Functions	05/04/2022 06/04/2022
06	Maxwell's relations	07/04/2022
07	First and Second TdS equations Specific and Latent heat equqtions	08/04/2022
08	Joule – Thomson's effect, Problems	09/04/2022
09	**Ch-2- Elementary Concepts of Statistics** Probability ,Distributions functions,Problems	11/04/2022
10	Random Walk Problem and Bionomial distribution	12/04/2022
11	Simple Random Problem, Calculation of mean Values	13/04/2022
12	Probability distribution for large N	16/04/2022
13	Gaussian Probability distribution and Problems	18/04/2022
14	**Ch-3- Statistical distribution of system of particles and Ensembles** State of Systems, Statistical Ensembles	19/04/2022
Sr. No.	**Completed Topics**	**Dates**
15	Basic Postulates, Probability Calculations	21/04/2022
16	Behavior of density of states	22/04/2022

17	Thermal. Mechanical Interactions, Problems	25/04/2022
18	Micro canonical Ensembles, Canonical Ensembles	26/04/2022
19	Applications of Canonical Ensembles	27/04/2022
20	Molecules in ideal gas, Mean Values in Canonical Ensembles, Problems	28/04/2022 29/04/2022
21	**Ch-4-Introduction to Quantum States** Quantum distribution function	02/05/2022
22	Maxwell – Boltzman Statistics, Bose – Einstein Statistics	04/05/2022 05/05/2022
23	Fermi – Dirac Statistics	09/05/2022
24	Comparisions of B-E,M-B,F-D Statisctics , Applications of Quantum Statstics	10/05/2022 12/05/2022
25	Problems	13/05/2022 14/05/2022
26	Internal Test	18/05/2022

PHY-3610 SEC (Z): Calibration Techniques

1	**Activity:** 1. RTD calibration check 2. Calibration of digital balance 3. Calibration of PH/Conductivity meter 4. Calibration of Volt meter 5. Calibration of Current meter 6. Calibration of Oscilloscopes	19May 2022 – 24 May 2022

1) T.Y.B.Sc.:- Practicals of one batch of Semester -1 and 2 completed in Academic Year 2021-2022.

2) Projects of T.Y.B.Sc Students.:- Projects of one batch of Semester -1 and 2 completed in Academic Year 2021-2022.

3) F.Y.B.Sc.:- Practicals of Semester -1 and 2 completed in Academic Year 2021-2022.

Dr. V.D.Kulkarni

Syllabus completion Report

T.Y.B.Sc. Physics (Sem V) **Year: 2021-2022**

PHY-351: Mathematical Methods in Physics-II **Teacher: A.B.Kanawade**

Chapter No.	Month	Contents	Remarks
1	Nov / Dec 2021	**1: Curvilinear Co-ordinates** Review of Cartesian, spherical and cylindrical co-ordinate, transformation equation, General Curvilinear co-ordinate system: Co-ordinate surface, co-ordinate lines, length, surfaces and volume elements in curvilinear co-ordinate system. Orthogonal curvilinear co-ordinate system, expressions for gradient, divergence, Laplacian, and curl, special case for gradient, divergence and curl in Cartesian, spherical polar and cylindrical co-ordinate system, Problems.	
2	Dec 2021	**2: The Special Theory of Relativity** Introduction, Newtonian relativity, Galilean transformation equation,	

		Michelson-Morley experiment, Postulates of special theory of relativity, Lorentz transformations, Lorentz transformations, Kinematic effects of Lorentz transformation, Length contraction, Proper time, Problems.	
3	Dec / Jan 2021	**3: Partial Differential Equations** Introduction to Partial differential equations (PDE), General methods for solving second order PDE, Method of separation of variables in Cartesian, Spherical polar and cylindrical co-ordinate system (two dimensional Laplace's equation, one dimensional Wave equation), Singular points (x = x0), Solution of differential equation-Statement of Fuch's theorem, Frobenius method of series solution.	
4	Jan / Feb 2021	**4: Special Functions** Introduction, generating function for Legendre Polynomials: $P_n(x)$, Properties of Legendre Polynomials, Generating function for Hermite Polynomials: $H_n(x)$, Properties of Hermite Polynomials, Bessel function of first kind: $J_n(x)$,	

		Bessel function of first kind: J_n (x), Properties of Bessel function of first kind, Problems.	

The syllabus of the course has been completed as per the month wise schedule.

Syllabus completion Report

T.Y.B.Sc. Physics (Sem V) Year: 2021-2022

PHY-3510 SEC (K): Smart Sensors and Transducer Technology, Teacher: A.B.Kanawade

Chapter No.	Month	Contents	Remarks
1	Oct 2021	1) **Mechanical and Electromechanical sensor:** Definition, principle of sensing & transduction, classification. Resistive (potentiometric type): Forms, material, resolution, accuracy, sensitivity. Strain gauge: Theory, type, materials, design consideration, sensitivity, gauge factor, variation with temperature, adhesive, rosettes. LVDT: Construction, material, output input relationship, I/O curve, discussion.	
2	Nov 2021	2) **Capacitive sensors:** Variable distance-parallel plate type, variable area- parallel plate, serrated plate/teeth type and cylindrical type, Variable dielectric constant type, calculation of sensitivity.	

		Stretched diaphragm type: microphone, response characteristics.	
3	Nov / Dec 2021	3) **Thermal sensors**: Material expansion type: solid, liquid, gas & vapor Resistance change type: RTD materials, tip sensitive & stem sensitive type. Thermo emf sensor: types, thermoelectric power, general consideration, Junction semiconductor type IC and PTAT type.	
4	Dec 2021	4) **Magnetic sensors:** Sensor based on Villari effect for assessment of force, torque, proximity, Wiedemann effect for yoke coil sensors, Thomson effect, Hall effect, and Hall drive, performance characteristics. Radiation sensors: LDR.	
5	Dec 2021/ Jan 2022 Jan / Feb 2022	**Activity:** **Based on chapter I** 1) Linear displacement measurement using LVDT. **Based on chapter II** 2) Displacement/pressure measurement using microphone. **Based on chapter III** 3) Measurement of temperature using Thermocouple transducer. 4) Silicon diode as temperature sensor **Based on chapter IV**	

		5) Magnetic sensor/Hall effect/proximity sensor based measurement magnetic susceptibility magnetisation 6) LDR based measurement light intensity etc.	

The syllabus of the course has been completed as per the month wise schedule.

Syllabus completion Report

S.Y.B.Sc. Physics (Sem III) **Year: 2021-2022**
PHY-232(A): Electronics-I **Teacher: A.B.Kanawade**

Chapter No.	Month	Contents	Remarks
1	Oct / Nov 2021	**1. Network Theorem:** 1.1 Krichhoff's Law 1.2 Voltage and current Divider Circuit 1.3 Thevenin's Theorem 1.4 Norton's Theorem 1.5 Superposition Theorem 1.6 Maximum Power transfer theorem (With proof) 1.7 Problems	
2	Nov / Dec 2021	**2. Study of Transistor** **2.1 Bijunction Transistor** 1. Bipolar Junction Transistor, Types, Symbol and basic action. 2. Configuration (Common Base, Common Emitter and Common Collector) 3. Current Gain Factors (α and β) and their relations	

		4. Input, Output and transfer Characteristic of CE Configuration 5. Biasing method and Voltage Divider 6. DC Load line (CE), Operating Point (Q-point) 7. Transistor as a switch, 8. Problems **2.2 Uniunction Transistor:** 1. Symbol, Types, Construction, Working Principle, I-V characteristics, Specifications and parameters of Unijunction Transistor (UJT) 2. UJT as a relaxation Oscillator.	
3	Jan 2022	**3.Operational Amplifiers and Application** **3.1 Operational Amplifiers:** 1. Introduction 2. Ideal and practical Characteristics 3. Operational Amplifier: IC741-Block Diagram and Pin diagram 4. Concept of Virtual Ground 5. Inverting and Non-inverting operational amp with concept of gain 6. Operational amplifier as an adder and subtractor 7. Problems **3.2 Oscillators:** 1. Concept of Positive and negative feed back 2. Barkhausein Criteria for an oscillator 3. Construction, working and application of phase shift oscillator using IC741 4. Problems	
4	Jan / Feb 2022	**4. Number System and Logic Gates** 1. Number System: Binary, Binary coded Decimal (BCD), Octal, Hexadecimal	

		2. Addition and Subtraction of binary numbers and binary fractions using one's and two's complement 3. Basic Logic gates (OR, AND, NOT) 4. Derived gates: NOR, NAND, EXOR, EXNOR, with symbols and truth table 5. Boolean Algebra 6. De Morgan's theorem and its verification, 7. Problems	

The syllabus of the course has been completed as per the month wise schedule.

Syllabus completion Report

T.Y.B.Sc. Physics (Sem VI) **Year: 2021-2022**

PHY-361: Solid State Physics **Teacher: A.B.Kanawade**

Chapter No.	Month	Contents	Remarks
1	Mar / Apr 2022	**1: The Crystalline Structures (10 L)** Lattice, Basis, Translational Vectors, Primitive Unit Cell, Symmetry Operations, Different types of lattices: 2D and 3D (Bravais lattices) Miller indices, Inter Planer Distances, SC, BCC and FCC structures, Packing Fraction, Crystal structures NaCl, diamond, CsCl, ZnS, HCP, Concept of Reciprocal Lattice and its properties, Problems	
2	April 2022	**2: X ray Diffraction and Experimental Methods (9 L)** Bragg's Diffraction, Bragg's Law, Experimental X-ray diffraction Methods: The Laue Method, Bragg's Spectrometer, The Powder Crystal Method, Analysis of cubic structure by Powder Method, Ewald's Construction, Bragg's Diffraction condition in direct and reciprocal lattice, Problems	
3	May 2022	**3: Free Electron and Band Theory of Metals (9L)** Assumptions of Classical and Somerfield Free Electron model, Energy levels and Density of States (One and Three Dimensions), Nearly free electron model, Fermi energy, Fermi level, Hall Effect, Mobility, Hall Angle	

		Band Theory of Solids: Origin of energy gap, Energy bands in Solids, Distinction between metal, semiconductor and insulator, Problems	
4	May 2022	**4: Magnetism (8L)** Diamagnetism, Langevin theory of Diamagnetism, Paramagnetism, Langevin theory of Paramagnetism, Ferromagnetism, Antiferromagnetism, Ferromagnetic Domains, Hysteresis, Curie temperature, Neel temperature, Superconductivity, Problems	

The syllabus of the course has been completed as per the month wise schedule.

Syllabus completion Report

T.Y.B.Sc. Physics (Sem VI) **Year: 2021-2022**

PHY-362: Quantum Mechanics **Teacher: A.B.Kanawade**

Chapter No.	Month	Contents	Remarks
1	April 2022	**Origin of Quantum Mechanics: (08 L)** 1. Historical Background: Review of Black body radiation, photoelectric effect 2. Matter waves - De Broglie hypothesis. - Davisson and Germer experiment. 3. Wave particle duality 4. Concept of wave function, wave packet, phase velocity, group velocity and relation between them 5. Heisenberg's uncertainty principle with Electron diffraction experiment, different forms of uncertainty. Problems	
2	April 2022	**The Schrodinger equation: (10 L)** 1. Physical interpretation of Wave function 2. Schrodinger time dependent equation. 3. Schrodinger time independent equation (Steady state equation). 4. Requirements of wave function. 5. Probability current density, equation of continuity and its physical significance. 6. An operator in Quantum mechanics. - Eigen function and Eigen	

		values. 7. Expectation value – Ehrenfest's theorem(omly statements), Problems	
3	May 2022	**Applications of Schrodinger Steady state equation: (14 L)** 1. Free particle. 2. Step Potential 3. Potential barrier(Qualitative discussion), Barrier potential and tunneling effect. 4. Particle in infinitely deep potential well (one - dimension). 5. Schroedinger equation in spherical polar coordinate system 6. Rigid rotator (Free axis) 7. Problems	
5	May 2022	**Operators in Quantum Mechanics: (04 L)** 1. Hermitian operator. 2. Position, Momentum operator, angular momentum operator, and total energy operator (Hamiltonian). 3. Commutator brackets- Simultaneous Eigen functions. 4. Commutator algebra. 5. Commutator brackets using position, momentum and angular momentum operator. 6. Concept of parity according to quantum mechanics, parity operator and its Eigen values. 7. Applications of operators in quantum mechanics 8. Problems	

The syllabus of the course has been completed as per the month wise schedule.

Syllabus completion Report

S.Y.B.Sc. Physics (Sem IV) **Year: 2021-2022**
PHY-242: Optics **Teacher: A.B.Kanawade**

Chapter No.	Month	Contents	Remarks
1	April 2022	**1. Geometrical optics and Lens aberrations: (12L)** **(a) Geometrical optics:** 1.1 Introduction to lenses and sign conventions. 1.2 Thin lenses: Lens equation for single convex lens 1.3 Lens maker equation 1.4 Concept of magnification, deviation and power of a thin lens 1.5 Equivalent focal length of two thin lens system 1.6 Concept of cardinal points 1.7 Problems **(b) Lens Aberrations:** 1.8 Introduction to Aberration 1.9 Types of aberration: Monochromatic and Chromatic	

		Aberration (Only discussion)	
2	April /May 2022	**2. Optical Instruments: (6L)** 2.1 Introduction to optical instruments 2.2 Types of optical instruments: Simple Microscope, Compound Microscope and Astronomical telescope (only construction and working) 2.3 Eyepiece: Ramsden's eye piece (Expression), Huygens eye piece and Gauss's eyepiece (only qualitative discussion) 2.4 Problems.	
3	May 2022	**3. Interference and Diffraction: (12L)** **(a) Interference:** 3.1 Introduction to interference 3.2 Types of Interference (only discussion) 3.3 Phase change on reflection (Stokes treatment). 3.4 Interference due to reflected light 3.5 Interference due to transmitted light. 3.6 Newton's ring (to calculate wavelength) 3.7 Problems **(b) Diffraction:** 3.8 Introduction to diffraction 3.9 Types of diffraction (only discussion) 3.10 Fraunhoffer's diffraction due to single slit and double slit (only qualitative discussion) 3.11 Plane transmission grating and grating equation (only principal maxima) 3.12 Rayleigh criterion for resolution (only qualitative discussion) , 3.13 Problems	
4	May / June 2022	**4. Polarization: (6L)** 4.1 Introduction to polarization 4.2 Brewster's law 4.3 Malus's Law 4.4 Polarization by double refraction 4.5 Nicol Prism 4.6 Application of polarization 4.7 Problems	

The syllabus of the course has been completed as per the month wise schedule.

Prof.V.B.Deshmukh

1. **FYBSc. Physics II (Physics principles and applications)-41 Lectures**

Month	Period	Chapter	Topic
September 2021	6	**Physics of Atoms**	The concept of atom (Atomic Models: Thompson and Rutherford) Atomic Spectra Bohr Theory Hydrogen atom Spectra Frank Hertz experiment
October 2021	6	**LASERS**	Absorption, Spontaneous Emission, and Stimulated Emission, Population Inversion and Laser Action, Applications of Lasers Problem solved , Assignment
November 2021	12	**Physics of Molecules**	Bonding Mechanisms: A Survey Ionic Bonds Covalent Bonds Van der Waals Bonds The Hydrogen Bond Metallic Bond, Variation of potential energy with inter-atomic distance, Concept of Rotational and vibration energy levels of diatomic

			molecule Problem solved. Assignment
December 2021	8	**Sources of Electromagnetic Waves**	Historical Perspective of Electromagnetic Waves Production of electromagnetic waves : Hertz experiment Electromagnetic spectrum Planck hypothesis of photons (Concept only) Sources of electromagnetic waves: Radio waves, Microwaves, Infrared, Visible light, Ultraviolet, X-rays, Gamma rays Problem solved Assignment
January 2022	10	**Applications of Electromagnetic Waves**	Microwave oven RADAR Pyro- electric thermometer X-ray radiography and CT Scan, applications in medical field Solar cell Revision

TYBSc Physics IV (Atomic and Molecular Physics)-36 Lectures

Month	Period	Chapter	Topic
September 2021	6	**Atomic structure**	Revision of various atomic models, Vector atom model, Pauli's Exclusion Principals and electron configurations, Quantum states, and Spectral notations of quantum states
October 2021	12	**One and Two valence electron systems**	Spin-Orbit Interaction (Single valence electron atom), Energy levels of Na atom, selection rules, spectra of sodium atom, sodium Doublet. Spectral terms of two electron atoms, terms for equivalent electrons, L-S and JJ coupling schemes. Singlet-Triplet separation for interaction energy of L-S coupling. Lande Inteval rule, spectra of Helium atom
November 2021	4	**Zeeman Effect**	Experimental arrangement Normal and anomalous Zeeman Effect, Stark effect(Qualitative Discussion), Applications of Zeeman Effects
December 2021	8	**Molecular spectroscopy**	Introduction to Molecular Spectra and its types Rotational energy levels, Rotational spectra of diatomic molecule, Vibration

			energy levels Rotational and Vibration spectra Electronic spectra of molecules, Applications of UV-Vis spectroscopy Problems
January 2022	6	**Raman spectroscopy**	History of Raman effect Classical theory of Raman Effect. Molecular polarizability Quantum theory of Raman Effect
February 2022			Experimental set up for Raman Effect Applications of Raman spectroscopy

TYBSc Skill based course II (Physics Workshop skill)-18 Lectures+ 6 Activity

Month	Period	Chapter	Topic
September 2021	4	**Basic of Measurement**	Principle and working of digital meters. Comparison of analog & digital instruments. Characteristics of a digital meter. **Multimeter** Block diagram and working of a digital multimeter. Principles of measurement of dc voltage and dc current, ac voltage, ac current and

			resistance. Specifications of a multimeter and their significance
October 2021	4	**Electronic Voltmeter**	Principles of voltmeter, Construction (block diagram only). Specifications of an electronic Voltmeter and their significance. AC Voltmeterand its types, Block diagram ac Milli Voltmeter, Specifications and their significance
November 2021	5	**Cathode Ray Oscilloscope**	Block diagram of basic CRO. Principle and working of CRO Use of CRO for the measurement of voltage (dc and ac frequency, time period. Special features of dual trace oscilloscope. Introduction to digital oscilloscope, Block diagram and principle and working
December 2021	2	**Signal Generators and Analysis Instruments**	Block diagram, explanation and specifications of low frequency signal generators. Pulse generator, and function generator
January 2022	3	**Impedance Bridges and Q-Meters**	Block diagram of bridge. Working principles of basic (balancing type) RLC bridge.

			Specifications of RLC bridge. Block diagram & working principles of a Q-Meter. Digital LCR bridges
December 2021-February 2022	12	**Activity**	Use of Digital multimeter, Measurement of R, L and C by Q-meter To observe the loading effect of a multimeter while measuring voltage across a low resistance and high resistance. To observe the limitations of a multimeter for measuring high frequency voltage and currents. Measurement of voltage, frequency, time period and phase angle using CRO. Measurement of rise, fall and delay times using a CRO

1) S. Y. B. Sc. (PHY-241) Oscillations, Waves and Sound

Month	Topic	Period
30/3/2022-12/4/2022	**Undamped Free Oscillations** Equilibrium conditions, Equations of linear and angular SHM. Differential equation of linear SHM, Composition of two perpendicular linear SHM for frequency ratio 1:1 and 1:2, Lissajous	6

	figures and their demonstrations	
13/4/2022-01/5/2022	**Damped Oscillations** Differential equation of damped harmonic oscillator and its solution, different cases, Logarithmic decrement, Energy of damped harmonic oscillator, Quality factor, LCR series circuit	6
02/5/2022-12/5/2022	**Forced Oscillations** Equation of forced oscillations and its solution. Resonance, Velocity resonance, Amplitude resonance, Sharpness resonance and half width. Average energy of forced oscillator, Quality factor, LCR series circuit	7
13/5/2022-16/5/2022	**Wave Motion** Equation of longitudinal and transverse wave and its solution, energy density and intensity of a wave, Seismic wave and gravitational waves	5
30/5/2022-31/5/2022	**Sound and Doppler Effect** Characteristics of sound, Doppler effect in sound, Expression for apparent frequency in different cases, Symmetric and Asymmetric nature Doppler effect, Applications	5

PHY-243 Physics Laboratory-2B- eight (8) Practicals were completed on April to May 2022

2) T. Y. B. Sc. PHY-364 Nuclear Physics

Month	Topic	Period
25/3/2022-8/4/2022	**Nuclear Structure, Properties and Radioactivity** Composition of nucleus, Characteristics of nucleus, Mass defect and Binding energy,	10

	packing fraction. Classification of nuclei, stability of nuclei. Radioactive disintegration, properties of α, β, γ rays, Law of radioactive decay, half life, mean life, activity and specific activity, successive disintegration and equilibrium of radioisotopes, Application of radioactivity.	
9/4/2022- 20/4/2022	**Particle Accelerator and Radiation Detectors** Linear accelerator (LINAC), Cyclic accelerator (Cyclotron), Accelerators in India. Nuclear detectors, G. M. counter and solid state detector.	4
21/4/2022- 29/4/2022	**Nuclear forces and Nuclear Models** Classification of nuclear forces, Meson theory, properties of nuclear forces, deuteron problem, Elementary particles, Quark models, Shell model, Liquid drop model, Semi-empirical B. E. formula.	8
30/4/2022- 16/5/2022	**Nuclear Reactions and Reactor Theory** Nuclear reaction and conservation laws, Q value equation, Exothermic and endothermic reaction, compound nucleus, Nuclear fission and fusion reaction, stellar energy, chain reaction and critical mass. Nuclear reactor and its basic components, homogeneous and heterogeneous reactors, power reactor. Nuclear reactor in India.	8

2) T.Y.B.Sc. 3611-SEC(AB) Instrumentation for Agricultural

Month	Topic	Period
25/3/2022-8/4/2022	**Introduction** Necessity of agricultural instrument, sensor used in agricultural	2
9/4/2022-20/4/2022	**Soil Properties & Sensing** Properties of soil, Permeability and seepage analysis, Mohr's circle of stress, active and passive earth pressures, stability and slopes. Sensors, sonic anemometers, hygrometers, thermocouples, open and close path gas analyzers.	4
21/4/2022-29/4/2022	**Instrumentation in Continuous & Batch process** Sugar plant, flow diagram, sensors and instrumentation setup, flow diagram of fermenter and control process, dairy industry flow chart and instrumentation set up for it. Juice extraction control process and instrumentation set up.	3
30/4/2022-16/5/2022	**Instrumentation in Irrigation** Auto drip and sprinkler irrigation system, Upstream and downstream control concept, SCADA for DAM parameters and control	4
25/3/2022-8/4/2022	**Greenhouse Parameters & Instrumentation** Concept and construction of green house effect, merits and demerits, ventilation, cooling and heating.wind speed, temperature and humidity, soil moisture, rain gauge, CO_2 control area and wetness, EM radiation, photosynthesis	4

16 periods were used for completion of activity.

Prof. N.D.Barne

F.Y.B.Sc. Physics I (Mechanics and Properties of Matter)- 37 Lectures

Month	Period	Chapter	Topic
October 2021	09	**Motion**	Introduction to motion, Types of motion, Displacement, Velocity, Acceleration, Inertia, Newton's laws of motion with their explanations, Various types of forces in nature, Frames of reference (Inertial and Non inertial), Laws of motion and it's real life applications, Problems
November 2021	07	**Work and Energy**	Kinetic energy, Work Energy Theorem, Work done with constant force, Work done with varying force (spring force), Conservative and Non conservative forces, Potential energy, Law of energy conservation,

			Gravitational potential energy, Problems
December 2021	08	**Fluid Mechanics**	Concept of viscous force and viscosity, Coefficient of viscosity, Steady and Turbulent flow, Reynolds number, Equation of continuity, Bernoulli's Principle, Applications of Bernoulli's Principle (Ventury Meter, PitotTube), Applications of viscous fluids, Problems.
January 2022	12	**Properties of Matter**	Surface tension, Angle of contact, Factors affecting surface tension, Jaeger's method for determination of surface tension, Applications of surface tension. Stress and Strain, Hook's law and Coefficient of elasticity, Young's modulus, Bulk modulus, Modulus of rigidity, Work done during longitudinal strain, Volume strain, Shearing strain, Poisson's ratio, Relation between three elastic moduli, (Y, η, K),

			Applications of elasticity, Problems

2. T.Y.B.Sc.: PHY 352 Classical Electrodynamics- 39 Lectures

Month	Period	Chapter	Topic
October 2021	12	**Electrostatics**	1.1. Coulomb's law, Gauss law, Electric field, Electrostatic Potential 1.2. Potential energy of system of charges. 1.3. Statement of Poisson's equation, Boundary Value problems in electrostatics- solution of Laplace equation in Cartesian system, 1.4. Method of image charges: Point charge near an infinite grounded conducting plane, Point charge near grounded conducting sphere. 1.5. Polarization P, Electric displacement D, Electric susceptibility and dielectric constant, bound volume and surface charge densities. 1.6. Electric field at an exterior and interior point of dielectric.
November 2021 to	12	**Magnetostatics**	2.1. Concepts of magnetic induction, magnetic flux and

December 2021			magnetic field 2.2. Magnetic induction due to straight current carrying conductor, Energy density in magnetic field, magnetization of matter. Relationship between B,Hand M. 2.3. Boundary conditions at the interface of two magnetic media (Normal and Tangential component) 2.4Biot-Savart's law, Ampere's law for force between two current carrying loops, Ampere's circuital law, 2.5. Equation of continuity, Magnetic vector potential A, Magnetic susceptibility and permeability,
January 2022 to February 2022	12	**Electrodynamics**	3.1. Day to day applications of electrodynamics 3.2. Concept of electromagnetic induction,Faradays law of induction, Lenz's law, displacement current, generalization of Amperes' law 3.3. Maxwell's equations (Differential and Integral form) and their physical significance 3.4. Polarization, reflection

			& refraction of electromagnetic waves through media 3.5. Wave equation and plane waves in free space. 3.6.Poyntingtheorem&Poynting vector, Polarizations of plane wave.

3. T.Y.B.Sc. PHY 353 Classical Mechanics – 30 Lectures

Month	Period	Chapter	Topic
October 2021	10	**Motion of Particles**	a. Charged Particles: Motion of a charged particle in constant electric, magnetic and electromagnetic field, b. System of particles: Concept of Centre of mass, Conservation of linear momentum, angular momentum, energy of system of particles.(statements only) c. Problems
November 2021 to January 2022	10	**Central force Field**	a. Central force Field: Definition and Properties of central force field. Reduction of two body problem to an equivalent one body problem b. Motion in central force field, c. Kepler's laws of planetary motion and their proof d. Artificial satellite and its orbit

January 2022 to February 2022	10	**Scattering of particles**	a. Elastic and inelastic scattering: Definition and properties, b. Elastic scattering - Laboratory and center of mass system. c. Scattering: Scattering angles in laboratory and center of mass system. d. Differential cross-section, impact Parameter, total cross-section in brief. e. Problems

PHY-121 Heat and Thermodynamics

Months	Topic taken	Periods
18 Apr. 2022- 26 Apr. 2022	**1. Fundamentals of Thermodynamics** Concept of thermodynamic state, Equation of state, Van der Waal's equation of state, Thermal equilibrium, Zeroth law of thermodynamics, Thermodynamic processes: Adiabatic, Isothermal, Isobaric and Isochoric changes, Indicator diagram, Work done during isothermal change, Adiabatic relations, Work done during adiabatic change, Internal energy, Internal energy as state function, First law of thermodynamics, Reversible and Irreversible changes, Problems.	10
27 Apr. 2022- 09 May 2022	**2. Applied Thermodynamics** Conversion of heat into work and it's converse, Second law of thermodynamics, Concept of entropy, Temperature - entropy diagram, T-dS equations, Clausius - Clapeyron latent heat equations, Problems.	09
	Unit Test	

10 May 2022- 23 May 2022	**3. Heat Transfer Mechanisms** Carnot's cycle and Carnot's heat engine and its efficiency, Heat Engines: Otto cycle & its efficiency, Diesel cycle & its efficiency, Refrigerators: General principle and coefficient of performance of refrigerator, Simple structure of Vapor compression refrigerator, Air Conditioning: Principle and it's applications, Problems	09
17 May 2022	**INERNAL EXAM**	
24 May 2022- 26 May 2022	**4. Thermometry** Concept of heat & temperature, Principle of thermometry, Temperature scales & inter-conversions, Principle, Construction and Working: (Liquid thermometers, Liquid filled thermometers, Gas filled thermometers, Bimetallic thermometers, Platinum resistance thermometer, Thermocouple), Problems	08

PHY-365 (A): Electronics-II

Months	Topic taken	Periods
26 March2022- 11 Apr. 2022	**1: Semiconductor Devices:** a. LED and Photodiode, Optocoupler. (Working Principles) Problems. Ref. 1. b. BJT: Transistor amplifier classifications - Class A, B, C and AB (working only), Differential amplifier (transistorized), Problems. Ref. 1. c. Field Effect Transistor: JFET (Introduction,	09

	classification, principle, working and IV characteristics) MOSFETs (DE-MOSFET and E only MOSFET). Problems.	
12Apr.2022-15 Apr. 2022	**2: Applications of Semiconductor Devices:** a. Three Pin Regulators: Block diagram of 3-pin IC regulator, study of IC-78XX, 79XX. Dual Power Supply using IC-78XX, 79XX. Ref. 1 b. Switching Regulators (SMPS): Introduction, Block diagram, Advantages and Disadvantages. Ref. 4 c. Modulation and Demodulation : Concept of Carrier Wave, Need of Modulation and Demodulation, Methods of Modulation like AM, FM, PM (Concepts Only), d. Concept of Modulation Index, Upper and Lower Side Band Frequencies in AM. Problems	09
16 Apr. 2022- 21 Apr.2022	**3: Integrated Circuits:** a. Integrated Circuits: Introduction, Scale of Integration, Advantages and drawbacks of IC Ref.4 b. OP-AMP Applications as Integrator, Differentiator, Comparator. Ref. 1 c. Timer IC-555: Block diagram, Astable, monostable multivibrator (working and design). Problems	09
19 May 2022	**INERNAL EXAM**	

22 Apr.2022-13 May 2022	**4: Combinational and Sequential Circuits:** a. Combinational Circuits: Introduction to SOP and POS equation. Concept of Standard SOP and POS equation. Concept of K-map and their use in reduction of Boolean expressions, design of half adder, full adder, half subtract, Study of binary to gray and gray to binary code conversion. Problems. Ref. 2 b. Sequential Circuits: RS flip flop using NAND/NOR, clocked RS, D, JK and T-flip flops. Application of flip flops in Sequential Circuits as Counters and Registers. Asynchronous and Synchronous Counters. (3-bit Counter), Shift Registers and their types of operation -SISO, SIPO, PISO, PIPO (Concepts only).	09

PHY-3610 SEC (Z): Calibration Techniques

Months	Topic taken	Periods
26 March 2022-07 Apr. 2022	**Unit-1: Principles of Calibration** 1. Introduction and Importance of Calibration 2. Traceability in Calibration 3. Calibration Uncertainty 4. Various Calibration Methods 5. Factors Affect Calibration 6. Instrument Classification and Instrument Identification	04
08 Apr. 2022-13	**Unit-2: Pressure Calibration** 1. Introduction to pressure calibration 2. Pressure unit conversion standards	06

Apr. 2022	3. Types of Pressure Gauges 4. Calibration of Pressure Gauges a. Accuracy b. Pressure Media c. Contamination d. Height Difference e. Leak test of Piping f. Adiabatic Effect g. Torque Force h. Calibration Position i. Generating Pressure j. Pressurizing the Gauge k. Reading the Pressure Value l. Number of Calibration Points m. Hysteresis (deviation of calibration points) n. Number of Calibration cycles 5. Instruments required for calibration: a. Pressure comparator b. Master Gauge 6. Pressure Calibration with Example	
14 Apr.2022-18 Apr. 2022	**Unit-3: Calibration of Electronic Instruments** 1. Identification of Components 2. Equipment required for calibration 3. Procedure of Calibration a. Read operational Specifications b. Sequence of events c. Identification of common Faults 4. Electronic Calibration with Examples (Oscilloscopes, Multimeters, Function Generators, Signal Generators)	04

23 May 2022	**INERNAL EXAM**	
19 Apr. 2022-23 Apr. 2022	**Unit-4: Temperature Calibration** 1. Temperature units and Conversions 2. Temperature Sensors 3. Calibration of temperature sensors a. Handling temperature sensor b. Preparations c. Temperature sources d. Reference Temperature Sensor e. Immersion Depth f. Stabilization g. Temperature sensor handle h. Calibrated temperature range i. Calibration Points j. Adjusting/trimming a temperature sensor 4. Examples:	04

Mrs. Warpe A.R.

Academic Year-2021-22

Syllabus Completion Reportof Semester-I

Name:-Prof. Warpe A.R.

Subjects:-

1] T.Y.B.Sc. :-Renewable Energy Sources

2] S.Y.B.Sc. :-Mathematical Methods In Physics

3] F.Y.B.Sc.:-Practical (Batches-B2,B3,A1,A2)

class:- S.Y.B.Sc **Sub –Mathematical Methods In Physics**

Month	Topic	No. of lectures conducted
Dec 2021	**Unit 1 : Complex Numbers:** ,**1.1** Introduction to complex numbers **1.2** Rectangular, polar and exponential forms of complex numbers **1.3** Argand diagram **1.4** Algebra of complex numbers using Argand diagram **1.5** De-Moivre's Theorem (Statement only) **1.6** Power, root and log of complex numbers **1.7** Trigonometric, hyperbolic and exponential functions **1.8** Applications of complex numbers to determine velocity and acceleration in curved motion. **1.9** Problems. **Unit 2: Partial Differentiation** **2.1** Definition of partial differentiation **2.2** Successive differentiation **2.3** Total differentiation	15
Jan 2022	**2.4** Exact differential **2.5** Chain rule **2.6** Theorems of differentiation **2.7** Change of variables from Cartesian to polar co-ordinates **2.8** Conditions for maxima and minima (without proof) **2.9** Problems.	15

	Unit 3. Vector Algebra and Analysis: **3.1** Introduction to scalars and vectors, dot product and cross product of two vectors and their physical significance. (Revision) **3.2** Scalar triple product and its geometrical interpretation **3.3** Vector triple product and its proof **3.4** Scalar and vector fields **3.5** Differentiation of vectors with respect to scalar **3.6** Vector differential operator and Laplacian operator	
Feb 2022	**3.7** Gradient of scalar field and its physical significance **3.8** Divergence of scalar field and its physical significance **3.9** Curl of vector field and its physical significance. **3.10** Vector Identities. a. $\nabla \times (\nabla\Phi) = 0$ b. $\nabla.(\nabla \times V) = 0$ c. $\nabla.(\nabla\Phi) = \nabla 2\Phi$ d. $\nabla.(\Phi A) = \nabla\Phi.A + \Phi(\nabla.A)$ e. $\nabla \times (\Phi A) = \Phi (\nabla \times A) + (\nabla\Phi) \times A$ f. $\nabla.(A \times B) = B.(\nabla \times A) - A(\nabla \times B)$ **3.11** Problems. **Unit 4. Differential Equation:** **4.1** Degree, order, linearity and homogeneity of differential equation. **4.2** Concept of Singular points. Example of singular points ($x = 0$, $x = x0$ and $x = \infty$) of differential equation. **4.3** Problems.	6

Class:-T.Y.B.Sc. **Subject- Renewable Energy Sources**

Month	Topic	No. of lectures conducted
Dec 2021	**<u>Unit 1: An Introduction to Energy Sources</u>:** 1. Energy: Definition, Classifications of energy sources 2. Conventional and non-conventional energy sources. 3. Sun: The source of energy (Structure, Characteristics and Composition) 4. Solar Constant 5. Electromagnetic Energy Spectrum. 6. Solar radiations outside earth atmosphere. 7. Solar radiation at the earth surface. 8. Problems. **<u>Unit 2: Photothermal Applications</u>:** 1. Photothermal devices: Solar Insolation, Selective Coating, Glass Cover, Heat Conductor and Heat Insulation. 2. Solar water heating systems: Types, construction and working of Liquid Flat Plate Collector (FPC) and Evacuated Tube Collector (ETC) 3. Energy Balance Equation (without thermal Analysis). 4. Concentrating collectors: Flat plate collector with plane reflector, Cylindrical parabolic, Compound parabolic, Collector with fixed circular concentrators and moving receiver, paraboloid concentrator.	15

Jan2022	5. Comparative study between flat plate collector and solar concentrators. 6. Solar distillation, Solar dryer, Solar cooker (box type) **Unit 3: Photovoltaic systems:** 1. Introduction to Photovoltaic effect and Photovoltaic Conversion. 2. Basic photovoltaic system for power generation 3. Basics of Solar Cell, PV modules, Arrays, 4. Solar Cell: I-V characteristics, Power output and conversion efficiency. 5. Factors affecting on photovoltaic efficiency. (Change in amount of input light, solar cell area, Change in angle, Change in operating Temperature etc.) 6. Types of solar cells: p-n junction solar cell, p-i-n diode solar cell, cadmium sulphide solar cell, Gallium arsenide solar cell, Indium phosphide solar cell, nano-crystalline solar cell. 7. Application of solar photovoltaic systems.	14
Feb 2022	**Unit 4: Energy Storage:** 1. Importance and Needs of Energy storage in Conventional and Nonconventional Energy Systems. 2. Various forms of Energy Storage 3. Electrical Energy: Super capacitors	7

Mrs. Warpe A.R.

Academic Year-2021-22

Semester II

Syllabus Completion Report

Name:-Prof. Warpe A.R.

Subjects:-

1] T.Y.B.Sc. :-Lasers

2] F.Y.B.Sc.:-Electricity and Magnetism.

3] F.Y.B.Sc.:-Practical (Batches-B2,B3,A1,A2)

class:- T.Y.B.Sc.

Sub –LASERS

Month	Topic	No. of lectures conducted
April 2022	**Chapter 1: Introduction to Lasers:** Brief history of Lasers, Interaction of radiation with matter, Energy levels, Population density, Boltzmann distribution, Stimulated Absorption, Spontaneous Emission and Stimulated Emission, Einstein's Coefficients, Einstein's relations. Characteristics of Laser: Directionality, Mono-chromaticity, Coherence,	6
May 2022	**Chapter 2: Laser Action**: Population inversion, Condition for light amplification, Gain coefficient, Active medium, metastable states. Pumping schemes: three level and four level	20

	Chapter 3: Laser Oscillator: Optical feedback, round trip gain, critical population inversion, Optical resonator, condition for steady state oscillations, cavity resonance frequencies. **Chapter 4: Laser Output**: Line-shape broadening: Lifetime broadening, Collision broadening	
June 2022	**Chapter 5: Types of Lasers:** Solid State Lasers – Ruby Laser, Diode Laser, Gas Lasers – HeNe Laser, CO2 Laser **Chapter 6: Applications of Lasers**: Industrial: welding, cutting, drilling Nuclear Science: laser isotope separation, laser fusion, Medical: eye surgery	10

Class:-F.Y.B.Sc.

Subject- Electricity and Magnetism

Month	Topic	No. of lectures conducted
April 2022	**Chapter 1. Electrostatics** 1.1 Revision of Coulomb's law: 1.1.1 Statement 1.1.2 Variation of	4

	forces with distances 1.2 Superposition principle: 1.2.1 Statement 1.2.2 Explanation with illustration 1.3 Energy of system of charges	
May 2022	**<u>Chapter 1. Electrostatics</u>** 1.1 Revision of Coulomb's law: 1.1.1 Statement 1.1.2 Variation of forces with distances 1.2 Superposition principle: 1.2.1 Statement 1.2.2 Explanation with illustration 1.3 Energy of system of charges 1.4 Concept of electric field 1.4.1 Due to point charge 1.4.2 Due to group charges 1.5 Concept of electric flex 1.6 Gauss's law in electrostatics Problems **<u>Chapter 2. Dielectrics</u>** 2.1 Introduction to dielectric materials 2.2 Electric Dipole 2.2.1 Electric dipole 2.2.2 Dipole moment 2.3 Electric potential and intensity at any point due to dipole 2.4 Torque on a dipole placed in an electric field 2.5 Polar and non-polar molecules 2.6 Electric polarization of dielectric material 2.7 Gauss' law in dielectric 2.8 Electric vectors and its relation Problems **<u>3. Magnetization</u>** 3.1 Introduction to Magnetization 3.2 Magnetic materials 3.3 Types of Magnetic Materials 3.3.1 Diamagnetic materials 3.3.2 Paramgnetic materials 3.3.3 Ferromagnetic materials 3.3.4 Antiferromagnetic materials	20

	3.4 Bohr magnetron Problems	
June 2022	**4. Magnetostatics** 4.1 Introduction to magnetization, 4.2 Magnetic Induction and Intensity of magnetization 4.3 Biot-Savart's law: 4.3.1 Statement 4.3.2 Long straight conductor 4.3.3 Circular Coil 4.4 Ampere's circuital law: 4.4.1 Statement 4.4.2 Field of Solenoid 4.4.3 Field of Toroid 4.5 Gauss law for magnetism Problems 5**. Magnetic Properties of Materials** 5.1 Definition 5.1.1 Magnetization (M), 5.1.2 Magnetic Intensity (H), 5.1.3 Magnetic Induction (B), 5.1.4 Magnetic Susceptibility 5.1.5 Magnetic Permeability 5.2 Relation between B, M and H 5.3 Hysteresis and Hysteresis Curve 5.4 Ferrite materials and its Applications Problem	8

1) F.Y.B.Sc.:- Practicals of Semester -1 and 2 completed in Academic Year 2021-2022.

K.T.S.P.MANDAL'S
HUTATMA RAJGURU MAHAVIDYALAYA, RAJGURUNAGAR
DEPARTMENT OF COMPUTER SCIENCE

SYLLABUS COMPLETION REPORT
ACADEMIC YEAR-2021-2022 SEM-I

Class: F.Y.B.Sc.(Computer Science) **Div:A**

Subject Name:-Database Management System

Subject Teacher :-Prof.Pardeshi P.N. **Syllabus completed=100%**

Sr. no	Month	Name Of Topics	Allocated Lectures	Conducted lectures
1	November	**Unit 1: Introduction To DBMS** 1.1. Introduction 1.2. File system Vs DBMS 1.3. Levels of abstraction & data independence 1.4.Structure of DBMS (Roles of DBMS Users) 1.5. Users of DBMS Advantages of DBMS	4	8
	December	**Unit 2: Conceptual Design** 2.1. Overview of DB design process 2.2. Introduction to data models (E-R model, Relational model, Network model, Hierarchical model) 2.3. Conceptual design using ER data model (entities, attributes, entity sets, relations, relationship sets) 2.4. Constraints (Key constraints, Integrity constraints, referential integrity, unique constraint, Null/Not Null constraint, Domain, Check constraint, Mapping constraints) 2.5. Extended features – Specialization,	14	15

		Aggregation, Generalization 2.6. Pictorial representation of ER(symbols) 2.7. Structure of Relational Databases (concepts of a table) 2.8. DBMS Versus RDBMS 2.9. Case Studies on ER model.		
2	January	**Unit 3 : SQL** 3.1. Introduction to query languages 3.2. Basic structure 3.3. DDL commands 3.4. DML commands 3.5. Forms of a basic SQL query (Expression and strings in SQL) 3.6. Set operations 3.7. Aggregate Operators and functions 3.8. Date and String functions 3.9. Null values 3.10. Nested Subqueries 3.11 SQL mechanisms for joining relations (inner joins, outer joins and their types) 3.12 Views 3.13. Examples on SQL (case studies) Practical Slip Solving	**11**	**8**
4	**February**	**Unit 4: Relational Database Design** 4.1. Introduction to Relational-Database Design (undesirable properties of a RDB design) 4.2. Functional Dependency(Basic concepts, F+, Closure of an Attribute set, Armstrong's axioms) 4.3. Concept of Decomposition 4.4. Desirable Properties of Decomposition (Lossless join, Lossy join, Dependency Preservation)	**8**	**8**

		4.5. Concept of normalization, Normal Forms (1NF,2NF and 3NF), Examples 4.6 Keys Concept with Examples : Candidate Keys and Super Keys, Algorithm to find the super keys / primary key for a relation		

for H/

Prof.Pardeshi P.N.

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DEPARTMENT OF COMPUTER SCIENCE

SYLLABUS COMPLETION REPORT
ACADEMIC YEAR-2021-2022 SEM-I

Class: F.Y.B.Sc. (Computer Science) **Div:A**

Subject Name- Paper I (CS-101): Problem Solving Concept Using Computer and 'C' Programing -I

Subject Teacher- Prof. Kad D.R. **Syllabus Completed: 100%**

Sr. No	Month	Name Of Topic	Allocated Lectures	Conducted Lectures
1	November	**Unit 1: .Problem Solving Aspects** 1.1. Introduction to problem solving using computers. 1.2. Problem solving steps. 1.3 Algorithms-definition, characteristics , examples ,advantages and limitations. 1.4 Flowcharts - definition, notations , examples , advantages and limitations, Comparison with algorithms. 1.5 Pseudo codes - notations, examples, advantages and limitations. 1.6 Programming Languages as tools, programming paradigms, types of languages 1.7 Converting pseudo-code to programs. 1.8 Compilation process (compilers , interpreters), linking and loading, syntax and semantic errors, testing a program 1.9 Good Programming Practices	05	09

		(naming conventions , documentation, indentation).		
2	December	**Unit 2: 'C'Fundamentals** 2.1 History of 'C' language. Application areas. 2.2 Structure of a 'C' program. 2.3 'C' Program development life cycle. 2.4 Function as building blocks. 2.5 'C' tokens 2.6 Character set, Keywords , Identifiers 2.7 Variables, Constants (character, integer, float, string, escape sequences, enumeration constant). 2.8 Data Types (Built-in and user defined data types). 2.9 Operators, Expressions, types of operators, Operator precedence and Order of evaluation. 2.10 Character input and output. 2.11 String input and output. 2.12 Formatted input and output	07	14
3	December	**Unit 3: Control Structures** 3.1 Decision making structures:- if ,if-else, switch and conditional operator. 3.2 Loop control structures:- while ,do while, for. 3.3 Use of break and continue. 3.4 Nested structures. 3.5 Unconditional branching (goto statement)	06	13
4	January	**Unit 4 : Functions** 4.1 Concept of function, Advantages of Modular design. 4.2 Standard library functions. 4.3 User defined functions:- declaration , definition, function	06	06

		call, parameter passing (by value), return statement. 4.4 Recursive functions. 4.5 Scope of variables and Storage classes.		
5	**February**	**Unit 5: Arrays** 5.1 Concept of array. 5.2 Types of Arrays – One , Two and Multidimensional array. 5.3 Array Operations - declaration, initialization, accessing array elements. 5.4 Memory representation of two-dimensional array (row major and column major) 5.5 Passing arrays to function. 5.6 Array applications - Finding maximum and minimum, Counting occurrences, Linear search, Sorting an array (Simple exchange sort, bubble sort), Merging two sorted arrays, Matrix operations (trace of matrix, addition, transpose, multiplication, symmetric, upper/ lower triangular matrix)	**06**	**06**

Prof. Kad D.R.

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DEPARTMENT OF COMPUTER SCIENCE

SYLLABUS COMPLETION REPORT
ACADEMIC YEAR-2021-2022 SEM-I

Class: F.Y.B.Sc.(Computer Science) Div:A

Subject Name: ELC-111: Semiconductor Devices & Basic Electronic Systems

Subject Teacher:-Prof. Dighe A.R. **Syllabus completed=100%**

Sr. no	Month	Name Of Topics	Allocated Lectures	Conducted lectures
1	December	**Unit 1. Semiconductor Diodes** Semiconductor, P and N type semiconductors, Formation of PN junction diode, it's working, Forward and Reverse bias characteristics, Zener diode: working principle, breakdown mechanism and characteristics, Working principle of Light emitting diode, photo diode, optocoupler, Solar cell working principle and characteristics	6	5
2	December	**Unit 2. Bipolar Junction Transistor (BJT)** Bipolar Junction Transistor (BJT) symbol, types, construction, working principle, Transistor amplifier configurations - CB, CC (only concept), CE configuration: input and output characteristics, Definition of α, β and Υ, Concept of Biasing (numerical problems not expected), Potential Divider bias, Transistor as amplifier (Concept of Gain and Bandwidth expected), Transistor as a switch.	7	8

3	January	**Unit 3. MOSFET** MOSFET types, Working principle, Characteristics, Application of MOSFET as a Switch	5	4
4	January	**Unit 4. POWER SUPPLY** Block Diagram of Regulated Power Supply, Rectifiers (half wave, full wave, Bridge), rectifier with capacitor-filter, Use of Zener Diode as a Voltage Regulator, IC 78XX and 79XX as regulator, Block Diagram and explanation of SMPS, Block diagram and explanation of UPS	6	5
5	February	**Unit 5. OSCILLATORS** Barkhauson Criteria, Low frequency Wein-bridge oscillator, High frequency crystal oscillator, IC 555 as astablemultivibrator used as square wave generator / clock Unit	6	5
6	February	**6. DATA CONVERTERS** Need of Digital to Analog converters, parameters, weighted resistive network, R-2R ladder network, need of Analog to Digital converters, parameters, Flash ADC, successive approximation ADC	6	5

Prof.Dighe A.R.

K.T.S.P.MANDAL'S

HUTATMA RAJGURU MAHAVIDYALAYA, RAJGURUNAGAR
DEPARTMENT OF COMPUTER SCIENCE

SYLLABUS COMPLETION REPORT
ACADEMIC YEAR-2021-2022 SEM-I

Class: F.Y.B.Sc.(Computer Science) **Div:A**

Subject Name- Paper II (ELC 122): Principles of Digital Electronics

Subject Teacher- Prof.A.P.Kulkarni **Syllabus Completed: 100%**

Sr. No	Month	Name Of Topic	Allocated Lectures	Conducted Lectures
1	November	**Unit 1: Number Systems and Digital codes** Introduction to Decimal, Binary and Hexadecimal number systems and their inter-conversions, binary addition and binary subtraction using 2's complement, Binary Coded Decimal number, Gray Codes, Gray to Binary and Binary to Gray conversion, Alphanumeric representation in ASCII codes.	8	10
2	December	**Unit 2: Logic gates and Boolean Algebra** Logic gates (NOT, AND, OR, NAND, NOR, XOR gate) with their symbol, Boolean equation and truth table, Universal gates Rules and laws of Boolean algebra, De Morgan's theorem, simplification of Logic equations using Boolean algebra rules, Min terms, Max terms, Boolean	12	17

		expression in SOP and POS form, conversion of SOP/POS expression to its standard SOP/POS form Introduction to Karnaugh Map, problems based on SOP (upto 4 variables), digital designing using K Map for: Gray to Binary and Binary to Gray conversion, Introduction of CMOS and TTL logic families, Parameters like voltage levels, propagation delay, noise margin, fan in, fan out, power dissipation (TTL NAND, inverter, CMOS gates etc. not expected)		
3	**January**	**Unit 3: Combinational Circuits** Half adder and full adder, 4-Bit Universal adder/ Subtractor, applications of Ex-OR gates as parity checker and generator, study of Multiplexer (4:1) and Demultiplexer (1:4)	**07**	**10**
4	**February**	Encoders - Decimal/BCD to binary, 3X4 matrix keyboard encoder, priority encoder, Decoder- BCD to seven segment decoder, IC 74138 and IC 7447, Digital comparator	**03**	**05**

Prof.A.P.Kulkarni

K.T.S.P.MANDAL'S
HUTATMA RAJGURU MAHAVIDYALAYA, RAJGURUNAGAR
DEPARTMENT OF COMPUTER SCIENCE

SYLLABUS COMPLETION REPORT
ACADEMIC YEAR-2021-2022 SEM-I

Class: F.Y.B.Sc. (Computer Science) **Div:A**

Subject Name- Paper I (MTC-111): Matrix Algebra

Subject Teacher- Prof. Karle S.N **Syllabus Completed: 100%**

Sr. No	Month	Name Of Topic	Allocated Lectures	Conducted Lectures
1	November	**Unit 1 : Introduction** 1.1 Introduction 1.2 Matrix Operations 1.3 The Inverse of a Matrix 1.4 Characterization of invertible matrices 1.5 Matrix Operations 1.6 Vectors in R^3 1.7 Column Defination Of Matrix 1.8 Row Defination Of Matrix !.9 Addition,Substraction,Multipli-Cation of Matrix	04	09
2	December	**Unit 2 : Linear Equations in Linear Algebra-I** 2.1 System of Linear equations 2.2 Row reduction and echelon forms 2.3 Vector equations 2.4 The matrix equation Ax=b 2.5 Solution sets of linear systems	12	14
3	January	**Unit 3 : Linear Equations in Linear Algebra -II**	12	12

		3.1 Partitioned Matrices 3.2 Matrix factorization [Lu decomposition] 3.3 Linear Independence 3.4 Introduction to linear transformation 3.5 The matrix of linear transformation 3.6 Subspaces of Rn 3.7 Dimension and Rank		
4	**February**	**Unit 4 : Determinants** 4.1 Introduction to determinants 4.2 Properties of determinants 4.3 Cramer's rule, Volume and linear transformations, multiplication, symmetric, upper/ lower triangular matrix)	**08**	**08**

Prof. Karle S.N

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DEPARTMENT OF COMPUTER SCIENCE

SYLLABUS COMPLETION REPORT
ACADEMIC YEAR-2021-2022 SEM-I

Class: F.Y.B.Sc. (Computer Science) Div:A

Subject Name- Paper II (MTC-112): Discrete Mathematics

Subject Teacher- Prof. A.R.RakshеSyllabus Completed: 100%

Sr. No	Month	Name Of Topic	Allocated Lectures	Conducted Lectures
1	November	**Unit 1 : Logic** 1.1 Revision: Propositional Logic, Propositional Equivalences. 1.2 Rules of Inference: Argument in propositional Logic, Validity Argument(Direct and Indirect methods) Rules of Inference for Propositional Logic, Building Arguments. 1.3 Predicates and Quantifiers: Predicate, n-Place Predicate or, n-array Predicate, Quantification and Quantifiers, Universal Quantifier, Existential Quantifier, Quantifiers with restricted domains, Logical Equivalences involving Quantifiers.	07	07
2	December	**Unit 2 : Lattices and Boolean Algebra** 2.1 Relations, types of relations, equivalence relations, Partial ordering relations 2.2 Digraphs of relations, matrix representation and composition of relations. 2.3 Transitive closure and Warshall's Algorithm	13	16

		2.3 Poset, Hasse diagram. 2.4 Lattices, Complemented lattice, Bounded lattice and Distributive lattice. 2.5 Boolean Functions : Introduction, Boolean variable, Boolean Function of degree n, Boolean identities, Definition of Boolean Algebra. 2.6 Representation of Boolean Functions : Minterm, Maxterm Disjunctive normal form,		
3	January	**Unit 3 : Counting Principles** 3.1 Cardinality of Set : Cardinality of a finite set. 3.2 Basics of Counting : The Product Rule, The Sum Rule, The Inclusion-Exclusion Principle. 3.3 The Pigeonhole Principle: Statement, the Generalized Pigeonhole Principle, Its Applications. 3.4 Generalized Permutations and Combinations : Permutation and 3.5 Combination with Repetitions, Permutations with Indistinguishable Objects	07	12
4	February	**Unit 4: Recurrence Relations** 4.1 Recurrence Relations: Introduction, Formation. 4.2 Linear Recurrence Relations with constant coefficients. 4.3 Homogeneous Solutions. 4.4 Particular Solutions. 4.5 Total Solutions	06	08

for

Prof. .A.R.Rakshe

Head.
Department of Computer Science.
Hutatma Rajguru Mahavidyalaya
Rajgurunagar. (Pune) - 410 505

K.T.S.P.MANDAL'S

HUTATMA RAJGURU MAHAVIDYALAYA, RAJGURUNAGAR

DEPARTMENT OF COMPUTER SCIENCE

SYLLABUS COMPLETION REPORT
ACADEMIC YEAR-2021-2022 SEM-I

Class-S.Y.B.SC (Comp.Sci) **DIV-A**

Subject – Data Structure and Algorithm-I

Subject Teacher: Prof.D.R.Kad **Syllabus Completed=100%**

Sr.No.	Month	Name Of Topics	Allocated Lectures	Conducted lectures
1	November	**UNIT-1: Introduction to Data Structures and Algorithm Analysis:-** Introduction ,Need of Data Structure , Definitions - Data and information, Data type, Data object, ADT, Data Structure ,Types of Data Structures , Algorithm analysis ,Space and time complexity, Graphical understanding of the relation between different functions of n, examples of linear loop, logarithmic,quadratic loop etc. , Best, Worst, Average case analysis, Asymptotic notations (Big O, Omega Ω,), Problems on time complexity calculation	4	6
2	December	**UNIT 2-Array as a Data Structure:-** ADT of array, Operations, Array applications – Searching, Sequential search, variations - Sentinel search, Probability search, ordered list	10	12

		search, Binary Search, Comparison of searching methods, Sorting Terminology- Internal, External, Stable, In-place Sorting, Comparison Based Sorting - Lower bound on comparison based sorting, Methods- Bubble Sort, Insertion Sort, Selection Sort, Algorithm design strategies - Divide and Conquer strategy, Merge Sort, Quick Sort, complexity analysis of sorting methods.Non Comparison Based Sorting: Counting Sort, Radix Sort, complexity analysis. Comparison of sorting methods		
3	**January**	**UNIT 3-Linked List:-** List as a Data Structure, differences with array. Dynamic implementation of Linked List, internal and external pointers ,Types of Linked List – Singly, Doubly, Circular , Operations on Linked List - create, traverse, insert, delete, search, sort, reverse, concatenate, merge, time complexity of operations. ,Applications of Linked List – polynomial representation, Addition of two polynomials ,Generalized linked list – concept, representation, multiple-variable polynomial representation using generalized list.,	**10**	**14**
4	**February**	**UNIT 4-Stack:-** Introduction Operations – init(), push(), pop(), isEmpty(), isFull(), peek(), time complexity of operations. Implementation- Static and Dynamic with comparison , Applications of stack . Function call and recursion, String reversal,	**6**	**5**

		palindrome checking ,Expression types - infix, prefix and postfix, expression conversion and evaluation (implementation of infix to postfix, evaluation of postfix) ,Backtracking strategy - 4 queens problem (implementation using stack)		
5	February	**UNIT 5-Queue** Introduction Operations - init(), enqueue(), dequeue(), isEmpty(), isFull(), peek(),time complexity of operations, differences with stack. Implementation - Static and Dynamic with comparison Types of Queue - Linear Queue, Circular Queue, Priority Queue, Double Ended Queue (with implementation) Applications – CPU Scheduling in multiprogramming environment, Round robin algorithm .	6	6

Prof. Kad .D.R.

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HUTATMA RAJGURU MAHAVIDYALAYA, RAJGURUNAGAR
DEPARTMENT OF COMPUTER SCIENCE

SYLLABUS COMPLETION REPORT
ACADEMIC YEAR-2021-2022 SEM-I

Class-S.Y.B.SC (Comp.Sci) **DIV-A**

Subject – Software Engineering

Subject Teacher: Prof.Virkar P.P. **Syllabus Completed=100%**

Sr.No.	Month	Name OF Topics	Allocated Lectures	Conducted lectures
1	November	**Unit 1:Introduction To Software Engineering and Process Models** Definition of Software, Nature of Software Engineering , Changing nature of software , Software Process, The Process Framework , Umbrella Activities, Process Adaptation, Generic Process Model , Prescriptive Process Models, The Waterfall Model, Incremental Process Models, Evolutionary Process Models, Concurrent Models,The Unified Process	8	7
3	December	**Unit 3: Requirements Analysis** Requirement Elicitation, Software requirement specification (SRS), Developing Use Cases (UML), Building the Analysis Model, Elements of the Analysis Model, Analysis Patterns, Agile Requirements Engineering, Negotiating Requirements, Validating Requirements.	7	6

4	**January**	**Unit 4 : Requirements Modeling** Introduction to UML, Structural Modeling, Use case model, Class model, Behavioral Modeling, Sequence model, Activity model Communication or Collaboration model, Architectural Modeling, Component model, Artifact model Deployment model	**10**	**9**
5	**February**	**Unit 5 :Design Concepts** 5.1 Design Process 5.1.1 Software Quality Guidelines and Attributes Evolution of Software Design Design Concepts, Abstraction Architecture, Patterns, Separation of Concerns, Modularity Information Hiding, Functional Independence , Refinement , Aspects , Refactoring , Object Oriented Design Concepts , Design Classes , Dependency Inversion , Design for Test , The Design Model , Data Design Elements , Architectural Design Elements , Interface Design Elements , Component-Level Diagram , Deployment-Level Diagram	**6**	**5**

For HPlace

Prof. Virkar.P.P.

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HUTATMA RAJGURU MAHAVIDYALAYA, RAJGURUNAGAR

DEPARTMENT OF COMPUTER SCIENCE

SYLLABUS COMPLETION REPORT

ACADEMIC YEAR-2021-2022 SEM-I

Class: S.Y.B.Sc. (Computer Science) **Div:A**

Subject Name- Paper I(ELC 231):Microcontroller Architecture Programming

Subject Teacher- Prof.A.P.Kulkarni **Syllabus Completed: 100%**

Sr. No	Month	Name Of Topic	Allocated Lectures	Conducted Lectures
1	October/ November	**UNIT-1:Basics of Microcontroller& Intel 8051 architecture:** Introduction to microcontrollers, Difference in controller and processor, Architecture of 8051, Internal block diagram, Internal RAM organization, SFRS, pin diagram of 8051, I/O port structure & operation, External Memory Interface.	08	13
2	December	**UNIT-2: Programming model of8051** Instruction classification, Instruction set, Addressing Modes: Immediate, register, direct, indirect and relative, assembler directives (ORG, END), features with example, I/O Bit & Byte programming using assembly language for LED and seven segment display (SSD) interfacing. Introduction to8051 programming in C.	12	15

3	**January**	**UNIT 3: Timer / counter, Interrupts :** Timer / counter: TMOD, TCON, SCON, SBUF, PCON Registers, Timer modes, programming for time delay using mode 1 and mode2. Interrupts: Introduction to interrupt ,Interrupt types and their vector addresses, Interrupt enable register and interrupt priority register(IE,IP),	**10**	**10**
4	**February**	**UNIT 4: Interfacing, Serial Communication :** Programming of serial port without Interrupt, Interrupt, Serial Communication: Synchronous and asynchronous serial communication, Use of timer to select baud rate for serial communication. Interfacing: ADC, DAC, LCD, Stepper motor.	**08**	**06**

Prof.A.P.Kulkarni

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DEPARTMENT OF COMPUTER SCIENCE

SYLLABUS COMPLETION REPORT
ACADEMIC YEAR-2021-2022 SEM-I

Class: S.Y.B.Sc.(Computer Science) **Div:A**

Subject Name- Paper II(ELC 232): Digital Communication & Networking

Subject Teacher- Prof.Dighe A.R. **Syllabus Completed: 100%**

Sr. No	Month	Name Of Topic	Allocated Lectures	Conducted Lectures
1	December	**UNIT 1: Introduction to Electronic Communication** Introduction to Communication: Elements of Communication system, types of noise sources, Electromagnetic spectrum, signal and channel bandwidth, Types of communication: simplex, half duplex, full duplex, baseband and broadband, Serial communication: asynchronous and synchronous, Information Theory: Information entropy, rate of information (data rate, baud rate), channel capacity, Nyquist theorem, Signal to noise ratio, Noise Figure, Shannon theorem, Error handling codes: Necessity, Hamming code, CRC	09	12
2	January	**UNIT 2: Modulation and Demodulation:** Introduction to modulation and demodulation: Concept and need of modulation and demodulation, Digital Modulation techniques: Pulse Code Modulation (PCM), FSK, QPSK, QAM.	05	05

3	January	**UNIT 3: Multiplexing, Spectrum Spreading and Media Access Control** Multiplexing techniques: Frequency division multiplexing, wavelength division multiplexing, Time division multiplexing Spread Spectrum techniques: Frequency hopping Spread Spectrum, Direct Sequence Spread Spectrum Media Access Control (MAC): Random Access Protocol: ALOHA, CSMA, CSMA/CD, CSMA/CA, Controlled Access Protocols: Reservation, Polling, Token passing, Channelization Protocols: FDMA, TDMA, CDMA.	12	12
4	February	**UNIT 4: Computer Networking** Introduction to computer networks Types of networks : LAN, MAN, WAN, Wireless networks, Switching, Internet, Network topology : point to point, Star, Ring, Bus, Mesh, Tree, Daisy Chain, Hybrid Network devices : Repeater, Switch, Networking cables, Router, Bridge, Hub, Brouter, Gateway. Wired LANs:- Ethernet: Ethernet protocol, standard Ethernet, 100 MBPS Ethernet, Gigabit Ethernet, 10 Gigabit Ethernet, Computer network model: OSI and TCP/IP.	10	12

Prof.Dighe A.R.

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DEPARTMENT OF COMPUTER SCIENCE

SYLLABUS COMPLETION REPORT
ACADEMIC YEAR-2021-2022 SEM-I

Class: S.Y.B.Sc. (Computer Science) Div:A

Subject Name- Paper I (MTC-231): Group and Coding Theory

Subject Teacher- Prof. Karle S.N **SyllabusCompleted:100%**

Sr. No	Month	Name Of Topic	Allocated Lectures	Conducted Lectures
1	November	**Unit 1. Integers** 1.1 Division Algorithm (without Proof) 1.2 G.C.D. using division algorithm and expressing it as linear combination 1.3 Euclid's lemma 1.4 Equivalence relation (revision), Congruence relation on set of integers, Equivalence class partition	05	10
2	November	**Unit 2. Groups** 2.1 Binary Operation 2.2 Group: Definition and Examples 2.3 Elementary Properties of Groups	03	09
3	December	**Unit 3. Finite Groups and Subgroups** 3.1 Order of a group, order of an element 3.2 Examples (Zn, +) and (U(n), *) 3.3 Subgroup definition, Finite subgroup test, subgroups of Zn 3.4 Generator, cyclic group, finding generators of Zn(Corollary 3,4 without proof) 3.5 Permutation group, definition, composition of two permutations, representation as product of disjoint cycles, inverse	10	12

		and order of a permutation, even/ odd permutation 3.6 Cosets: Definition, Examples and Properties, Lagrange Theorem(without Proof) Error detection		
4	**January/ February**	**Unit 4. Groups and Coding Theory** 4.1 Coding of Binary Information and 4.2 Decoding and Error Correction 4.3 Public Key Cryptography	**18**	**20**

Prof. Karle S.N

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DEPARTMENT OF COMPUTER SCIENCE

SYLLABUS COMPLETION REPORT
ACADEMIC YEAR-2021-2022 SEM-I

Class: S.Y.B.Sc. (Computer Science) **Div:A**

Subject Name- Paper II (MTC-232): Numerical Techniques

Subject Teacher- Prof. Udhane R.B. **SyllabusCompleted:100%**

Sr. No	Month	Name Of Topic	Allocated Lectures	Conducted Lectures
1	December	**Unit 1: Algebraic and Transcendental Equation** 1.1 Introduction to Errors 1.2 False Position Method 1.3 Newton-Raphson Method	04	04
2	December	**Unit 2: Calculus of Finite Differences and Interpolation** 2.1 Differences 2.2. Forward Differences 2.3 Backward Differences 2.4 Central Differences 2.5 Other Differences (δ, μ operators) 2.6 Properties of Operators	08	10
3	January	2.7 Relation between Operators 2.8 Newton's Gregory Formula for Forward Interpolation 2.9 Newton's Gregory Formula for Backward Interpolation 2.10 Lagrange's Interpolation Formula 2.11 Divided Difference 2.12 Newton's Divided Difference Formula	08	10

4	January	**Unit 3: Numerical Integration** 3.1 General Quadrature Formula 3.2 Trapezoidal Rule 3.3 Simpson's one-Third Rule 3.4 Simpson's Three-Eight Rule	08	08
5	February	**Unit 4: Numerical Solution of Ordinary Differential Equation** 4.1 Euler's Method 4.2 Euler's Modified Method 4.3 Runge-Kutta Methods	08	10

Prof. Udhane R.B

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DEPARTMENT OF COMPUTER SCIENCE
SYLLABUS COMPLETION REPORT
ACADEMIC YEAR-2021-2022 SEM-I

Class-T.Y.B.SC (Comp.Sci) **DIV-A**

Subject – Operating System-I

Subject Teacher: Prof.Kad. D.R. **Syllabus Completed=100%**

Sr.No.	Month	Name OF Topics	Allocated Lectures	Conducted lectures
1	November	**UNIT-1:Indroduction to Operating Systems:** Introduction of operating system,genarations& evolution of os, types of os,memorymanagement,protection and security,osstructure,microkernel,os module –open source system,process managements system calls,types of system call &working privileged instruction	6	6
2	December	**UNIT-2:Processes and Threads:**processconcepts, process states ,PCB,Process Scheduling-Scheduling queue,Scheduler,ContextSwitch,types of scheduler,operation on process – creation and termination,creation using fork () system call,Threads-Types of threads,benefits of threads,libraries.	6	7

3	December	**UNIT -3:Process Scheduling:-** Basic Concepts CPU/IO burst cycle,CPUScheduler, schedulingcriteria, dispatcher ,merits &demeritsTypes of Scheduler - preemptive,non-preemtive,Scheduling algorithm-FIFO,SJF,PRIORITY Scheduling,RoundrobinAlgorithm,multiplequeue scheduling,	7	6
4	January	**UNIT 5: Memory Managements:-** Basic hardware address binding ,logical address,physicaladdress,dynamic address vs static linking,dynamicloading,and sheared libraries,swapping,memorymapping, protection,mft,fragmentation.,contiguous memory alloction,paging,segmentation,segmentaion with paging,VM-,demondpaging,Performance of demand paging,page removal algorithm-FIFO,Optimal,LRU,MFU.	12	11
5	February	**UNIT:-4 Sychronization:-** Critical Section Problem, semaphore usage,Implementaion, classic Problem of Sychronization-The bounded buffer problem,The Reader writer Problem,The dinning Philosopher Problem.	5	5

Prof. Kad .D.R.

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SYLLABUS COMPLETION REPORT
ACADEMIC YEAR-2021-2022 SEM-I

Class-T.Y.B.SC (Comp.Sci) **DIV-A**

Subject – Course Title :Computer Networks - II
Subject Teacher: Prof. Dighe A.R. **Syllabus completed=100%**

Sr. No.	Month	Name Of Topics	Allocated Lecture	Conducted Lectures
1	December	**Unit 1:-Application Layer** Domain Name System Name space-Flat name space, Hierarchical name space Domain Name Space -Label ,Domain name, FQDN,PQDN Distribution of Domain Name Space-Hierarchy of name servers, zone, Root server, Primary and secondary servers. DNS in the Internet: Generic domains, Country domains,inverse domain Resolution-Resolver,mapping names to address,mapping addresses to names,recursiveresolution,iterative resolution,caching Electronic Mail- Architecture-First scenario, second scenario, Third scenario, Fourth scenario User agent-services of user agent, types of UA Format of e-mail MIME-MIME header	10	9

		Message transfer agent-SMTP Message Access Agent: POP and IMAP File Transfer FTP-Communication over data control connection,Filetype,datastructure, Transmissionmode,anonymous FTP		
2	January	**Unit 2:Multimedia** Digitizing audio and video, Audio and Video compressionStreaming Stored audio/video First approach Second approach Third approach Fourth approach Streaming live audio/video Real time interactive audio/video-Characteristics, Time relationship, timestamp, Playback buffer, ordering multicasting, translation RTP-Packet format RTCP-Message types Voice over IP-SIP,SIP session H.323-Architecture, Protocols	8	7
3	January	**Unit 3:-Cryptography and Network Security** Terminology: Cryptography, plain text and cipher text, cipher key, categories of cryptography-Symmetric key, asymmetric key Encryption model Symmetric key cryptography Traditional ciphers – substitution cipher, shift cipher, Transposition cipher Simple Modern ciphers-XOR, Rotation cipher, s-box,p-box	9	8

		Modern round ciphers-DES Mode of operation- ECB,CBC,CFB,OFB Asymmetric key cryptography- RSA Security Services Message confidentiality-With Symmetric key cryptography, with asymmetric key cryptography Message integrity-Document and fingerprint, message and message digest Message authentication- MAC,HMAC Digital signature Entity Authentication-Passwords, Fixed passwords challenge- response		
4	**February**	**Unit 4:-Security in the Internet** IPSecurity(IPSec) Two modes• Two security protocols• Services provided by IPSec• Security association• Internet key exchange• Virtual private network• SSL/TLS SSL services• Security parameters• Sessions and connections• Four protocols• Transport layer security• PGP Security parameters• Services• PGP algorithms• Key rings• PGP certificates• Firewalls Packet filter firewa•	**9**	**8**

Prof. Dighe.A.R.

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HUTATMA RAJGURU MAHAVIDYALAYA, RAJGURUNAGAR
DEPARTMENT OF COMPUTER SCIENCE

SYLLABUS COMPLETION REPORT
ACADEMIC YEAR-2021-2022 SEM-I

Class-T.Y.B.SC (Comp.Sci) **DIV-A**

Subject – Theoretical Computer Scienc

Subject Teacher- Prof. Pardeshi P.N. **Syllabus completed=100%**

Sr.No.	Month	Topic	Allocated lectures	Conducted lectures
1	December	**1 Finite Automaton** 1.1 Introduction: Symbol, Alphabet, String, Prefix & Suffix of Strings, Formal Language, Operations on Languages. 1.2 Deterministic finite Automaton – Definition, DFA as language recognizer, DFA as pattern recognizer. Nondeterministic finite automaton – 1.3 Definition and Examples. NFA To DFA (Myhill Nerode Method) NFA with ε-transitions 1.4 Definition and Examples. NFA with ε-Transitions to DFA & 1.5 Examples Finite automaton with output – Mealy and Moore machine, Definition and 1.6 Examples. Minimization of DFA, Algorithm & Problem using Table Method.	10	**16**
2	January	2.Regular Expressions and Languages 2.1 Regular Expressions (RE): Definition & Example Regular Expressions Identities. 2.2 Regular language-Definition and 2.3 Examples. Conversion of RE to FA-	6	8

		Examples. Pumping lemma for regular languages and applications. Closure Properties of regular Languages.		
3	January

		recognizers. 5.2 Language accepted by TM. Types of Turing Machines (Multitrack TM, Two-way TM, Multitape TM, Nondeterministic TM) Introduction to LBA (Basic Model) & CSG. (Without Problems).		

For

Prof. P.N.Pardeshi

K.T.S.P.MANDAL'S
HUTATMA RAJGURU MAHAVIDYALAYA, RAJGURUNAGAR
DEPARTMENT OF COMPUTER SCIENCE

SYLLABUS COMPLETION REPORT
ACADEMIC YEAR-2021-2022 SEM-I

Class: T.Y.B.Sc. (Computer Science) **Div:A**

Subject Name- Paper I (CS – 354): Foundation Of Data Science

Subject Teacher- Prof. Pardeshi P.N. **Syllabus Completed: 100%**

Sr. No	Month	Name Of Topic	Allocated Lectures	Conducted Lectures
1	December	**Chapter 1** Introduction to Data Science Introduction to data science, The 3 V's: Volume, Velocity, Variety Why learn Data Science? Applications of Data Science The Data Science Lifecycle Data Scientist's Toolbox Types of Data Structured, semi-structured, Unstructured Data, Problems with unstructured data Data sources Open Data, Social Media Data, Multimodal Data, standard datasets Data Formats Integers, Floats, Text Data, Text Files, Dense Numerical Arrays, Compressed or Archived Data, CSV Files, JSON Files, XML Files, HTML Files , Tar Files, GZip Files, Zip Files, Image Files: Rasterized, Vectorized, and/or Compressed	06	05
2	December	**Chapter 2** Statistical Data Analysis 2.1.Role ofstatistics in data	10	09

		science 2.2.Descriptive statistics Measuring the Frequency Measuring the Central Tendency: Mean, Median, and Mode Measuring the Dispersion: Range, Standard deviation, Variance, Interquartile Range 2.3.Inferentialstatistics Hypothesis testing, Multiple hypothesis testing, Parameter Estimation methods, 2.4.Measuring Data Similarity and Dissimilarity Data Matrix versus Dissimilarity Matrix, Proximity Measures for Nominal Attributes, Proximity Measures for Binary Attributes, Dissimilarity of Numeric Data: Euclidean, Manhattan, and Minkowski distances, Proximity Measures for Ordinal Attributes 2.5.Concept of Outlier, types of outliers, outlier detection methods		
3	**January**	**Chapter 3** Data Preprocessing Data Objects and Attribute Types: What Is an Attribute?, Nominal , Binary, Ordinal Attributes, Numeric Attributes, Discrete versus Continuous Attributes Data Quality: Why Preprocess the Data? 3.3.Data munging/wrangling operations Cleaning Data - Missing Values, Noisy Data (Duplicate Entries, Multiple Entries for a Single Entity, Missing Entries, NULLs, Huge Outliers, Out□of□ Date	**10**	**08**

		Data, Artificial Entries, Irregular Spacings, Formatting Issues - Irregular between Different Tables/Columns, Extra Whitespace, Irregular Capitalization, Inconsistent Delimiters, Irregular NULL Format, Invalid Characters, Incompatible Datetimes) Data Transformation – Rescaling, Normalizing, Binarizing, Standardizing,Label and One Hot Encoding Data reduction Data discretization		
4	**February**	**Chapter 4:**Data Visualization Introduction to Exploratory Data Analysis Data visualization and visual encoding Data visualization libraries Basic data visualization tools Histograms, Bar charts/graphs, Scatter plots, Line charts, Area plots, Pie charts, Donut charts Specialized data visualization tools Boxplots, Bubble plots, Heat map, Dendrogram, Venn diagram, Treemap, 3D scatter plots Advanced data visualization tools- Wordclouds Visualization of geospatial data Data Visualization types	**10**	**08**

For

Prof. Pardeshi P.N.

K.T.S.P.MANDAL'S
HUTATMA RAJGURU MAHAVIDYALAYA, RAJGURUNAGAR
DEPARTMENT OF COMPUTER SCIENCE

SYLLABUS COMPLETION REPORT
ACADEMIC YEAR-2021-2022 SEM-I

Class: T.Y.B.Sc. (Computer Science) **Div:A**

Subject Name- Paper I (CS-355):Object Oriented Programming Using Java -I

Subject Teacher- Prof. Kad.D.R. **SyllabusCompleted:100%**

Sr. No	Month	Name Of Topic	Allocated Lectures	Conducted Lectures
1	November	**Chapter 1** An Introduction to Java Object Oriented Programming Concepts A short history of Java Features OR Buzzwords of Java Java Environment Simple Java Program Java Tools – jdb, javap, javadoc Types of Comments Data Types Final Variable Declaring 1D, 2D Array Accepting Input (Command Line Arguments, BufferedReader, Scanner)	06	05
2	December	**Chapter 2** Objects and Classes Defining your own classes Access Specifiers (public, protected, private, default) Array of Objects Constructors, Overloading Constructors and Use of 'this' keyword static block, static fields And methods Predefined Classes Object Class, Methods (equals(), toString(),hashcode(), getClass()) String Class And StringBufferClass,Formatting	07	07

		String data using format() method Creating , Accessing And Using Packages Wrapper Classes		
3	January	**Chapter 3** Inheritance and Interface Inheritance Basics (extends Keyword) and Types of Inheritance Superclass, Subclass and use of Super Keyword Method Overriding and runtime polymorphism Use of final keyword related to method and class Use of abstract class and abstract methods Defining and Implementing Interfaces Runtime polymorphism using interface Concept of Marker and Functional Interfaces	08	07
4	January	**Chapter 4** Exception and File Handling Dealing with errors , Exception class, Checked And Unchecked Exception Catching Exceptions, Multiple Catch Block, Nested try block Creating User Defined Exception Introduction to Files And Streams Input-OutputStream : FileInput/OutputStream, BufferedInput/OutputStream, DataInput/OutputStreamReader-Writer : FileReader/Writer, BufferedReader/Writer, InputStreamReader, OutputStreamWriter	05	04
5	February	**Chapter 5:**User Interface with AWT and Swing What is AWT? What is Swing? Difference between AWT and Swing The MVC Architecture And Swing Layouts And Layout Managers	10	8

		Containers And Components – JFrame, JButton, JLabel, JText, JTextArea, JCheckBox And JRadioButton, JList, JComboBox, JMenu And related Classes Dialogs (Message, Confirmation, Input), JFileChooser, JColorChooser Event Handling: Event Sources, Listeners Adapters And Anonymous Inner Class		

Prof. Kad.D.R.

K.T.S.P.MANDAL'S

HUTATMA RAJGURU MAHAVIDYALAYA, RAJGURUNAGAR

DEPARTMENT OF COMPUTER SCIENCE

SYLLABUS COMPLETION REPORT
ACADEMIC YEAR-2021-2022 SEM-I

Class-T.Y.B.SC (Comp.Sci) **DIV-A**

Subject – Python Programming

Subject Teacher: Prof.Pardeshi P.N. **Syllabus Completed=100%**

Sr. No.	Month	Name OF Topics	Allocated Lectures	Conducted lectures
1	November	**UNIT-1:Introduction to Python:**-Introduction to Python The Python Programming Language, History, features, Applications, Installing Python, Running Simple Python program Basics of Python Standard data types - basic, none, Boolean (true & False), numbers, Variables, Constants,Python identifiers and reserved words, Lines and indentation, multi-line statements and Comments,Input/output with print and input ,functions Declaration, Operations on Data such as assignment, arithmetic, relational, logical and bitwise operations, dry run, Simple Input and o/p.	3	3

2	December	**UNIT 2:-Control Statements:-**Sequence Control – Precedence of operators, Type conversion Conditional Statements: if, if-else, nested if-else, Looping-for, while, nested loops, loop controlstatements (break, continue, pass) a. Strings: declaration, manipulation, special operations, escape character, string formatting operator, Raw String, Unicode strings, Built-in String methods.	4	3
3	December	**Unit 3:-Lists, functions, tuples and dictionaries, Sets:-**Python Lists: Concept, creating and accessing elements, updating & deleting lists, traversing a List, reverse Built-in List Operators, Concatenation, Repetition, In Operator, Built-in List functions and methods. Functions: Definitions and Uses, Function Calls, Type Conversion Functions, Math Functions, Composition, Adding New Functions, Flow of Execution, Parameters and Arguments, Variables and Parameters, Stack Diagrams, Void Functions, Anonymous functions Importing with from, Return Values, Boolean Functions, More Recursion, Functional programming tools - filter(), map(), and	7	7

		reduce(),recursion, lambda forms. Tuples and Dictionaries: Tuples, Accessing values in Tuples, Tuple Assignment, Tuples as return values, Variable-length argument tuples, and Basic tuples operations, Concatenation, Repetition, in Operator, Iteration, Built-in tuple functions, indexing, slicing and matrices. Creating a Dictionary, Accessing Values in a dictionary, Updating Dictionary, Deleting Elements from Dictionary, Properties of Dictionary keys, Operations in Dictionary, Built-In Dictionary Functions, Built-in Dictionary Methods. Sets-Definition, transaction of set(Adding, Union, intersection), working with sets		
4	**January**	**UNIT:- 4 :-Modules ,Working with file ,Exception Handling:-** **Modules:** Importing module, Creating & exploring modules, Math module, Random module, Time module **Packages:** Importing package, creating package,examples **Working with files:** Creating files and Operations on files	**4**	**4**

		(open, close, read, write), File object attributes, file positions, Listing Files in a Directory, Testing File Types, Removing files and directories, copying and renaming files, splitting pathnames, creating and moving directories **Regular Expression-** Concept of regular expression, various types of regular expressions, using match function. **Exception Handling:** Built-in Exceptions, Handling Exceptions, Exception with Arguments, User-defined Exceptions.		

For

Prof-Pardeshi P.N.

Head,
Department of Computer Science.
Hutatma Rajguru Mahavidyalaya
Rajgurunagar, (Pune) - 410 505.

Prof.A.S.Bhujbal

HOD of BBA(CA) Dept

Date-27/05/2022

To,

Principal,

H.R.M college,

Rajgurunagar.

Subject: Work report of Sem II (A.Y 2021-22)

Respected Sir,

I will give you all the report of following content.

1) Syllabus Completion Report

Sr.no	Class	Subject	Number Of Student	Total Lectures
1	FYBBA(CA)	RDBMS	80	41
2	SYBBA(CA)	JQuery	48	15
3	SYBBA(CA)	Project	48	18
4	TYBBA(CA)	Android	52	20

1)FYBBA(CA)

Subject:-Relational Database Management System

Month	Lectures	Topic	Content of toipc
March	4	**Unit 1:- Introduction To RDBMS**	Introduction to popular RDBMS product and their features Difference Between DBMS and RDBMS Relationship among application programs and RDBMS
March, April	26	**Unit 2:- PLSQL**	Overview of PLSQL Data Types PLSQL Block % type, % rowtype Operators, Functions, comparison, numeric, character, date Control Statement Exception Handling Predefined User defined exceptions Functions , Procedures Cursor Definition Types of cursor- implicit, explicit (attributes) Parameterized cursor Trigger Package
May	11	**Unit 3: Transaction Management**	Transaction Concept Transaction Properties Transaction States Concurrent Execution Serializability

			Conflict Serializability View Serializability Recoverability Recoverable Schedule Cascadless Schedule Other problems such as Perfect number, GCD of 2 numbers etc (Write algorithms and draw flowcharts)
		Unit 4: Concurrency Control	Lock Based Protocol Locks Granting of Locks Two Phase Locking Protocol Timestamp Based Protocol Timestamp Timestamp ordering protocol Thomas's Write Rule Validation Based Protocol Deadlock Handling Deadlock Prevention Deadlock Detection Deadlock Recovery **Recovery System** Failure Classification Transaction Failure System Crash Disk Failure Storage Structures Storage Types Data Access Recovery & Atomicity Log based Recovery Deferred Database Modification Immediate Database

			Modification Checkpoints Recovery with Concurrent Transaction Transaction Rollback Restart Recover Remote System

2)TYBBA(CA)

Subject:- Android Programming

Month	Lectures	Topic	Content of toipc
April	05	**Unit 1:- INTRODUCTION TO Android Programming**	1.1 What is Android? 1.2 History and Versions 1.3 Android Architecture 1.4 Basic Building Blocks 1.5 Android API Levels 1.6 Application Structure 1.7 First Hello World Program
April, May	06	**Unit 2:- ACTIVITY, INTENT AND LAYOUT**	2.1 Introduction to Activity 2.2 Activity life cycle 2.3 Introduction to Intent 2.4 Types of Intent(Implicit and Explicit Intent) 2.5 Layout Manager 2.5.1View and View Group 2.5.2 Linear Layout 2.5.3 Relative Layout 2.5.4 Table Layout 2.5.5 Grid Layout 2.5.6 Constraint Layout 2.5.7 Frame Layout 2.5.8 Scroll Layout

May	09	**Unit 3 :-** **BASIC UI DESIGN**	3.1 Button(Push Button, Check Box, Radio Button, Toggle Button, Image Button) 3.2 Text Fields 3.3 Spinner 3.4 List View 3.5 Toast 3.6 Scroll View 3.6 ProgressBar View 3.7 Auto Complete Text View 3.8 Dialog Box • 3.8.1 Alert Dialog. • 3.8.2 DatePicker Dialog. • 3.8.3 TimePicker Dialog. • 3.8.4 Custom Dialog.
		Unit 4:- **ADAPTER AND MENU**	4.1 Base Adapter 4.2 Array Adapter 4.3 ListView using Adapter 4.4GridView using Adapter 4.5Photo Gallery using Adapter 4.6 Using Menu with Views 4.6.1 Option Menu 4.5.2 Context Menu 4.5.3 Popup Menu
		Unit 5:- **THREADS AND NOTIFICATION**	5.1 Worker thread 5.2 Handlers & Runnable 5.3 AsynTask (in detail) 5.4 Broadcast Receiver 5.5 Services 5.5.1Service life Cycle

			5.5.2 Bounded Service 5.5.2 Unbounded Service 5.6 Notification 5.7 Alarm 5.8 Accessing Phone services(Call,SMS)
		Unit 6: CONTENT PROVIDER	6.1Content Providers 6.2 SQLite Programming 6.3 SQLiteOpenHelper 6.4 SQLiteDatabse 6.5 Cursor 6.6 Searching for content 6.7 Adding, changing, and removing content 6.8 Building and executing queries 6.9 Android JSON
		Unit 7 : LOCATION BASED SERVICES AND GOOGLE MAP	7.1Display Google Maps 7.1.1 Creating the project 7.1.2 Obtaining the Maps API Key 7.1.3 Displaying the Map 7.1.4 Displaying the Zoom Control 7.1.5 Changing Views 7.1.6 Navigating to a specific location 7.1.7 Adding Markers 7.1.8 Getting the location that was touched 7.1.9 Geocoding and Reverse Geocoding 7.2. Getting Location Data 7.3. Monitoring a Location

3)SYBBA(CA)

Subject:-jQuery

Month	Lectures	Topic	Content of toipc

April	05	**Unit 1:- INTRODUCTION**	1.1 jQuery Introduction 1.2 Install and Use jQuery Library 1.3 Un-Obstructive JavaScript 1.3 First jQuery Example 1.4 jQuery Syntax 1.5 How to escape a special characters 1.6 Basic Selectors 1.8 Traversal Functions
May	06	**Unit 2:-** HTML Manipulation	2.1 Getting Setting values from elements 2.2 Handling attributes 2.3 Inserting New elements 2.4 Deleting/Removing elements 2.5 CSS manipulations 2.6 Dimensions 2.7 Positioning
May	04	**Unit 3 :-** Effects and Events Effects:	3.3 Fading elements 3.4 Deleting animation elements 3.5 Custom animation Events: 3.6 Working with events.

4)Workload:

Sr. No.	Subject Name	Theory	Practical	Total

1	RDBMS	04	4+4+4=12	16
2	JQuery	02	2+2=4	06
3	Android	04	04+04=08	12
4	Project	02		08
			Total	42

5)Time Table(Total workload:-22(regular)+20(extra)=42)

BBA(CA)						
	MON	TUE	WED	THU	FRI	SAT
7.30 am to 8.20am			Android Practical (Batch B)			
8.20-9.10	Android	Android				
9.20-10.10	RDBMS	RDBMS				Android
10.10-11.00	JQuery Practical	Android Practical (Batch A)		RDBMS	RDBMS	Android Practical (Batch C)
11.00-11.50			Android			
11.50-12.30	JQuery	Project Batch A				
12.30 pm to 1.20		JQuery	Project Batch B	RDBMS Practical (Batch A)	RDBMS Practical (Batch B)	RDBMS Practical (Batch C)

Prof.A.S.B
hujbal

Prof.A.S.Tanpure

HOD of BBA(CA) Dept

Date-27/05/2022

To,

Principal,

H.R.M college,

Rajgurunagar.

Subject: Work report of Sem II (A.Y 2021-22)

Respected Sir,

I will give you all the report of following content.

1) Syllabus Completion Report

Sr.no	Class	Subject	Number Of Student	Total Lectures
1	FYBBA(CA)	Web Technology	80	41
2	FYBBA(CA)	Advance C	80	18
3	TYBBA(CA)	Advance Java	52	27
4	TYBBA(CA)	Project	52	16

1)FYBBA(CA)

Subject:-Web Technology **Lectures=41**

Month	Lectures	Topic	Content of toipc
March	05	**Unit 1:-Introduction to Web technology**	**1. Introduction** 1.1 Clients- Servers and Communication 1.2 Internet-Basic, Internet Protocols (HTTP, FTP, IP) 1.3 World Wide Web(WWW) 1.4 HTTP request message, HTTP response message
March	09	**Unit 2:- Web Design**	2.1 Concepts of effective web design 2.2 Web design issues including Browser Bandwidth and Cache 2.3 Display resolution 2.4 Look and Feel of the Website 2.5 Page Layout and linking 2.6 User centric design 2.7 Sitemap 2.8 Planning and publishing website 2.9 Designing effective navigation
April	15	**Unit 3:- HTML**	**3. HTML** 3.1 Introduction to HTML 3.2 Basic HTML Structure 3.3 Common HTML Tags 3.4 Physical and Logical HTML 3.5 Types of Images, client side and server-side Image mapping 3.6 List, Table, Frames 3.7 Embedding Audio, Video 3.8 HTML form and form elements 3.9 Introduction to HTML Front Page
April and May	12	**Unit 4:- Style sheets**	**4. Style sheets** 4.1 Need for CSS 4.2 Introduction to CSS 4.3 Basic syntax and structure 4.4 Using CSS- 4.4.1 background images, colors and properties, 4.4.2 manipulating texts, using fonts, borders and boxes, margins, padding lists, positioning using CSS 4.5 Overview and features of CSS2 and

			CSS3
		Unit 5:- JavaScript	**5. JavaScript** 5.1 Introduction to Java Script 5.2 Identifier & operator, control structure, functions 5.3 Document object model(DOM), 5.4 DOM Objects (window, navigator, history, location) 5.5 Predefined functions, math & string functions 5.6 Array in Java scripts 5.7 Event handling in Java script

Total no of unit =5

Completed Unit=4

2) FYBBA(CA)

Subject:-Advance C(Extra Workload) 18Lecture

Month	Lectures	Topic	Content of toipc
April	04	Unit 1:- Union and Enumeration	Union and Enumeration 1.1 Union 1.1.2. Def, Syntax. 1.2 Working with union 1.3 Initializing union 1.4 Advantages of union 1.3 Structures versus union 1.5 Advantages of union Enumeration 1.6 Enum keyword 1.7 typedef keyword 1.8 Working with Enum
April	05	Unit 2:- File handling	

			File handling: 2.1 File 2.1.1 Def 2.1.2 File Opening Modes 2.1.3 Types of files - text and binary, 2.2 Functions: fopen(), fclose(), fgetc(), fputc(), fgets(), fputs(), fscanf(), fprintf(), getw(), putw(), fread(), fwrite(), fseek(),ftell() etc 2.3 File Management 2.3.1 Opening/Closing a File 2.3.2. Input/Output operations on Files 2.3.3. Error Handling During I/O Operations 2.3.4. Command Line Arguments 2.4. Random Access File
May	02	Unit 3:- Graphics programming	Graphics programming 3.1 Introduction of graphics 3.2 Graphical functions 3.3 Simple Programs
May	07	Unit 4:- Hardware Interfacing with C	Hardware Interfacing with C 4.1.Introduction 4.1.1 The C Standard(s) 4.2. Embedded C Fundamentals 4.2.1.Fixed-Width Integers 4.2.2 Binary Data Manipulation 4.2.3.Fixed and Floating Point Math 4.2.4 Performance Improvement 4.2.5 Data Storage and Lifetimes 4.2.6 The World Before main() 4.3. Peripheral Control 4.3.1. Peripheral Registers 4.3.2.Memory-Mapped I/O 4.3.3.Struct Overlays 4.3.4.Volatile Keyword 4.3.5. Bitmasks vs. Bitfields 4.3.6. Device Drivers 4.4. Interrupt Handling 4.4.1. Interrupt Service Routines 4.4.2.Vector Tables 4.4.3.Hardware Hurdles 4.4.4. Disabling Interrupts 4.4.5.Interrupt Latency

Total no of unit =4

Completed Unit=4

3)TYBBA(CA)

Subject:-Advance Java(Extra Workload) 27Lectures

Month	Lectures	Topic	Content of toipc
April	10	**Unit 1:- JDBC**	**JDBC** 1.1 Introduction 1.2 JDBC Architecture. 1.3 JDBC Process 1.4 **Working with ResultSet Interface.**
May	12	**Unit 2:- Multithreading**	**Multithreading:** 2.1 Introduction to Multithreading. 2.2 Thread creation: Thread Class, Runnable Interface. 2.3 Life cycle of Thread. 2.4 Thread Priority. 2.5 Execution of Thread Application. 2.6 Synchronization and Interthread communication.
May	5	**Unit 3:- Networking**	**Networking:** 3.1 Overview of Networking. 3.2 Networking Basics: Port Number, Protocols and classes. 3.3 Sockets, Reading from and Writing to a Socket.
		Unit 4:-Servlet and JSP	**Servlet and JSP** 4.1 Introduction to Servlet 4.2 Types of Servlet: Generic Servlet and Http Servlet 4.3 Life cycle of servlet 4.4 Session Tracking. 4.5 Servlet with database. **JSP** 4.6 Introduction to JSP. 4.7 JSP Life Cycle. 4.8 Components of JSP. 4.9 JSP with Database.
		Unit 5:- Spring & Hibernate	**Spring & Hibernate** **Spring:** 5.1 Introduction 5.2 Applications and Benefits of spring 5.3 Architecture and Environment Setup 5.4 Hello World Example

			5.5 Core Spring- IoC Containers, Spring Bean Definition, Scope, Lifecycle **Hibernate** 5.6 Architecture and Environment 5.7 Configuration, Sessions, Persistent Class 5.8 Mapping Files, Mapping Types 5.9 Examples

Total no of unit =5

Completed Unit=3

4)TYBBA(CA)

Subject:-Project **16 Lectures**

Project is completed.

2)E-Content:

- All the subject of E-content is uploaded on the college website.

3)Book Published:

- Book Published -Text book of TYBBA(CA) Software Testing is published with Thakur Publication by Prof.A.S.Tanpure.

4)Total workload:-20(regular)+28(extra)=48

Workload For the A.Y.2021-2022 BBA(CA) Semester – II

Paper No.	Name of the subject	Div A		
		Theory	Practicalical per 3 batches	Total
CA-205	Web Technology	**4**	**4+4+4**	**16**
CA-207	Advanced C	**2**	**2+2+2**	**8**
CA-603	Advanced Java	**4**	**4+4**	**12**
CA-605	Project	**-**	**4+4+4**	**12**
	Total	**18**	**30**	**48**

Regular workload 20 +Extra workload 28=total 48

6)Time table:-

BBA(CA)						
	MON	TUE	WED	THU	FRI	SAT
8.20-9.10				Adv Java practical batch I(7.30-10.10)	WT	Adv Java
9.20-10.10					Adv Java	
10.10-11.00	WT	WT	Adv Java	Adv Java	Adv Java practical batch II(10.10-12.00)	
11.00-11.50	Project	Project				WT
11.50-12.30		Project				
12.00-3.00	WT & Advc practical batch I (12.00-3.00)	WT & Advc practical batch II (12.00-3.00)	WT & Advc practical batch III (12.00-3.00)			

Prof.A.S.Tanpure

H.O.D of BBA(CA)

Prof.M.S.Suratwale
Date-27/05/2022

To,
Principal,
H.R.M college,

Rajgurunagar.

Subject: Work report of SemII (A.Y 2021-22)
Respected Sir,
I will give you all the report of following content.

Sr.No.	Class	Subject	Number of Student	Total Lecture
1	SYBBA(CA)	Object Oriented Concepts Through CPP	48	60
2	SYBBA(CA)	Project	48	16
3	TYBBA(CA)	Software Testing	52	17

SYBBA(CA)

Subject:- Object Oriented Concepts Through CPP(CA-402)

Lectures=60

MONTH	No.of Lectures	Topic	Sub Topic
March 2022	02	**Unit 1:-Introduction to C++**	Basic concepts, features, advantages and applications of OOP Introduction, applications and features of C++ Input and Output operator in C++ Simple C++ program
April 2022	10	**Unit 2:-Beginning with C++**	Data type and Keywords Declaration of variables, dynamic initialization of variables, reference variable Operators: Scope resolution operator Memory management operators Manipulators Functions: Function prototyping, call by reference and return by reference Inline functions Default arguments
	10	**Unit 3:-Classes and Objects**	Structure and class, Class, Object Access specifiers, defining data member Defining member functions inside and outside class definition. Simple C++ program using class Memory allocation for objects Static data members and static member functions Array of objects, objects as a function argument

	07 10	**Unit 4:- Constructors and Destructors** **Unit 5:- Inheritance**	Friend function and Friend class Function returning objects Constructors Types of constructor : Default, Parameterized, Copy Multiple constructors in a class Constructors with default argument Dynamic initialization of constructor Dynamic constructor Destructor Introduction Defining Base class and Derived class Types of Inheritance Virtual Base Class Abstract class Constructors in derived class
May 2022	18	**Unit 6:- Polymorphism**	Compile TimePolymorphism Introduction, rules for overloading operators Functionoverloading Operator Overloading unary and binary Operator Overloading using friendfunction Overloading insertion and extractionoperators String manipulation using operatoroverloading RuntimePolymorphism this Pointer, pointers to objects, pointer to derived classes Virtual functions and pure virtualfunctions
	03	**Unit 7:- Managing console I/O operations**	C++ streams and C++ streamclasses Unformatted I/O operations Formatted console I/Operations

No of Chapters:-09

Conducted Chapters:-07

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TYBBA(CA)
Subject:-Software Testing(CA-602)

Lectures=17

MONTH	No.of Lectures	Topic	Sub Topic
April 2022	10	**Unit 1:-Introduction**	ntroduction, Nature of errors, Testing Objectives Testing principles Testing fundamentals, Software reviews, Formal Technical reviews, Inspection and walkthrough Testing Life Cycle
	05	**Unit 2:-Approaches to Testing –Testing Methods**	White Box Testing and types of white box testing Test Case Design Black Box Testing and types of black box testing Gray Box Testing
May 2022	02	**Unit 3:-Software Testing Strategies &Software metrics**	Software Testing Process Unit Testing Integration- Top-down ,Bottom up System Testing Acceptance Testing (alpha, Beta testing)

			Validation and Verification Big Bang Approach Sandwich approach Performance Testing Regression Testing Smoke Testing Load Testing
		Unit 4:-Software Testing Strategies &Software metrics	Introduction Basic Metrics –size-oriented metric, Function –oriented metric Cyclometic Complexity Metrics Examples on Cyclometic Complexity
		Unit 5:-Testing for Specialized Environments	Testing GUI's Testing of Client/Server Architectures Testing Documentation and Help Facilities Testing for Real-Time Systems
		Unit 6:-Testing Tools& Software Quality Assurance (Introduction)	JUnit, Apache JMeter, Win runner Load runner, Rational Robot Quality Concepts, Quality Movement, Background Issues, SQA activities Formal approaches to SQA Statistical Quality Assurance Software Reliability The ISO 9000 Quality Standards SQA Plan Six sigma Informal Reviews

No of Units:-06
Conducted Units:-03

SYBBA(CA)

Subject:-Project

PROJECT IS COMPLETED SUCCESSFULLY

Workload:

Sr. No.	Subject Name	Theory	Practical	Total
1	**Object Oriented Concepts Through CPP**	04	04+04=08	12
2	**Software Testing**	04		04
3	Project	02		08
			Total	24

Workload(4(theory)+4+(2*4)(Practical)+8(Project)

Total Workload=24

Time Table

BBA(CA)						
	MON	TUE	WED	THU	FRI	SAT
8.20-9.10			CPP		ST	
9.20-10.10	CPP	ST				
10.10-11.00	ST			CPP(PRACT B-1)		CPP(PRACT B-2)
11.00-11.50		CPP				
11.50-12.30			ST		CPP	
12.30-1.10				PROJECT	PROJECT	

M.S.Suratwale

Prof. P M Takalkar

Department of BBA(CA)

Date-27/05/2022

To,

Principal,

H.R.M College,

Rajgurunagar.

Subject: Remuneration of extra workload of Sem II (A.Y 2021-22)

Respected Sir,

I will give you all the report of following content.

Sr. no	Class	Subject	Number Of Student	Offline Lecture
1	SYBBA(CA)	Networking	48	13
2	SYBBA(CA)	Node Js	48	25
3	TYBBA(CA)	Recent Trends in IT	52	18
4	TYBBA(CA)	Project	52	04

SYBBA(CA)

Subject:-Networking 13Lectures

Month	Number of Lectures	Topic Name	Subtopic
April	9	**Unit No-1** Introduc-tion to Computer Network	1.1Basics of Computer Network 1.1.1Definition 1.1.2Goals 1.1.3Applications, 1.1.4Network Hardware –Broadcast, Point to Point 1.1.5Components of Data Communication 1.2 Network Topologies 1.2.1Mesh 1.2.2 Star, 1.2.3 Bus, 1.2.4Ring 1.3Types of Networks 1.3.1LAN,MAN,WAN, 1.3.2 Internetwork, 1.3.3 Wireless Network 1.4 Modes of Communication 1.4.1 Simplex, 1.4.2 Half Duplex, 1.4.3 Full Duplex 1.5. Server Based LANs & Peer-to-Peer LANs 1.6. Protocols and Standards 1.7. Network Software 1.7.1 Protocol Hierarchies,Layers, Peers,Interfaces 1.7.2 Design Issues of the Layers 1.7.3 Connection Oriented and Connectionless Service
April& May	4	**Unit No-2** Network Models	2.1 OSI Reference Model : Functions of each Layer 2.2 TCP/IP Reference Model,Comparison of OSI and TCP/IPReference Model 2.3 TCP/IP Protocol Suite 2.4 Addressing 2.4.1Physical Addresses 2.4.2 Logical Addresses 2.4.3Port Addresses, 2.4.4 SpecificAddresses 2.5 IP Addressing 2.5.1 ClassfullAddressing 2.5.2 Classless Addressing
		Unit No-3 Transmiss ion Media	3.1Introduction, Types of Transmission Media 3.2 Guided Media: 3.2.1Twisted Pair Cable- Physical Structure,Categories,Connectors &Applications 3.2.2Coaxial Cable – Physical Structure, Standards, Connectors & Applications 3.2.3Fiber Optic Cable- Physical Structure,Propagation Modes,Connectors & Applications 3.3 Unguided Media: 3.3.1Electromagnetic Spectrum for Wireless Communication 3.3.2Propagation Modes Ground,Sky,Line-of-Sight 3.3.3Wireless Transmission:Radio Waves,Microwaves, Infrared

		Unit No-4 Wired and Wireless LAN	4.1 IEEE Standards 4.2 Standard Ethernet MAC Sublayer,Physical Layer 4.3 Fast Ethernet – Goals, MAC Sublayer,Topology, Implementation 4.4 Gigabit Ethernet – Goals, MAC Sublayer,Topology, Implementation 4.5 Ten-Gigabit Ethernet – Goals, MAC Sublayer, Physical Layer 4.6 Backbone Networks -Bus Backbone, Star Backbone 4.7 Virtual LANs Membership, IEEE standards advantages 4.8 Wireless LAN 4.8.1 IEEE 802.11 Architecture, 4.8.2 Bluetooth Architecture (Piconet, Scatternet)
		Unit No-5 Network Devices	5.1 Network Connectivity Devices 5.1.1 Active and Passive Hubs 5.1.2 Repeaters 5.1.3 Bridges- Types of Bridges 5.1.4 Switches 5.1.5 Router 5.1.6 Gateways
		Unit No-6 Network Security	6.1 Introduction 6.2 Need for Security 6.3 Security Services : 6.3.1 Message- - Confidentiality, Integrity, Authentication, Non repudiation. 6.3.2 Entity (User)- Authentication. 6.4 Types of Attack 6.5 Cryptography, PlainText,Cipher Text, Encryption,Decryption, Symmetric Key and Asymmetric Key Cryptography 6.6 SubstitutionTechniques, Caesar Cipher,and Transposition Cipher (Problems should be covered.) 6.7 Firewalls-Packet Filter firewall, Proxy firewall 6.8 Steganography,Copyright

- Total Chapters-6
- Completed Chapters-2
- Incomplete Chapters-4

SYBBA(CA)

Subject:-Node Js(Extra Workload) 25 Lectures

Month	Number of Lectures	Topic Name	Subtopic
April	3	**Unit No-1** Introduction to Node JS	1.1 Introduction 1.2 What is Node JS? 1.3 Advantages of Node JS 1.4 Traditional Web Server Model 1.5 Node.js Process Model 1.6 Install Node.js on Windows 1.7 Working in REPL
May	6	**Unit No-2** Node JS Modules	2.1Functions 2.2 Buffer 2.3 Module 2.4 Module Types 2.5 Core Modules 2.6 Local Modules 2.7 Module.Exports
May	7	**Unit No-3** Node Package Manager	l3.1 What is NPM ? 3.2 Installing Packages Locally 3.3 Adding dependency in package.json 3.4 Installing packages globally 3.5 Updating packages
May	4	**Unit No-4** Web server	4.1 Creating web server 4.2 Handling http requests 4.3 Sending requests
May		**Unit No-5** File System	5.1 Fs.readFile 5.2 Writing a File 5.3 Writing a file asynchronously 5.4 Opening a file 5.5 Deleting a file 5.6 Other IO Operations
May		**Unit No-6** Events	6.1 EventEmitter class 6.2 Returning event emitter 6.3 Inhering events
May	5	**Unit No-7** Database connectivity	7.1 Connection string 7.2 Configuring 7.3 Working with select command 7.4 Updating records 7.5 Deleting records

- Total Chapters-7
- Completed Chapters- 5 Incomplete Chapters-2

TYBBA(CA)

Subject:-Recent Trends in IT(Extra Workload) 18 Lectures

Month	Number of Lectures	Topic Name	Subtopic
April	4	**Unit No-1** Introduction to recent trends	1.1 Artificial Intelligence 1.2 Data Warehouse 1.3 Data Mining 1.4 Spark
April	7	**Unit No-2** Artificial Intelligence	2.1 Introduction& Concept of AI 2.2 Applications of AI 2.3 Artificial Intelligence, Intelligent Systems, Knowledge –based Systems, AI Techniques 2.4 Early work in AI & related fields. 2.5 Defining AI problems as a State Space Search 2.6 Search and Control Strategies 2.7 Problem Characteristics 2.8 AI Problem: Water Jug Problem, Tower of Hanoi, Missionaries & Cannibal Problem
May	07	**Unit No-3** AI Search Techniques	3.1 Blind Search Techniques: BFS, DFS, DLS, Iterative deepening Search, Bidirectional Search, and Uniform cost Search 3.2 Heuristic search techniques: Generate and test, Hill Climbing, Best First search, Constraint Satisfaction, Mean-End Analysis, A*, AO*
		Unit No-4 Data Warehousing	4.1 Introduction to Data warehouse 4.2 Structure of Data Warehouse 4.3 Advantages & uses of Data Warehouse 4.4 Architecture of Data Warehouse 4.5 Multidimensional data model4.6 OLAP Vs. OLTP 4.7 OLAP Operations 4.8 Types of OLAP Servers: ROLAP versus MOLAP versus OLAP
		Unit No-5 Data Mining	5.1 Introduction to Data Mining 5.2 Data mining Task 5.3 Data mining issues 5.4 Data Mining versus

			Knowledge Discovery in Databases 5.5 Data Mining Verification vs. Discovery 5.6 Data Pre-processing – Need, Data Cleaning, Data Integration & Transformation, Data Reduction 5.7 Accuracy Measures: Precision, recall, F-measure, confusion matrix, cross-validation, bootstrap 5.8 Data Mining Techniques 5.9 Frequent item-sets and Association rule mining: Apriori algorithm, FP tree algorithm 5.10 Graph Mining: Frequent sub-graph mining 5.11 Software for data mining : R, Weka, Sample applications of data mining 5.12 Introduction to Text Mining, Web Mining, Spatial Mining, Temporal Mining
		Unit No-6 Sparks	6.1 Introduction to Apache Spark 6.2 Spark Installation 6.3 Apache Spark Architecture 6.4 Components of Spark 6.5 Spark RDDs 6.6 RDD Operations: Transformation & Actions 6.7 Spark SQL and Data Frames 6.8 Introduction to Kafka for Spark Streaming

- Total Chapters-6
- Completed Chapters-3
- Incomplete Chapters-3

1)Time Table

BBA(CA)						
	MON	TUE	WED	THU	FRI	SAT
7:30 - 8:20	-	-	-	-	Node JS(Practical- 7:30 to 10:10)	-
8.20- 9.10	Node JS	Node JS	-	Networking	-	-
9.20- 10.10	RTIT	-	Node JS	-	-	Networking
10.10- 11.00	-	Networking	Node JS(Practical- 10:10 to 12:00)	Node JS	Node JS	-
11.00- 11.50		-		RTIT	-	Networking
11.50- 12.30	RTIT	-	- Project 12.30 pm to 1.20 pm	RTIT	-	-

2)Workload:

Sr. No.	Subject Name	Theory	Practical	Total
1	Networking	04	-	04
2	Node Js	04	4+4=8	12
3	Recent Trends in IT	04	-	04
4	Project	01		04
			Total	24

Your’s Faithfully,

Prof-P M Takalkar

K.T.S.P MANDALS

HUTATMA RAJGURU MAHAVIDYALAYA RAJGURUNAGAR

DEPARTMENT OF COMMERCE

Syllabus Completion Report

S.Y.B.COM A.Y.2021-2022

Subject - Corporate Accounting (Sem – III) (Div A & C)

Month	Topic Covered	Total number of lecture taken	Lectures Allocation
Oct	Accounting Standards –	01	48
Nov	• Standards 5, 10, 14 Accounting and 21 • Its applicability with Practical Examples	05	
Dec	**Profit Prior to Incorporation –** • Introduction to the process on incorporation of a company. • Difference between incorporation and commencement of a company. • Accounting of incomes and expenses during Pre- and Post-Incorporation period. • Basis of allocation and apportionment of income and expenses for the Pre and Post-Incorporation period.	19	
Jan	**Company Final Accounts –** Preparation of Company Final Accounts- Forms and contents as per Provisions Schedule III of the Companies Act 2013 (with the amendments for the relevant academic year) • Related adjustments and their treatment. Problems on Company final accounts **Valuation of Shares –** • Concept of Valuation, • Need for Valuation,	20	
Feb	• Special Factors affecting Valuation of Shares, Methods of Valuation • Net Assets Method, • Yield Basis Method, • Fair Value Method , problems on Valuation of shares	06	
	Total	**51**	

Prof. G.M. Dhumal

K.T.S.P MANDALS

HUTATMA RAJGURU MAHAVIDYALAYA RAJGURUNAGAR

DEPARTMENT OF COMMERCE

Syllabus Completion Report

S.Y.B.COM A.Y. 2021-2022

Subject - Cost and Works Accounting –I (Sem – III)

Sr. No	Topic	Total number of lecture taken	
Oct	Basics of Cost Accounting –	01	
Nov	**Basics of Cost Accounting –** a) Concept of Cost, Costing, Cost Accounting and Cost Accountancy. b) Limitations of Financial Accounting. c) Origin of Costing. d) Objectives of Cost Accounting. e) Advantages & Limitations of Costing.	05	
Dec	f) Difference between Financial Accounting and Cost Accounting. g) Cost Units and Cost Centers. h) Role of a Cost accountant in an organization **Elements of Cost and Cost Sheet-** a) Material, Labour and other Expenses. b) Classification of Costs. c) Preparation of Cost Sheet, Tender, Quotation and Estimates.	16	48
Jan	**Purchase Procedure-** a) Need and Essentials of Material Control. b) Functions of the Purchase Department. c) Purchase Procedure. d) Purchase Documentation. **Inventory Control –** a) Methods of Inventory control a. Stock Levels.	19	
Feb	B. Economic Order Quantity (EOQ). C. ABC analysis d. Perpetual and Periodic Inventory Control e. Physical verification b) Inventory Turnover Ratio Problems on EOQ, Inventory Turnover Ratio	08	
	Total	**49**	

K.T.S.P MANDALS

HUTATMA RAJGURU MAHAVIDYALAYA RAJGURUNAGAR

DEPARTMENT OF COMMERCE

Syllabus Completion Report

T.Y.B.COM A.Y. 2021-2022

Subject - Cost and Works Accounting – III (V - Sem)

Sr. No	Topic	Total number of lecture taken	
Nov	**Marginal Costing:-** 1.1 Meaning and concepts-	03	
Dec	Fixed cost, Variable costs, Contribution, Profit-volume Ratio, Break-Even Point & Margin of Safety. 1.2 Cost-Profit-Volume Analysis- Assumptions and limitations of cost volume analysis 1.3 Application of Marginal Costing Technique:- Make or buy decision, Acceptance of export order & Limiting factors **Budgetary Control:-** 2.1 Definition and Meaning of Budget & Budgetary control 2.2 Objectives of Budgetary control 2.3 Procedure of Budgetary control 2.4 Essentials of Budgetary control	21	48
Jan	2.5 Advantages and Limitations of Budgetary control 2.6 Types of Budgets. Problems on Cash budget and Flexible budget **Uniform costing and Inter-firm Comparison:-** 3.1 Meaning and, objectives 3.2 Advantages and disadvantages.	15	
Feb	**Introduction to management information system in Costing:-** 4.1 Meaning , objectives and Advantages 4.2 Procedure of MIS	13	
Total		**48**	

Prof. G.M. Dhumal

K.T.S.P MANDALS

HUTATMA RAJGURU MAHAVIDYALAYA RAJGURUNAGAR

DEPARTMENT OF COMMERCE

Syllabus Completion Report

S.Y.B.COM A.Y. 2021-2022

Subject – Business Communication - I (III Sem)

Sr. No	Topic	Total number of lecture taken	
Jan	**Soft skills –** 3.1 Meaning, Need, Importance. 3.2 Elements of soft skills. a) Manners & Etiquettes, Grooming. b) Effective Listening & Speaking c) Interview Skills. d) Presentation e) Group Discussion. f) Problem-solving skills G)Time management abilities	10	22
Feb	**Resume writing & Job Application letters –** 4.1 Introduction, essential elements of Bio data, Resume writing, Curriculum Vitae. 4.2 Meaning & Drafting of Job Application letter.	12	
Total			

Prof. G.M. Dhumal

1	**Accounting Concepts, Conventions and Principles and an overview of Emerging Trends in Accounting** **(A) Accounting Concepts, Conventions and Principles** 1. Money Measurement 2. Business Entity 3. Dual Aspect 4. PeriodicityConcept 5. RealizationConcept 6. Matching Concept 7. Accrual / CashConcept 8. ConsistencyConcept 9. Conservatism Principle 10. MaterialityConcept 11. Going ConcernConcept 12. Historical Cost Concept **(B) Emerging Trends in Accounting**
2	**Piecemeal Distribution of Cash** Meaning and Introduction, Surplus Capital Method and Maximum Loss Method
3	**Accounts from Incomplete Records (Single Entry System)** Meaning of single entry system, Features of Single Entry System, Conversion of Single Entry into Double Entry
4	**Introduction to Goods and Services Tax laws and Accounting** 1. Constitutional Background of GST, Concepts and definition of GST. 2. IGST, CGST and SGST 3. Input and Output Tax credit 4. Procedure for registration under GST

Total No. of Lectures

Syllabus completion Report

Academic Year 2021-22

2nd Semester

Subject Name -: Financial Accounting II

Prof.P.P.Oswal **Class: - F.Y.B.COM**

Sr.No	Topic	No. of Lectures DIV :- A	No. of Lectures DIV :- D
1.	**Software used in Accounting** 1. Types of Accounting Software 2. Use of Accounting Software 3. Installation of Accounting Software 4. Advantages and disadvantages of Accounting Software Voucher entry and Report Generation inc GST transactions	14	16
2.	**Final Accounts of Charitable Trust (Clubs, Hospitals, Libraries etc.)** 1. Meaning and Characteristics 2. Accounting Records 3. Income and Expenditure Account 4. Receipt and Payment Account **Balance Sheet and Adjustments**	12	12
3.	**Valuation of Intangibles** 1. Valuation of Goodwill (Problem) 2. Valuation of Brands **Valuation of Patents, Copyright and Trademark etc**	12	12
4.	**Accounting for Leases** 1. Types of Lease (Finance Lease and Operating Lease) 2. Finance Lease (Hire Purchase and installment) (Theory) 3. Operating Lease 4. Royalty, 5. Minimum Rent, 6. Short Workings, 7. Recoupment Of Short Working, 8. Lapse of Short Working **Journal Entries and Ledger Accounts in the Books of Landlord and Lessee**	10	10
	Total No. of Lectures	48	50

Dr.P.P.Oswal

Syllabus Completion Report

Academic Year 2021-22

Class: -T.Y.B.COM

Sem : 5th

Subject -: Auditing & Taxation – I

Unit No	Topic Taught	No of Lecture		
		Div A	Div B	Div C
1	**Introduction to Principles of Auditing and Audit Process**. Definition, Nature-objects-Advantages of Auditing-Types of errors and frauds Various Classes of Audit. Audit programme, Audit Note Book, Working Papers, Internal Control-Internal Check- Internal Audit	12	12	14
2	**Checking, Vouching and Audit Report** Test checking-Vouching of Cash Book-Verification and Valuation of Assets and Liabilities. Qualified and Clean Audit Report-Audit Certificate-Difference between Audit Report and Audit Certificate. Auditing and Assurance Standards. (AAS-1,2,3,4,5,28,29)	14	13	14
3	**Company Auditor** Qualification, Disqualifications, Appointment, Removal, Rights, Duties and liabilities.	10	12	08
4.	**Tax Audit** Definition of Accountant-Scope of Auditor's Role under Income Tax Act Compulsory Tax Audit- Certification for Claiming exemptions- Selective Tax Audit Tax Consultancy and Representation- Proforma of Computerized Systems.	12	12	12
	Total No. of Lectures	48	49	48

Dr.P.P.Oswal

Syllabus completion Report

Academic Year 2020-21 Term 2nd

Subject Name -: Auditing & Taxation - I

Prof.P.P.Oswal **Class: - T.Y.B.COM**

Sr.No	Topic	No of Lecture			
		Div A	Div B	DivC	Div D
1.	**Important Concepts and Definitions under Income Tax Act-1961.** Income, Person, Assessee, Assessment year, Pervious year, Agricultural Income, Exempted Income, Residential Status of an Assessee, PAN, TAN	10	10	08	10
2.	**Computation of Taxable Income under the different Heads of Income** **a.** Income from Salary **b.** Income from House Property **c.** Profits and Gains of Business and Professions **d.** Capital Gains **e.** Income from other sources	16	16	18	16
3.	**Computation of Total Taxable Income of an Individual** Gross total Income-deductions u/s-80C, 80ccc to 80 U – Income Tax calculation- (Rates applicable for respective Assessment year) Education cess	10	12	10	10
4.	**Miscellaneous** Tax deducted at source-Return of Income-Advance payment of Tax methods of payment of tax-Forms of Return-Refund of Tax. (Theory)	12	12	12	12
	Total	48	50	48	48

Dr. P. P. Oswal

Syllabus Completion Report
Academic Year 2021-22

Class: - F.Y.B.COM Subject Name -: Financial Accounting.
Semester 1st

Division: - B & C
Prof. H.S.Chaudhari

Unit No	Topic Taught	No of Lecture Taken	
		No of Student:- 140 Div:- B	No of Student:- 120 Div:-C
1	**Accounting Concepts, Conventions and Principles and an overview of Emerging Trends in Accounting** **(A) Accounting Concepts, Conventions and Principles** 1. Money Measurement 2. Business Entity 3. Dual Aspect 4. PeriodicityConcept 5. RealizationConcept 6. Matching Concept 7. Accrual / CashConcept 8. ConsistencyConcept 9. Conservatism Principle 10. MaterialityConcept 11. Going ConcernConcept 12. Historical Cost Concept **(B) Emerging Trends in Accounting**	14	12
2	**Piecemeal Distribution of Cash** Meaning and Introduction, Surplus Capital Method and Maximum Loss Method	16	15
3	**Accounts from Incomplete Records (Single Entry System)** Meaning of single entry system, Features of Single Entry System, Conversion of Single Entry into Double Entry	14	15
4	**Introduction to Goods and Services Tax laws and Accounting** 1. Constitutional Background of GST, Concepts and definition of GST. 2. IGST, CGST and SGST 3. Input and Output Tax credit 4. Procedure for registration under GST	11	10
Total No. of Lectures		**54**	**53**

Prof.H.S.Chaudhari

Syllabus completion Report

Academic Year 2021-22

2nd Semester

Subject Name -: Financial Accounting II

Prof.H.S.Chaudhari **Class: - F.Y.B.COM**

Sr.No	Topic	No. of Lectures DIV :-B	No. of Lectures DIV :-C
1.	**Software used in Accounting** 1. Types of Accounting Software 2. Use of Accounting Software 3. Installation of Accounting Software 4. Advantages and disadvantages of Accounting Software Voucher entry and Report Generation inc GST transactions	16	14
2.	**Final Accounts of Charitable Trust (Clubs, Hospitals, Libraries etc.)** 1. Meaning and Characteristics 2. Accounting Records 3. Income and Expenditure Account 4. Receipt and Payment Account **Balance Sheet and Adjustments**	12	12
3.	**Valuation of Intangibles** 1. Valuation of Goodwill (Problem) 2. Valuation of Brands **Valuation of Patents, Copyright and Trademark etc**	12	12
4.	**Accounting for Leases** 1. Types of Lease (Finance Lease and Operating Lease) 2. Finance Lease (Hire Purchase and installment) (Theory) 3. Operating Lease 4. Royalty, 5. Minimum Rent, 6. Short Workings, 7. Recoupment Of Short Working, 8. Lapse of Short Working **Journal Entries and Ledger Accounts in the Books of Landlord and Lessee**	10	10
	Total No. of Lectures	50	48

Prof.H.S.Chaudhari

K.T.S.P.Mandal's
HUTATMA RAJGURU MAHAVIDYALAYA RAJGURUNAGAR
DEPARTMENT OF COMMERCE
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T.Y.B.com A.Y 2021-22
Subject-M.Law (Sem-V) (Div - A+B

onth	Topic Covered	Total number of lecture taken
c	Topic-1 The Indian Contract Act, 1872 The nature of the contract, General Principles& Definitions and elements of Contract- consideration, other essential elements of a valid contract, Legality of object and consideration. , Void Agreements. , Discharge of contract& Performance of the contract and breach of contract and remedies	20
Jan	Topic -3 The Sale of Goods Act, 1930 Formation of the contract of sale , Concept and Essentials. Sale and agreement to sale& Goods – Concept and kinds ,Conditions and Warranties &Transfer of ownership and delivery of goods & Unpaid seller and his rights and Remedial Measures.	09
Feb	Topic -4 Arbitration and Conciliation: Concept of Arbitration &Conciliation, Definition& Essentials of Arbitration Agreement. Power and Duties of Arbitration. Conciliation proceeding.	6
	Topic -2 The Indian Partnership Act, 1932 General Nature of Partnership , Rights, and duties of partners, Types of partner &Registration and dissolution of a firm &Limited Liability Partnership Act 2008: Limited Liability Partnership (LLP); Concept, Nature and Advantages, Difference between LLP and Partnership Firm, Difference between LLP and company & Incorporation of LLP, Partners and their relations, Liability of LLP and Partners (Section 27). Financial Disclosure by LLP, Contributions (Section 32), Assignments and Transfer of Partnership Rights (Section 42) Conversation to LLP (Section 55), Winding-up and dissolution (Section 63 & 64)	16
	Total	**51**

K.T.S.P Mandal's

HUTATMA RAJGURU MAHAVIDYALAYA

Rajgurunagar, Tal-Khed, Dist-Pune

Academic year 2021-2022

Syllabus Completion Report

Class-T.Y.B.Com Div-: A+C Sem VI

Subject Teacher- Prof. H S.Chaudhari

Sub- Business Regulatory Framework

Month	Topic	Total number of lecture taken
March	TOPIC NO -1 **Negotiable Instruments Act,1881** Concept of Negotiable Instruments: Characteristics, Meaning Important relevant definitions under the Act • Definitions, Essentials of promissory note, bill of exchange and cheque. Distinction between these instruments. Crossing of cheques – It's meaning and types. • Holder and holder in due course, Privileges of holder in due course. • Negotiation, endorsement, kinds of endorsement. • Liabilities of parties to negotiable instruments. • Dishonor of N. I., kinds, law relating to notice of dishonor.	14
April	TOPIC NO-2 **E-Contracts (ETransactions/ECommerce.):** • Significance of E-Transactions /E-Commerce. Nature, Formation, Legality. Recognition. (Chapter 4.Sec.11-13 of I T Act,2000 relating to attribution, acknowledgement, dispatch of E-Records) • Digital Signatures –Meaning & functions, Digital Signature, certificates [Sections 35-39] • Legal issues involved in E-Contracts and personal data protection (Sec.43 A)	06
May	TOPIC NO -3 **The Consumer Protection Act,2019** The Consumer Protection Act, 2019 • Salient features of the C.P. Act,2019 • Definitions-Consumer, Complainant, Services, Defect & Deficiency, Complainant, unfair trade practice, restrictive trade practice, unfair contract. • Consumer Protection Councils. • Procedure to file complaint & Procedure to deal with complaint in commissions & Reliefs available to consumer.(Sec.39) • Consumer Disputes Redressal Commissions. (Composition, Jurisdiction, Powers and Functions.)	14
May	TOPIC NO -4 **Intellectual Property Rights** Intellectual Property Rights : (IPRs) • Meaning & importance of IPRs, International efforts in protection of IPR: WIPO (Objectives & activities) & TRIPS Agreement: Objectives • Definition and conceptual understanding of following IPRs under the relevant Indian current statutes. • Patent: Definition & concept, Rights & obligation of Patentee, its term. • Copyright: Characteristics & subject matter of copyright, Author & his Rights, term. • Trademark: Characteristics, functions, illustrations, various marks,	14

	• Design: Importance, characteristics, Rights of design holder.	
Total		**48**

Prof. H.S. Chaudhari

K.T.S.P.Mandal's

HUTATMA RAJGURU MAHAVIDYALAYA RAJGURUNAGAR

DEPARTMENT OF COMMERCE

Syllabus Completion Report

S.Y.B.com A.Y 2021-22

Subject-Business Communication(Sem-III) (Div-A)

Month	Topic Covered	Total number of lecture taken
Dec	**Introduction ofBusinessCommunication** 1.1 Introduction,Meaning,Definition. 1.2 Characteristics,Importance ofcommunication. 1.3 Principles ofcommunication,Process ofcommunication 1.4 Barriers tocommunication &Remedies. Methods andChannels ofCommunication.	14
Jan	**BusinessLetters** 2.1 Meaning andImportance 2.2 Qualities orEssentials, PhysicalAppearance LayoutofBusiness Letters **Softskills** 3.1 Meaning, Need,Importance. 3.2 Elements of softskills. a) Manners&Etiquettes,Grooming. b) EffectiveListening &Speaking	10 07
Feb	**Softskills** a) InterviewSkills. b) Presentation c) Group Discussion. d) Problem-solving Skills G)Time management abilities **Resumewriting&JobApplicationletters** Introduction,essentialelementsofBio data, Resumewriting, CurriculumVitae. Meaning &DraftingofJobApplicationletter.	07 10
	Total	48

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Prof.R.N.Katore

K.T.S.P.Mandal's

HUTATMA RAJGURU MAHAVIDYALAYA RAJGURUNAGAR

DEPARTMENT OF COMMERCE

Syllabus Completion Report

S.Y.B.com A.Y 2021-22

Subject-Corporate Accounting(Sem-III) (Div-B&D)

Month	Topic Covered	Total number of lecture taken	Lectures Allocation
Dec	**Accounting Standards –**	01	
Dec	• Standards 5, 10, 14 Accounting and 21 • Its applicability with Practical Examples	05	
Dec + Jan	**Profit Prior to Incorporation –** • Introduction to the process on incorporation of a company. • Difference between incorporation and commencement of a company. • Accounting of incomes and expenses during Pre- and Post-Incorporation period. • Basis of allocation and apportionment of income and expenses for the Pre and Post-Incorporation period.	19	
Jan	**Company Final Accounts –** Preparation of Company Final Accounts- Forms and contents as per Provisions Schedule III of the Companies Act 2013 (with the amendments for the relevant academic year) • Related adjustments and their treatment. Problems on Company final accounts	19	
Feb	**Valuation of Shares –** • Concept of Valuation, • Need for Valuation,• Special Factors affecting Valuation of Shares, Methods of Valuation • Net Assets Method, • Yield Basis Method, • Fair Value Method , problems on Valuation of shares	06	
	Total	**50**	**48**

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DEPARTMENT OF COMMERCE

Syllabus Completion Report

T.Y.B.com A.Y 2021-22

Subject-Advanced Accounting (Sem-V) (Div-B+D)

Month	Topic Covered	Total number of lecture taken
Dec	**Final Accounts of Banking Companies** Introduction of Banking Company, Legal Provisions regarding Non-Performing Assets (NPA) - Reserve Fund -Acceptance, Endorsements & Other Obligations - Bills for Collection – Rebate on Bills Discounted – Provision for Bad and Doubtful Debts Vertical form of Final Accounts as per Banking RegulationAct1949. Simple Numerical on Preparation of Profit&Loss A/c and BalanceSheet in vertical form.	14
Jan	**Accounting for Capital Restructuring (Internal Reconstruction** Meaning and Concept of Capital Restructuring, Types of Capital Restructuring, Meaning &of Internal Reconstruction Accounting Entries: Alteration of Share Capital, Reduction of Share Capital, Reduction in Liabilities, Cancellation of Expenses, Losses etc. Preparation of BalanceSheet after Internal Reconstruction	14
Feb	**Investment Accounting** Meaning & Introduction, Classification of Investments, Meaning &Calculation of the Concept of Acquisition Cost & Carrying Cost of Investment, Calculation of Profit/loss on disposal of investments. **Accounting Standards** –3, 12, 19 Accounting and • Its applicability with Practical Examples IFRS.	16 10
	Total	54

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K.T.S.P Mandal's

HUTATMA RAJGURU MAHAVIDYALAYA

Rajgurunagar,Tal-Khed,Dist-Pune

Academic year 2021-2022

Syllabus Completion Report

Class-S.Y.B.Com Div-A **Sub-Business Communication II**

Subject Teacher-Prof.R.N.Katore

Month	Topic	Total number of lecture taken
March	Report Writing and Internal Correspondence Meaning and Significance; Structure of Reports; Negative, Persuasive and Special Reporting 1. Informal Report – Proposals; 2. Formal Reports; 3. Project Report 4. Introduction and Essential elements of Report writing.(Reporting for a meeting) 5. Organization of Press Report. 6. Office Memo (Memorandums) 7. Office Orders 8. Office Circulars 9. Form Memos or Letters 10. Press Releases 11. Import Export Trade	12
April	Recent Trends in Business Communication Internet: Email, Websites, Social Media Network (Twitter, Face book, LinkedIn, You tube, Whats App) , Google Doc, Google Form, Google Sheet, Google Slide, Google Class Room, Online Conference, Video conferencing, Meeting through Zoom App, Google meet 14 4 18 15 2 1 Guidelines for completion of Practical's: 1) At least three Practical's should be completed during each semester by students in consultation with subject teacher. 2) Practical should be based on visit as well as library assignments, Project based, Activity based. 3) A subject teacher has special privileges to make the allotment of practical topics. 4) Students should discuss with the subject teacher at the time of selection of practical topics. 5) If a student fails to complete minimum number of practical's, then the student shall not be eligible for appearing at the practical examination. Pattern of Practical Examination S.N Question Nature of Question Convert in to 10 Marks 1. 1 Field visit report And Presentation. 10 marks 2. 2 Group Discussion 10 marks 3 3 Powerpoint presentation 10 marks Total 30 (Convert out of 10) 30 App, Cisco WebEx meetings App.	12
May	Types and Drafting of Business Letters 1) Enquiry Letters 2) Replies to Enquiry Letters 3) Order Letters 4) Credit and Status Enquiries 5) Sales Letters 6) Complaint Letters 7) Collection Letters 8) Circular Letters	14
May	Writing Formal Mails and Blog writing. 4.1: Essential elements of mail, Format of mail. 4.2: Introduction and meaning of Blog, Writing a blog. Practical – Collection of information, Writing mails, Group Presentation, Project Work.	14
Total		**52**

Academic year 2021-2022

Syllabus Completion Report

Class-S.Y.B.Com Div-B+D **Sub-Corporate Accounting II**

Subject Teacher-Prof.R.N.Katore

Month	Topic	Total number of lecture taken
March	Holding Company Accounts 1.1Calculation of Capital Profit, Revenue profit, Cost of Control. 1.2Preparation of consolidated Balance sheet of Holding Company with one subsidiary only. 1.3Adjustment of intercompany transactions, unrealized profit of stock	14
April	Absorption of Companies Introduction , Meaning - Vendor and Purchasing Companies-Purchase Consideration, Accounting entries in the books of vendor Company and Journal entries and Preparation of Balance Sheet after Absorption in the books of Purchasing Company	14
May	Accounting for Liquidation of Companies Meaning of Liquidation- Modes of winding up – (a) Preparation of Liquidator final statement of Account (b) Preparation of Statement of Affairs and Deficiency Account.	14
May	Forensic Accounting 4.1 Introduction , Meaning , Objectives , Types of Forensic Accounting , 4.2 Nature and key principles of forensic accounting 4.3 Ethical principles and responsibilities	14
Total		**56**

...MAHAVIDYALAYA
Rajgurunagar,Tal-Khed,Dist-Pune
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Syllabus Completion Report

Class-T.Y.B.Com Div-B+D

Sub-Advanced Accounting II

Subject Teacher-Prof.R.N.Katore

Month	Topic	Total number of lecture taken
March	**Final Accounts of Co-operative Societies** Meaning and Introduction, - Allocation of Profit as per Maharashtra State Co- operative Societies Act. - Preparation of Final Accounts of Credit Co-op. Societies & Consumer Co-op. Societies	14
April	Branch Accounting Concept of Branches & their Classification from accounting point of view. - Accounting treatment of dependent branches & independent branches. - Methods of charging goods to branches	14
May	Recent Trends in Accounting Forensic Accounting - Accounting for Corporate Social Responsibility - Accounting for Derivative Contracts - Artificial Intelligence in Accounting	12
May	Analysis of Financial Statements Ratio Analysis: Meaning - Objectives - Nature of Ratio analysis, Types of Ratios – Profitability, Liquidity, Leverage etc. - Simple Problems on following Ratios: - Gross Profit, - Net Profit, - Operating, - Stock Turnover, - Debtors Turnover, - Creditors Turnover, - Current Ratio, Liquid Ratio, - DebtEquity Ratio, - Working Capital to Net worth, Assets Turnover Ratio.	14
Total		**54**

K.T.S.P MANDALS

HUTATMA RAJGURU MAHAVIDYALAYA RAJGURUNAGAR

DEPARTMENT OF COMMERCE

Syllabus Completion Report

S.Y.B.COM A.Y. 2021-2022

Subject- Business Administration –I (Div –E) **Lecture - 22**

Month	Lecture	Topic	Sub-Topic
January	13	Topic-2 Types of Business Organization's Topic-3 Business Environment	Entrepreneurship: Meaning, Definition, objectives, Skills & Qualities required of an entrepreneur, case of a successful local entrepreneur. Meaning of Business Environment, Economic, Social, Lega Dl, Cultural, Educational, Political, Technological, Natural & International Environments & Impacts of new Policies on Business Environment
February	09	Topic -4 Business Promotion & Development	Business unit- Promotion, Concept, Stages in business promotion , Business development: Concept, Process & Business Components to be focused for development

Prof.K.D.Shinde

K.T.S.P.Mandal's
HUTATMA RAJGURU MAHAVIDYALAYA RAJGURUNAGAR
DEPARTMENT OF COMMERCE
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T.Y.B.com A.Y 2021-22
Subject-M.Law (Sem-V) (Div-B)

Month	Topic Covered	Total number of lecture taken
Dec	Topic-1 The Indian Contract Act, 1872 The nature of the contract, General Principles& Definitions and elements of Contract- consideration, other essential elements of a valid contract, Legality of object and consideration. , Void Agreements. , Discharge of contract& Performance of the contract and breach of contract and remedies	20
Jan	Topic -3 The Sale of Goods Act, 1930 Formation of the contract of sale , Concept and Essentials. Sale and agreement to sale& Goods – Concept and kinds ,Conditions and Warranties &Transfer of ownership and delivery of goods & Unpaid seller and his rights and Remedial Measures.	09
Feb	Topic -4 Arbitration and Conciliation: Concept of Arbitration &Conciliation, Definition& Essentials of Arbitration Agreement. Power and Duties of Arbitration. Conciliation proceeding.	6
	Topic -2 The Indian Partnership Act, 1932 General Nature of Partnership , Rights, and duties of partners, Types of partner &Registration and dissolution of a firm &Limited Liability Partnership Act 2008: Limited Liability Partnership (LLP); Concept, Nature and Advantages, Difference between LLP and Partnership Firm, Difference between LLP and company & Incorporation of LLP, Partners and their relations, Liability of LLP and Partners (Section 27). Financial Disclosure by LLP, Contributions (Section 32), Assignments and Transfer of Partnership Rights (Section 42) Conversation to LLP (Section 55), Winding-up and dissolution (Section 63 & 64)	16
	Total	**51**

K.T.S.P.Mandal's
HUTATMA RAJGURU MAHAVIDYALAYA RAJGURUNAGAR
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Syllabus Completion Report
T.Y.B.com A.Y 2021-22
Subject-Advanced Accounting (Sem-V) (Div-A+C)

Month	Topic Covered	Total number of lecture taken
Dec	**Final Accounts of Banking Companies** Introduction of Banking Company, Legal Provisions regarding Non-Performing Assets (NPA) - Reserve Fund -Acceptance, Endorsements & Other Obligations - Bills for Collection – Rebate on Bills Discounted – Provision for Bad and Doubtful Debts Vertical form of Final Accounts as per Banking RegulationAct1949. Simple Numerical on Preparation of Profit&Loss A/c and BalanceSheet in vertical form.	14
Jan	**Accounting for Capital Restructuring (Internal Reconstruction** **Meaning and Concept of Capital Restructuring, Types** of Capital Restructuring, Meaning &of Internal Reconstruction Accounting Entries: Alteration of Share Capital, Reduction of Share Capital, Reduction in Liabilities, Cancellation of Expenses, Losses etc. Preparation of BalanceSheet after Internal Reconstruction	14
Feb	**Investment Accounting** Meaning & Introduction, Classification of Investments, Meaning &Calculation of the Concept of Acquisition Cost & Carrying Cost of Investment, Calculation of Profit/loss on disposal of investments. **Accounting Standards** –3, 12, 19 Accounting and • Its applicability with Practical Examples IFRS.	16 10
	Total	54

Prof K.D.Shinde

K.T.S.P Mandal's

HUTATMA RAJGURU MAHAVIDYALAYA

Rajgurunagar,Tal-Khed,Dist-Pune

Academic year 2021-2022

Syllabus Completion Report

Class - F.Y.B.Com Div-E

Subject Teacher - Prof.K.D.SHINDE

Sub – Financial Accounting – II

Month	Topic	Total number of lecture taken
March	TOPIC NO -1 **Software used in Accounting** 1. Types of Accounting Software 2. Use of Accounting Software 3. Installation of Accounting Software 4. Advantages and disadvantages of Accounting Software Voucher entry and Report Generation including GST transactions	12
April	TOPIC NO- 2 **Final Accounts of Charitable Trust (Clubs, Hospitals, Libraries etc.)** 1. Meaning and Characteristics 2. Accounting Records 3. Income and Expenditure Account 4. Receipt and Payment Account 5. Balance Sheet and Adjustments	12
May	TOPIC NO -3 **Valuation of Intangibles** 1. Valuation of Goodwill (Problem) 2. Valuation of Brands 3. Valuation of Patents, Copyright and Trademark etc.	12
May	TOPIC NO -4 **Accounting for Leases** 1. Types of Lease (Finance Lease and Operating Lease) 2. Finance Lease (Hire Purchase and installment) (Theory) 3. Operating Lease 4. Royalty, 5. Minimum Rent, 6. Short Workings, 7. Recoupment Of Short Working. 8. Lapse of Short Working Journal Entries and Ledger Accounts in the Books of Landlord and Lessee	12
Total		**48**

Prof. Shinde K.D.

HUTATMA RAJGURU MAHAVIDYALAYA

Rajgurunagar,Tal-Khed,Dist-Pune

Academic year 2021-2022

Syllabus Completion Report

Class-S.Y.B.Com Div-D

Subject Teacher- Prof.K.D.SHINDE

Sub- Business Administration - I

Month	Topic	Total number of lecture taken
March	TOPIC NO -1 **Legal Aspects (Recent Trends)** Compliance of legal requirements in promoting business unit, Licensing, Registration, Filing returns and other documents	12
April	TOPIC NO- **2 Productivity** Meaning, Importance & measurements of productivity, Factors affecting productivity, Role of National Productivity CouncilProduct Quality Control	13
May	**TOPIC NO -3 Business liasoning** Interface between business and government, society ,and natural environment; etc Business strategy -- meaning and importance and steps in developing strategies.	12
May	TOPIC NO -4 **Business Alliances (growth strategies)** Mergers & Acquisition, Franchising, Outsourcing-concept and characteristics, Public Private Partnership, Business Engineering	12
Total		**49**

Month	Topic	Total number of lecture taken
March	TOPIC NO -1 **Negotiable Instruments Act,1881** Concept of Negotiable Instruments: Characteristics, Meaning Important relevant definitions under the Act • Definitions, Essentials of promissory note, bill of exchange and cheque. Distinction between these instruments. Crossing of cheques – It's meaning and types. • Holder and holder in due course, Privileges of holder in due course. • Negotiation, endorsement, kinds of endorsement. • Liabilities of parties to negotiable instruments. • Dishonor of N. I., kinds, law relating to notice of dishonor.	14
April	TOPIC NO-2 **E-Contracts (ETransactions/ECommerce.)**: • Significance of E-Transactions /E-Commerce. Nature, Formation, Legality. Recognition. (Chapter 4.Sec.11-13 of I T Act,2000 relating to attribution, acknowledgement, dispatch of E-Records) • Digital Signatures –Meaning & functions, Digital Signature, certificates [Sections 35-39] • Legal issues involved in E-Contracts and personal data protection (Sec.43 A)	06
May	TOPIC NO -3 **The Consumer Protection Act,2019** The Consumer Protection Act, 2019 • Salient features of the C.P. Act,2019 • Definitions-Consumer, Complainant, Services, Defect & Deficiency, Complainant, unfair trade practice, restrictive trade practice, unfair contract. • Consumer Protection Councils. • Procedure to file complaint & Procedure to deal with complaint in commissions & Reliefs available to consumer.(Sec.39) • Consumer Disputes Redressal Commissions. (Composition, Jurisdiction, Powers and Functions.)	14
May	TOPIC NO -4 **Intellectual Property Rights** Intellectual Property Rights : (IPRs) • Meaning & importance of IPRs, International efforts in protection of IPR: WIPO (Objectives & activities) & TRIPS Agreement: Objectives • Definition and conceptual understanding of following IPRs under the relevant Indian current statutes. • Patent: Definition & concept, Rights & obligation of Patentee, its term. • Copyright: Characteristics & subject matter of copyright, Author & his Rights, term. • Trademark: Characteristics, functions, illustrations, various marks,	14

	• Design: Importance, characteristics, Rights of design holder.	
	Total	**48**

Prof. shinde K.D.

K.T.S.P Mandal's

HUTATMA RAJGURU MAHAVIDYALAYA

Rajgurunagar,Tal-Khed,Dist-Pune

Academic year 2021-2022

Syllabus Completion Report

Class - T.Y.B.Com Div-A + C

Subject Teacher - Prof.K.D.SHINDE

Sub – ADVANCED ACCOUNTING – II

Month	Topic	Total number of lecture taken
March	TOPIC NO -1 **Final Accounts of Co-operative Societies** Meaning and Introduction, - Allocation of Profit as per Maharashtra State Co- operative Societies Act. - Preparation of Final Accounts of Credit Co-op. Societies & Consumer Co-op. Societies	14
April	TOPIC NO- 2 **Branch Accounting** Concept of Branches & their Classification from accounting point of view. - Accounting treatment of dependent branches & independent branches. - Methods of charging goods to branches	10
May	TOPIC NO -3 **Recent Trends in Accounting** Forensic Accounting - Accounting for Corporate Social Responsibility - Accounting for Derivative Contracts - Artificial Intelligence in Accounting.	12
May	TOPIC NO -4 **Analysis of Financial Statements** Ratio Analysis: Meaning - Objectives - Nature of Ratio analysis, Types of Ratios – Profitability, Liquidity, Leverage etc. - Simple Problems on following Ratios: - Gross Profit, - Net Profit, - Operating, - Stock Turnover, - Debtors Turnover, - Creditors Turnover, - Current Ratio, Liquid Ratio, - DebtEquity Ratio, - Working Capital to Net worth, Assets Turnover Ratio.	12
Total		**48**

Prof. shinde K. D.

K.T.S.P MANDALS

HUTATMA RAJGURU MAHAVIDYALAYA RAJGURUNAGAR

DEPARTMENT OF COMMERCE

Syllabus Completion Report

F.Y.B.COM A.Y. 2021-2022

Subject- C.P.B.E(Div – A) **Lecture - 21**

Month	Lecture	Topic	Sub-Topic
January	11	Topic-3 Consumer Protection Law in India	Consumer Protection Movement in India Consumer Protection Act 1986- Overview features, important definitions-consumers, Goods, services, Defect , Deficiency, unfair trade practices, Dispute, Complaint - Objectives, Consumer Disputes Redressal Agencies. (Composition, Jurisdiction, Powers and Functions.) Procedure of filling complaint and Procedure to deal
February	10	Topic-4 E -Commerce and consumer Protection	E Commerce- scope and limitations, Need and importance of E commerce , Prospects and challenges of Ecommerce and its effect on consumer Need and importance of E-Education consumer Protection in E-Banking Recent Emerging Issues in E-Commerce

Gargote

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HUTATMA RAJGURU MAHAVIDYALAYA RAJGURUNAGAR

DEPARTMENT OF COMMERCE

Syllabus Completion Report

F.Y.B.COM A.Y. 2021-2022

Subject- O.S.D(Div – C) **Lecture - 38**

Month	Lecture	Topic	Sub-Topic
December	13	Topic-1 Concept of Modern Office	a. Modem Office :-Definition, Characteristics, importance and functions b. Office environment:- Meaning and Importance c. Office Location :-Meaning, Principles and factors affecting Office location d. Office Layout :- Meaning, Principles and factors affecting Office Layout
January	16	Topic-2 Office Organisation and Management Topic-3 Office Records Management	Office Organisation : Definition, Importance, Principles and Types of Organisation b. Office Management:- Definition,Functions c. Scientific Office Management :- Meaning, Aims, Techniques of Scientific Office Management and Stepsfor installation of ScientificOfficeManagement a. Office Records Management -Definition, Objectives, Scope of RecordsManagement, Significance, Principles of Records management. b. Digitalization of records:- Advantages and Problems ofDigitalization c. Form Design:- Objectives, types of forms, Significance, Principles of form Definition, Contents Types
February	09	Topic -4 Office work	Office work :-Meaning and Characteristics, Flow of work :- Significance, Features of Ideal flow of work ,benefits of flow of work ,problems in smooth flow of work , suggestions for even flow of work

Prof.S.S.Gargote

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DEPARTMENT OF COMMERCE

Syllabus Completion Report

S.Y.B.COM A.Y. 2021-2022

Subject- C-Law(Div – C) **Lecture – 45**

Month	Lecture	Topic	Sub-Topic
December	19	Topic -1 The Companies Act, 2 013: Introduction and Concept	Company and its Formation 1. Background and Features of company the Companies Act, 2013 2. Company: Meaning, Nature and Characteristics of Company. 3. Types of Companies: On the basis of mode of formation, Number of members, liability and Control, Public and Private Companies: Distinction, Advantages, Disadvantages, Privileges and their Conversion into each other. Other kinds of Companies: One Person Company, Charitable Companies, Dormant Company, Sick Company, Small Company, Listed Company
January	18	Topic-2 Formation and Incorporation of a Company	Formation and Incorporation of a Company: Stages in the Formation and Incorporation. 1. Promotion: Meaning of the term 'Promoter' / Promoter Group - Legal Position of Promoters, Pre-incorporation contracts. 2. Registration/ Incorporation of a company : - Procedure, Documents to be filed with ROC. Certificate of IncorporationEffects of Certificate of Registration. 3.Capital Subscription/Raising of Capital 4.Commencement
		Topic-3 Principal Documents	Principal Documents: Documents relating to Incorporation and Raising of Capital: 1 Memorandum of Association: Meaning and importance- Form and contents- Alteration of memorandum. 2 Articles of Association: MeaningContents and form of Articles-

			Alteration of articles- Doctrine of constructive noticeDoctrine of Indoor Management. 3 Prospectus: Meaning, contents, Statutory requirements in relation to prospectus- Deemed Prospectus- Shelf prospectus - Statement in lieu of prospectus- Misstatement in a prospectus and Liabilities for Mis-statement.
February	05	Topic-4 Capital of the Company	Capital of the Company 1. Various Modes for Raising of Share Capital including private placement, public issue, rights issue, bonus shares, ESOS, Sweat Equity Shares, Buy-back of shares. 2. Allotment of Shares: Meaning- - Statutory provisions for allotment, improper and irregular allotmentConsequences of irregular allotment. 3. Calls On Shares: Meaning- Requisites of a valid call, Calls in advance, Share Certificates: Meaning, Provisions regarding issue of share certificates - Duplicate Share Certificate.

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HUTATMA RAJGURU MAHAVIDYALAYA RAJGURUNAGAR

DEPARTMENT OF COMMERCE

Syllabus Completion Report

S.Y.B.COM A.Y. 2021-2022

Subject- Business Administration –I (Div – C) **Lecture - 22**

Month	Lecture	Topic	Sub-Topic
January	13	Topic-2 Types of Business Organization's	Entrepreneurship: Meaning, Definition, objectives, Skills & Qualities required of an entrepreneur, case of a successful local entrepreneur.
		Topic-3 Business Environment	Meaning of Business Environment, Economic, Social, Lega Dl, Cultural, Educational, Political, Technological, Natural & International Environments & Impacts of new Policies on Business Environment
February	09	Topic -4 Business Promotion & Development	Business unit- Promotion, Concept, Stages in business promotion , Business development: Concept, Process & Business Components to be focused for development

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HUTATMA RAJGURU MAHAVIDYALAYA RAJGURUNAGAR

DEPARTMENT OF COMMERCE

Syllabus Completion Report

T.Y.B.COM A.Y. 2021-2022

Subject- Business Administration –III (Div – A) Lecture - 18

Month	Lecture	Topic	Sub-Topic
January	10	Topic-1 Introduction to corporate finance and indian financial system	Meaning, Peatures, Need, Importance of Corporate Finance, Finance Functions Executive and Routine Functions) Meaning, Objectives, Scope of Financial Management. Indian Financial Market - Meaning and Structure (Money Market and Capital Market). Stock Exchange - Meaning, Features, Functions Bombay Stock Exchange, National Stock Exchange of India, Dematerialisation of Securities. Securities Exchange Board of India - Objectives, Powers and Functions.
February	08		Credit Rating Agencies – Function/ Role and Advantages. Overview of Credit Rating Information Services of India Limited (CRISIL) Investment Information and Credit Rating Agency of India (ICRA) Limited * Credit Analysis and Research (CARE) Limited.

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...gurunagar,Tal-Khed,Dist-Pune
Academic year 2021-2022

Syllabus Completion Report

Class - F.Y.B.Com Div-A
Subject Teacher - Prof.S.S.Gargote
Sub – Consumer Protection & Business Ethics

Month	Topic	Total number of lecture taken
March	TOPIC NO -1 Business Ethics Business ethics–Meaning, definitions, scope objectives, need and Principles. Human values and moral –meaning, formation and importance. Professional Ethics-meaning and significance, management and ethics Gandhian approach in Ethics. Global Trends in Ethics.	12
April	TOPIC NO- 2 Corporate Social Responsibility CSR – concept, scope, forms of CSR, dimensions of CSR, legal and ethical foundation for CSR, steps to attain CSR, International Approach to CSR CSR Activities ina. a. Social welfare, b. Healthcare, c. Education and d. Infrastructure	13
May	TOPIC NO -3 Corporate Governance and Business ethics Corporate Governance- concept, objectives, features, core principles of good corporate governance, advantages, system of corporate governance and SEBI's guideline Whistle Blowing- Meaning causes and types. Current issues of Business ethics in- a. Accounting, b. Social Media, c. IT, d. Marketing and Advertisement e. Harassments and discrimination at workplace	11

May	TOPIC NO -4 Sustainable Development and Ethics Sustainable Development- concept, need principles and importance, Goals of sustainable development and challenges to achieve SD. Achievements of Sustainable Development in India- clean water, clean energy, no poverty, zero hunger, Good Health, quality education, climates action and Industry innovations infrastructure. Ethics and sustainable development	13
Total		**49**

Orgnisational Skill Devlopment

onth	Topic	Total number of lecture taken
rch	TOPIC NO -1 Office Manager a. Qualities of office manager, skills of office manager - Interpersonal skills, Presentation skills, thinking and Negotiation skills ,Duties and Responsibilities of office manager b. Goal Setting:- Concept, Importance of goals, SMART(Specific, Measurable, Achievable, Realistic and Time Bound) c. TimeManagement :-Meaning,Techniques, Principle	12
ril	TOPIC NO- 2 Management Reporting (Office Reports) a. Meaning, Purpose orObjectives and Classification ofReport, Principles of preparation ofreport, qualities of good report, stepsin report presentation, evaluating the report,follow up of reports b. Office Communication :- Meaning, Significance, Barriers and Recent trends in Communication such as E-mail, Video Conferencing, Tele- Conferencing, Internet, Intranet , WWW, etc.,	13
ay	TOPIC NO -3 Work Measurement and standardization of office work a. Definition, Objects, Importance, steps in work measurement, techniques of work measurement - Time study and Motion study b. Standardization of office work:- Meaning, objects, areas of standardization, types of standards, methods of setting standards, advantages and limitations of standardization	12
lay	TOPIC NO -4 Office Automation Objects of Mechanization, Advantages of Mechanization, Factors in selecting office machines, Leasing versus Purchasing Office equipment , Types of modern Office Machines Ethics and sustainable development	13
	Total	**50**

K.T.S.P Mandal's

HUTATMA RAJGURU MAHAVIDYALAYA

Rajgurunagar,Tal-Khed,Dist-Pune

Academic year 2021-2022

Syllabus Completion Report

Class -S.Y.B.Com Div-C

Subject Teacher-Prof.S.S.Gargote

Sub- Elements Of Company Law

Month	Topic	Total number of lecture taken
March	TOPIC NO -1 Company and its Formation • Nature and Types of Companies • Public and Private Companies • Promoters • Formation of Company	12

April	TOPIC NO- 2 Principal Documents • Memorandum of Association • Articles of Association • Prospectus	13
May	TOPIC NO -3 Capital and Management • Share and Loan Capital • Allotment of Shares • Membership in a Company • Directors	12
May	TOPIC NO -4 Meeting and Winding Up • Company Secretary • Meetings and Resolutions • winding Up	13
Total		**50**

K.T.S.P Mandal's

HUTATMA RAJGURU MAHAVIDYALAYA

Rajgurunagar,Tal-Khed,Dist-Pune

Academic year 2021-2022

Syllabus Completion Report

Class-S.Y.B.Com Div-C

Subject Teacher-Prof.S.S.Gargote

Sub- Business Administration I

Month	Topic	Total number of lecture taken
March	TOPIC NO -1 **Legal Aspects (Recent Trends)** Compliance of legal requirements in promoting business unit, Licensing, Registration, Filing returns and other documents	12

April	TOPIC NO- **2 Productivity** **Meaning, Importance & measurements of productivity, Factors affecting productivity, Role of National Productivity CouncilProduct Quality Control**	13
May	TOPIC NO **-3 Business liasoning** **Interface between business and government, society ,and natural environment; etc Business strategy -- meaning and importance and steps in developing strategies.**	12
May	TOPIC NO -4 **Business Alliances (growth strategies)** **Mergers & Acquisition, Franchising, Outsourcing-concept and characteristics, Public Private Partnership, Business Engineering**	12
Total		**49**

K.T.S.P Mandal's

HUTATMA RAJGURU MAHAVIDYALAYA

Rajgurunagar,Tal-Khed,Dist-Pune

Academic year 2021-2022

Syllabus Completion Report

Class-T.Y.B.Com Div-A

Subject Teacher-Prof.S.S.Gargote Sub-Business Administration III

Month	Topic	Total number of lecture taken
March	TOPIC NO -1 **Production Management Functions** • Meaning, Definition, Functions of Production Management, Responsibilities of Production Manager • Production Planning - Objectives, Importance, levels of planning. • Routing & Scheduling - Meaning, Route Sheets, Scheduling, Master and sequential scheduling, scheduling devices. • Production control- Definition and meaning, Necessity, objectives, factors and techniques of production control	10

April	TOPIC NO- 2 **Plant Location and Plant Layout** • Introduction, importance, factors responsible for plant location. • Plant Layout- Meaning, Definition, Importance of good layout, factors relevant for choice of layout, Line, Process and Product layout. • Plant Layout - Advantages, disadvantages and techniques.	12
May	TOPIC NO -**3 Inventory management & Quality Management** Inventory management -Introduction, methods, Economic Order Quantity , Use of Computers in Inventory Management, Material Requisition Planning (MRP) , Just In Time (JIT),ABC Analysis * Recent trends in Inventory Management - Radio Frequency Identification (RFID), Automated guided vehicles (AGVs) and automated mobile robots (AMRs), Artificial intelligence (AI) and Machine learning (ML), Distributed inventory management, Cloud-based solutions Predictive picking * Quality Management – Features, Techniques of Quality Control * Total Quality Management, Six Sigma, International Organisation for Standardisation (ISO)	18
May	TOPIC NO -4 **Supply Chain Management and Logistics management** • Supply Chain Concepts: Objectives of a Supply Chain, Stages of Supply chain, Value Chain Process, Cycle view of Supply Chain Process, Key issues in Supply Chain	08

Management, Difference between Supply Chain Management and Logistics. • Logistics: Evolution, Objectives, Components and Functions of Logistics Management, Distribution related Issues and Challenges, TransportationFunctions, Costs, and Mode; Network and Decision, Containerization, Cross docking	
Total	**48**

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HUTATMA RAJGURU MAHAVIDYALAYA RAJGURUNAGAR

DEPARTMENT OF COMMERCE

Syllabus Completion Report

A.Y. 2021-2022

Subject- Business mathematics and statics

F.Y.B.Com, Division-C,D, E,

Lecture -C-28,D-36 E-37

Month	Lecture	Topic	Sub-Topic
December	D-4 E-4	Interest and Annuity	Annuity Interest: Concept of Present value and Future value, Simple interest, Compound interest, Nominal and Effective rate of interest, Examples and Problems Annuity: Ordinary Annuity, Sinking Fund, Annuity due, Present Value and Future Value of Annuity, Equated Monthly Instalments (EMI) by Interest of Reducing Balance and Flat Interest methods, Examples
January	C-12 D-17 E-17	Interest and Annuity	Nominal and Effective rate of interest, Examples and Problems Annuity: Ordinary Annuity, Sinking Fund, Annuity due, Present Value and Future Value of Annuity, Equated Monthly Instalments (EMI) by Interest of Reducing Balance and Flat Interest methods, Examples
		Shares and Mutual Fund	Shares: Concept of share, face value, market value, dividend, brokerage, equity shares, preferential shares, bonus shares. Examples and Problems Mutual Funds: Concept of Mutual Funds, Problems on calculation of Net Income after considering entry load, Dividend, Chan4ge in Net Asset Value (NAV) and exit load. Averaging of price under the Systematic Investment Plan (S.I.P.). Examples and Problems

February	C-16 D-15 E-16	Measures of Central Tendency and Measures of Dispersion	Frequency distribution: Raw data, attributes and variables, Classification of data, frequency distribution, cumulative frequency distribution, Histogram and ogive curves. Requisites of ideal measures of central tendency, Arithmetic Mean, Median and Mode for ungrouped and grouped data. Combined mean, Merits and demerits of measures of central tendency, Geometric mean: definition, merits and demerits, Harmonic mean: definition, merits and demerits, Choice of A.M., G.M. and H.M. Concept of dispersion, Measures of dispersion: Range, Variance, Standard deviation (SD) for grouped and ungrouped data, combined SD, Measures of relative dispersion: Coefficient of range, coefficient of variation. Examples and problem
February		Population and Sample	Definition of Statistics, Scope of Statistics in Economics, Management Science and Industry. Concept of population and sample, methods of data collection: Census and sampling with illustration. Methods of random sampling – SRSWR, SRSWOR, Stratified, Systematic (Description of sampling procedures only).

Prof.J.A.Gogawale

K.T.S.P MANDALS

HUTATMA RAJGURU MAHAVIDYALAYA RAJGURUNAGAR

DEPARTMENT OF COMMERCE

Syllabus Completion Report

A.Y. 2021-2022

Subject- CORPORATE ACCONTING-I

S.Y.B.Com, Division- E

Lecture – 25

Month	Lecture	Topic	Sub-Topic
December	-	-	-
January	9	Topic-3 Company Final Accounts	. Preparation of Company Final Accounts- Forms and contents as per Provisions Schedule III of the Companies Act 2013 (with the amendments for the relevant academic year) • Related adjustments and their treatment.
February	16	Topic-4 Valuation of Shares	. • Concept of Valuation, • Need for Valuation, • Special Factors affecting Valuation of Shares, Methods of Valuation – • Net Assets Method , • Yield Basis Method, • Fair Value Method

Prof.J.A.Gogawale

K.T.S.P MANDALS

HUTATMA RAJGURU MAHAVIDYALAYA RAJGURUNAGAR

DEPARTMENT OF COMMERCE

Syllabus Completion Report

A.Y. 2021-2022

Subject- Business Administration

S.Y.B.Com, Division-D

Lecture-24

Month	Lecture	Topic	Sub-Topic
January	9	Topic-2 Types of Business Organization's	Entrepreneurship: Meaning, Definition, objectives, Skills & Qualities required of an entrepreneur, case of a successful local entrepreneur.
		Topic-3 Business Environment	Meaning of Business Environment, Economic, Social, Legal Dl, Cultural, Educational, Political,
February	15	Topic -4 Business Promotion & Development	Technological, Natural & International Environments & Impacts of new Policies on Business Environment Business unit- Promotion, Concept, Stages in business promotion , Business development: Concept, Process & Business Components to be focused for development

Prof.J.A.Gogawale

K.T.S.P Mandal's

HUTATMA RAJGURU MAHAVIDYALAYA

Rajgurunagar, Tal-Khed, Dist-Pune

Academic year 2021-2022

Syllabus Completion Report

Class - F.Y.B.Com Div-C+D+E

Subject Teacher - Prof.J.A.Gogawale

Sub – - Business Mathematics and Statistics - II

Month	Topic	Total number of lecture taken
March	TOPIC NO -1 **Matrices and Determinants (up to order 3 only)** Definition of a Matrix, Types of Matrices, Algebra of Matrices, Determinants, Adjoint of a Matrix, Inverse of a Matrix via Adjoint Matrix, Homogeneous System of Linear equations, Condition for Consistency of homogeneous system, Solution of Non-homogeneous System of Linear equations (not more than three variables), Applications in Business and Economics, Examples and Problems.	12
April	TOPIC NO- 2 **Linear Programming Problems (LPP) (for two variables only)** Definition and terms in a LPP, formulation of LPP, Solution by Graphical method, Examples and Problems	12
May	TOPIC NO -3 **Correlation and Regression** Concept and types of correlation, Scatter diagram, Interpretation with respect to magnitude and direction of relationship. Karl Pearson's coefficient of correlation for ungrouped data. Spearman's rank correlation coefficient. (with tie and without tie) Concept of regression, Lines of regression for ungrouped data, predictions using lines of regression. Regression coefficients and their properties (without proof). Examples and problems.	16
May	TOPIC NO -4 **Index numbers** Concept of index number, price index number, price relatives. Problems in construction of index number. Construction of price index number: Weighted index Number, Laspeyre's, Paasche's and Fisher's method. Cost of living / Consumer price index number: Definition, problems in construction of index number. Methods of construction: Family budget and aggregate expenditure. Inflation, Uses of index numbers, commonly used index numbers. Examples and problems.	8
	Total	**48**

Academic year 2021-2022

Syllabus Completion Report

Class -S.Y.B.Com Div-E

Subject Teacher- Prof.J.A.Gogawale **Sub- Corporate Accounting-II**

Month	Topic	Total number of lecture taken
March	TOPIC NO -1 Holding Company Accounts Calculation of Capital Profit, Revenue profit, Cost of Control. Preparation of consolidated Balance sheet of Holding Company with one subsidiary only. Adjustment of intercompany transactions, unrealized profit of stock.	14
April	TOPIC NO- 2 Absorption of Companies Introduction , Meaning - Vendor and Purchasing Companies- Purchase Consideration, Accounting entries in the books of vendor Company and Journal entries and Preparation of Balance Sheet after Absorption in the books of Purchasing Company	14
May	TOPIC NO -3 Accounting for Liquidation of CompaniesMeaning of Liquidation- Modes of winding up – (a) Preparation of Liquidator final statement of Account (b) Preparation of Statement of Affairs and Deficiency Account.	12
May	TOPIC NO -4 Forensic Accounting Introduction , Meaning , Objectives , Types of Forensic Accounting , Nature and key principles of forensic accounting Ethical principles and responsibilities	08
	Total	**48**

Academic year 2021-2022

Syllabus Completion Report

Class-S.Y.B.Com Div-D
Subject Teacher- Prof.J.A.Gogawale
Sub- Business Administration - I

Month	Topic	Total number of lecture taken
March	TOPIC NO -1 **Legal Aspects (Recent Trends)** Compliance of legal requirements in promoting business unit, Licensing, Registration, Filing returns and other documents	12
April	TOPIC NO- **2 Productivity** Meaning, Importance & measurements of productivity, Factors affecting productivity, Role of National Productivity CouncilProduct Quality Control	13
May	TOPIC NO **-3 Business liasoning** Interface between business and government, society ,and natural environment; etc Business strategy -- meaning and importance and steps in developing strategies.	12
May	TOPIC NO -4 **Business Alliances (growth strategies)** Mergers & Acquisition, Franchising, Outsourcing-concept and characteristics, Public Private Partnership, Business Engineering	12
Total		**49**

K.T.S.P MANDALS

HUTATMA RAJGURU MAHAVIDYALAYA RAJGURUNAGAR

DEPARTMENT OF COMMERCE

Syllabus Completion Report

A.Y. 2021-2022

F.Y.B.Com, Div- E , Subject- C.P.B.E

Month	Lecture	Topic	Sub-Topic
January	07	Topic-3 Consumer Protection Law in India	Consumer Protection Movement in India Consumer Protection Act 1986- Overview features, important definitions-consumers, Goods, services, Defect , Deficiency, unfair trade practices, Dispute, Complaint - Objectives, Consumer Disputes Redressal Agencies. (Composition, Jurisdiction, Powers and Functions.) Procedure of filling complaint and Procedure to deal with complain.
February	11	Topic-4 E -Commerce and consumer Protection	E Commerce- scope and limitations, Need and importance of E commerce , Prospects and challenges of Ecommerce and its effect on consumer Need and importance of E-Education consumer Protection in E-Banking Recent Emerging Issues in E-Commerce

Prof A. J Shaikh

K.T.S.P MANDALS

HUTATMA RAJGURU MAHAVIDYALAYA RAJGURUNAGAR

DEPARTMENT OF COMMERCE

Syllabus Completion Report

A.Y. 2021-2022

F.Y.B.Com,Division-E, Subject- Banking And Finance

Month	Lecture	Topic	Sub-Topic
January	07	Topic-3 Procedure for Opening and Operating of Deposit Account	Procedure for Opening of Deposit Account: Know Your Customer Norms, (KYC Norms), Application Form, Introduction, Proof of Residence, Specimen Signature, and Nomination Facility: Their Importance. No Frill Account Understanding the• process of opening and operating procedure of bank accounts. Procedure for Operating Deposit Account: Pay-in-slip, Withdrawal slip, Issue of Pass Book, (Current, Savings or Recurring Deposit), Issue of Cheque Book, Issue of Fixed Deposit Receipt, Premature encashment of a Fixed Deposit and Loan against Fixed Deposit. Recurring Deposit: Premature encashment and loan against Recurring Deposit. Understanding various• types of bank accounts holders a) Closure of Account b) Transfer of Account c) Death Claim Procedure Types of Account Holders a) Individual Account Holders- Individual Account, Joint Account, Illiterate, Minor, Married Woman, Pardahnashin Woman, Non-Resident Account b) Institutional Account Holders- Sole Proprietorship, Partnership Firm, Joint Stock Company, Hindu Undivided Family, Clubs, Associations, Societies

			and Trusts.
February	11	Topic -4 Methods of Remittance	Demand Draft, Bankers' Cheque Electronic Funds Transfer (EFT) – Real Time Gross Settlement (RTGS), National Electronic Funds Transfer (NEFT), Procedure of fund transfer through NEFT/ RTGS, Society for Worldwide Interbank Financial Telecommunication (SWIFT) Immediate Payment Service (IMPS) - Interbank (Bank to Bank) and Intra Bank (Branch to Branch) Fund Transfer

Prof.A.J.Shaikh

K.T.S.P MANDALS

HUTATMA RAJGURU MAHAVIDYALAYA RAJGURUNAGAR

DEPARTMENT OF COMMERCE

Syllabus Completion Report

F.Y.B.COM A.Y. 2021-2022

S.Y.B.Com, Division - B, Subject- Business Management

Month	Lecture	Topic	Sub-Topic
January	11	Topic-2 Understanding Management : Planning and Decision Making	Meaning, definition and nature of Planning • Forms and types of Planning • Steps in Planning • Limitations of Planning • Meaning and techniques of Forecasting • Meaning, Types and Steps in Decision Making
February	13	Topic- 3 Management at Work : The process of organizing and staffing Topic- 4 Result orientation :Direction an d Te am Work	Meaning, Process and Principles of Organizing • Concept of Authority and Responsibility • Delegation of Authority • Difficulties in Delegation of Authority • Need and importance of Staffing • Recruitment : Sources Meaning, Elements, Principles, Techniques and Importance of Direction. • Concept of Team Work, Group Dynamics and principles regarding interpersonal communication and Group Behaviour

Prof.A.J.Shaikh

K.T.S.P MANDALS

HUTATMA RAJGURU MAHAVIDYALAYA RAJGURUNAGAR

DEPARTMENT OF COMMERCE

Syllabus Completion Report

F.Y.B.COM A.Y. 2021-2022

S.Y.B.Com, Division-E , Subject Business Management

Month	Lecture	Topic	Sub-Topic
JANUARY	09	Topic-3 Management at Work : The process of organizing and staffing	Meaning, Process and Principles of Organizing • Concept of Authority and Responsibility • Delegation of Authority • Difficulties in Delegation of Authority • Need and importance of Staffing • Recruitment : Sources
FEBRUARY	11	Topic -4 Result orientation :Direction an d Te am Work	Meaning, Elements, Principles, Techniques and Importance of Direction. • Concept of Team Work, Group Dynamics and principles regarding interpersonal communication and Group Behaviour

Prof.A.J.Shaikh

K.T.S.P MANDALS
HUTATMA RAJGURU MAHAVIDYALAYA RAJGURUNAGAR
DEPARTMENT OF COMMERCE
Syllabus Completion Report
F.Y.B.COM A.Y. 2021-2022

T.Y.B.Com, Division-C , Subject CWAII

Month	Lecture	Topic	Sub-Topic
JANUARY	06	Topic -1 Overheads	Meaning and Definition of Overheads Meaning Definition Introduction to Cost Accounting Standard and Cost Accounting Standard Board Classification of Overheads Cost Accounting Standard (CAS) Cost Accounting Standard Board (CASB) 1.4 Introduction to of CAS-3, CAS-11, CAS-15 CAS-3 , CAS-11 CAS-15 Cost Accounting Standard - 3 : Production and Operation Overheads
FEBRUARY	12	Topic -3 Accounting of Overheads (Part-II) Topic -4 Activity Based Costing	Absorption - Meaning, Rate and Methods of Overhead Absorption Under and Over Absorption of Overheads - Meaning, Reasons and Accounting Treatment.Simple Problems on the Accounting Treatment of Under and Overabsorption of Overheads Definitions Stages in Activity Based Costing,Purpose and Benefits of Activity Based Costing, Cost Pools and Cost Drivers.

Prof.A.J.Shaikh

K.T.S.P.Mandal's

HUTATMA RAJGURU MAHAVIDYALAYA

Rajgurunagar ,
TalKhed,Dist,Pune
Academic year 2021-22

Syllabus Completion Report – SEM-2nd

Class-F.Y.B.Com Div-D
Sub- Consumer Protection &Business ethics
Subject Teacher-Prof.A.J.Shaikh

Month	Topic	Total number of lecture taken
April	**TOPIC NO -1 Business Ethics** 1.1 Business ethics–Meaning, definitions, scope objectives, need and Principles. 1.2 Human values and moral –meaning, formation and importance. 1.3 Professional Ethics-meaning and significance, management and ethics 1.4 Gandhian approach in Ethics. 1.5 Global Trends in Ethics.	12
April	**TOPIC NO- 2 Corporate Social Responsibility** CSR – concept, scope, forms of CSR, dimensions of CSR, legal and ethical foundation for CSR, steps to attain CSR, International Approach to CSR CSR Activities ina. a. Social welfare, b. Healthcare, c. Education and d. Infrastructure	13
May	**TOPIC NO -3 Corporate Governance and Business ethics** Corporate Governance- concept, objectives, features, core principles of good corporate governance, advantages, system of corporate governance and SEBI's guideline Whistle Blowing- Meaning causes and types. Current issues of Business ethics in- a. Accounting, b. Social Media, c. IT, d. Marketing and Advertisement e. Harassments and discrimination at workplace	11

May	**TOPIC NO -4 Sustainable Development and Ethics** Sustainable Development- concept, need principles and importance, Goals of sustainable development and challenges to achieve SD.	13

	Achievements of Sustainable Development in India- clean water, clean energy, no poverty, zero hunger, Good Health, quality education, climates action and Industry innovations infrastructure. Ethics and sustainable development	
TOTAL -		49

Prof. A J. Shaikh

Academic year 2021-
2022

Syllabus Completion Report – SEM-2nd

Class-F.Y.B.Com Div-E

Sub- Banking and Finance

Subject Teacher-Prof.A.J.Shaikh

Sr. No	Topic	Total number of lecture taken
April	**TOPIC NO -1 Lending principles& Balance Sheet of Bank** 1.1 Principles of Bank 1.2 Conflicts Between Safety, Liquidity, Profitability, Diversification of risks 1.3 Multiple Credit Creation: Process and Limitations **1.4** Balance **sheet of a bank.**	11
APRIL	**TOPIC NO-2 Negotiable Instruments** 1.1 Definition, meaning and characteristics of Negotiable Instruments 1.2 Definition, meaning and characteristics of Promissory note, Bill of Exchange and Cheque 1.3 Types of Cheques- Bearer, Order and Crossed 1.4 Types of Crossing- General and Special. 1.5 DISHONOUR OF CHEQUES	13
MAY	**TOPIC NO-3 Endorsement** 1.1 Definition and meaning of endorsement 1.2 Types of endorsement- Blank, Full or Special, Restrictive, Partial , Conditional, Sans Recourse, Facultative. 1.3 Effects of endorsement. 1.4 Rules of valid Endorsement	12

MAY	**TOPIC NO -4 Technology in Banking** 4.1 Role & Uses of technology in banking 4.2 ATM – Types of ATM ,CDM 4.3 Passbook Printing Machine,Note coin counting device,Debit /credit card 4.4 Online Equity & Update Facility 4.5 Precautions in using technology in banking 4.6 Current Trends in banking Technology	12
	TOTAL	48

Shaikh

Prof. A.J.Shaikh

K.T.S.P.Mandal's

HUTATMA RAJGURU MAHAVIDYALAYA

Rajgurunagar , Tal-Khed,Dist-PuneAcademic year 2021-2022

Syllabus Completion Report – SEM-2nd

Class-S.Y.B.Com Div-B&E

Sub-BusinessManagement – II

Subject Teacher-Prof.A.J.Shaikh

MONTH	TOPIC	Total No of Lecture Taken
Mar-April	**TOPIC NO – 1 Improving peoples'performance : Motivating the staff** Meaning, Importance and Theories of motivation Maslow's Need Hierarchy Theory Hertzberg's Two Factor Theory Douglas Mc Gregor's Theory of X and Y Ouchi's Theory Z McClelland's Theory	13
April	**TOPIC NO 2. ORGANISING FROM FRONT-LEADERSHIP SKILLS** Meaning, Importance,Qualities and Functions of leader Leadership styles for effective management Contribution of Mahatma Gandhi , Dr. Babasaheb Ambedkar and Pt. Jawaharlal Nehru in leadership.	12

May	**TOPIC NO 3 - Achieving success at work : Coordination and Control** Meaning and need of coordination and control • Techniques and difficulties in establishing coordination and control • Steps in the process of control and it'stechniques	13
May	**TOPIC NO -4 EMERGING TRENDS IN BUSINESS MANAGEMENT** Corporate Social Responsibility Corporate Governance and Corporate Citizenship Disaster Management and Management of Change	12
	TOTAL-	50

Prof. A.J.Shaikh

K.T.S.P.Mandal's

HUTATMA RAJGURU MAHAVIDYALAYA

Rajgurunagar , Tal-Khed,Dist-PuneAcademic year 2021-2022

Syllabus Completion Report

Class-T.Y.B.Com Div-A **Sub-Business Administration-IISubject Teacher-Prof.A.J.Shaikh**

MONTH	TOPIC	Total No of Lecture Taken
Mar-April	**TOPIC NO – 1 INTRODUCTION TO MARKETING** Marketing - Introduction, Meaning, Scope, Objectives, Features, Functions and Importance. Types of Markets Regulated Market, Organised Market & Unorganised Market, Virtual Internet Market, Industrial Market, Consumer Market, Financial Market, Auction Market and Black Market Difference between Selling and Marketing Evolution of Marketing Concepts Exchange Concept, Production Concept, Product Concept, Selling Concept, Marketing Concept, Societal Concept, Relationship Marketing Concept, Holistic Concept and Pace Concept. -	13
April	**TOPIC NO 2. MARKETING MIX AND MARKET SEGMENTATION** Marketing Mix Meaning, Features, 7 P's of Marketing (Product, Price, Place, People, Promotion, Processes and Physical Evidence), Environmental Factors affecting Marketing Mix Consumers, Competitors, Trade Factors, Political and Legal, Economic, Social, Technological, Global. Market Segmentation - Meaning, Advantages and Limitations, Essentials of Effective Market Segmentation, Methods/Basis of Market Segmentation : Geographic, Demographic, Sociographic, Psychographic and Behavioural, Steps in Market Segmentation.	14

	Mass Marketing, Multi Segment Marketing and Niche Marketing - Meaning, Advantages and Limitations	
May	**TOPIC NO 3 PRODUCT AND PRICING MANAGEMENT** Product Levels - Core Product, Basic Product, Expected / Augmented Product and Potential Product. Product Life Cycle Branding - Meaning, Types of Brands. Brand Equity, Brand Loyalty and Brand Extension - Meaning, Advantages and Limitations. Pricing - Meaning, Objectives. Factors affecting Pricing - Internal Factors - Cost, Objectives of Firm, Product, Image of Firm, Product Life Cycle, Product Line and Credit Policy. External Factors Competition, Demand, Consumers, Channel Intermediaries, Economic Conditions, Government Control. Pricing Methods - Cost Plus Pricing, Mark-up Pricing, Break Even Pricing, Target Return Pricing, Marginal Cost Pricing, Early Cash Recovery Pricing, Perceived Value Pricing. Going Rate Pricing, Sealed Bid Pricing, Differentiated Pricing, Two Part Pricing and Demand Backward Pricing.	13
May	**TOPIC NO -4 PROMOTION AND DISTRIBUTION AND RECENT TRENDS IN MARKETING** Promotion Mix - Meaning, Objectives. Elements of Promotion Mix - Advertising, Publicity, Sales Promotion, Personal Selling, Public Relations, Packaging, Direct Marketing, Trade Fairs and Exhibitions. Advertising - Meaning, Importance, Scope, Advantages of Advertising. Types of Advertising Media - Radio, News Paper, Print Media, Social Media Advertising, Online Advertising. Difference between Advertising, Publicity and Sales Promotion. Recent Trends in Marketing Visualization, Voice Search, Live Video and Video Marketing, Integrated Online Offline Customer Experience, The Internet of Everything, Content Marketing, Search Engine Optimization/Semantic Keyword Research, Browser Push Notifications, Social Media Marketing, Virtual/Internet Marketing, Green Marketing, Social Marketing.	12
	TOTAL-	52

Shaikh

Prof. A. J. Shaikh

Syllabus completion Report

Academic Year 2021-22

2nd Semester

Subject Name -: Financial Accounting II

Prof.S.P.Borhade **Class: - F.Y.B.COM**

Sr.No	Topic	No. of Lectures DIV :-A
1.	**Software used in Accounting** 1. Types of Accounting Software 2. Use of Accounting Software 3. Installation of Accounting Software 4. Advantages and disadvantages of Accounting Software Voucher entry and Report Generation inc GST transactions	15
2.	**Final Accounts of Charitable Trust (Clubs, Hospitals, Libraries etc.)** 1. Meaning and Characteristics 2. Accounting Records 3. Income and Expenditure Account 4. Receipt and Payment Account **Balance Sheet and Adjustments**	14
3.	**Valuation of Intangibles** 1. Valuation of Goodwill (Problem) 2. Valuation of Brands **Valuation of Patents, Copyright and Trademark etc**	12
4.	**Accounting for Leases** 1. Types of Lease (Finance Lease and Operating Lease) 2. Finance Lease (Hire Purchase and installment) (Theory) 3. Operating Lease 4. Royalty, 5. Minimum Rent, 6. Short Workings, 7. Recoupment Of Short Working, 8. Lapse of Short Working **Journal Entries and Ledger Accounts in the Books of Landlord and Lessee**	10
	Total No. of Lectures	52

Prof.S.P.Borhade

Borhade

K.T.S.P.Mandal's

Hutatma Rajguru Mahavidyalaya, Rajgurunagar

Department of Economics

Academic Year 2021-2022

Syllabus Completion Report

2021-22

Class:- F.Y.B.A.(Div – A)

Subject:- Economics (Indian Economic Environment) Total Lectures: 16

Dr.R.S.Shirasi (HOD)
Department of Economics

Sr.No.	Month & No. of lectures Online+Offline	Topic	Number of Lectures	Total students
3rd Chapter	December 2021 January 2022 February 2022 **16**	Industrial Environment 3.1 Role of Industry in Indian Economic Development 3.2 Industrial Policy Resolution, 1991- Liberalization, Privatization and Globalization (LPG) 3.3 Challenges to Indian Industry-Labor & Employment, Regional Imbalance, Finance, Technology 3.4 Micro, Small and Medium Enterprises (MSME)- Definition & Role 3.5 Recent trends in Indian Industry- Indian Multinationals & New Policies	16	120

Class:- S.Y.B.A. Sem. III

Subject:- Macro Economics S-2

Sr.No.	Month & No. of lectures Online+Offline	Topic	Number of Lectures	Total students
1St Chapter	October November 2021 **12**	**Basic Concepts of macro Economics** 1.1 Meaning of Macro Economics 1.2 Nature and Scope of Macro Economics 1.3 Significance and limitations of Macro Economics 1.4 Difference between Micro and Macro Economics	54	57
2nd Chapter	November December 2021 **14**	**National Income:** Concept - a) (GNP) b) (NNP) c) Income at Factor cost or National Income at Factor Prices d) Per Capita Income e) Personal Income (PI) f) Disposable Income(DI) 2.3 Measurement of National Income –2.4 Difficulties in Measurement of National Income. Circular Flow of Income-Two sector model		
3rd Chapter	December 2021 January 2022 14	Theories of Output and Employment: Classical Theories of Employment - Keynesian Criticism on Classical Theories of Employment, Keynesian Theory of Employment		
4th Chapter	January February 2022 14	Consumption Function and Investment Function-Keynes Psychological law of consumption, APC & MPC, Determinants of Consumption Function, Saving Function, Investment Investment Function, MEC, Multiplier, Accelerator		

Class:- T.Y.B.A. (Sem.V)

Subject:- Public Finance(Spl.4)

Sr.No.	Month & No. of lectures Online+Offline	Topic	No.of Lectures	Total students
1St Chapter	November December 2021 **12**	**Public Finance**: 1.1The role of Government in an economy 1.2 Meaning, Nature, Scope and Importance of Public Finance 1.3 Private Finance and Public Finance 1.4 Principle of Maximum Social Advantage- Richard Musgraves	**51**	**41**
2nd Chapter	December 2021 **14**	**Public Revenue:** 1. Sources of Public Revenue 3.2 Meaning and Objectives of Taxation 3.3 Principles of taxation- Benefit approach, Ability to pay 3.4 Concepts- Impact of Tax, incidence of Tax, Shifting of Tax and Taxable Capacity 3.5 Indian Tax Structure- Direct and Indirect tax, Progressive, proportional and Regressive		
3rd Chapter	January 2022 14	**Public Expenditure**: 2.1 Meaning and Principle of Public Expenditure 2.2 Classification of Public Expenditure 2.3 Trends of Public Expenditure in India. 2.4 Causes of increase in Public Expenditure 2.5 Wagner's Rule of Public Expenditure		
4th Chapter	JanuaryFebruary 2022 11	**Public Debt**: 4.1 Meaning and types of Public Debt 4.2 Sources of internal and external Public Debt 4.3 Effects of Public Debt 4.4 Methods of repayment 4.5. FRBM Act.		

Class:- S.Y.B.Com.Sem.III

Subject:- Business Economics

Sr.No.	Month & No. of lectures Online+Offline	Topic	Number of Lectures	Total students
1St Chapter	November 2021 December 2021 12	**Basic Concepts of macro Economics** 1.1 Meaning of Macro Economics 1.2 Nature and Scope of Macro Economics 1.3 Significance and limitations of Macro Economics 1.4 Difference between Micro and Macro Economics Objectives of Macro Economic Policy	48	225
2nd Chapter	December 2021 12	**National Income:** Concept - a) (GNP) b) (NNP) c) Income at Factor cost or National Income at Factor Prices d) Per Capita Income e) Personal Income (PI) f) Disposable Income(DI) 2.3 Measurement of National Income – Circular Flow of Income-Two sector model 2.4 Difficulties in Measurement of National Income		
3rd Chapter	December 2021 January 2022 12	Theories of Output and Employment: Classical Theories of Employment - Keynesian Criticism on Classical Theories of Employment, Keynesian Theory of Employment		
4th Chapter	January 2022 February 2022 12	Consumption Function and Investment Function-Keynes Psychological law of consumption, APC & MPC, Determinants of Consumption Function, Saving Function, Investment Function, MEC, Multiplier, Accelerator		

Class:- T.Y.B.Com. Sem.V
Subject:- Indian & Global Economic Development

Sr.No.	Month & No. of lectures Online + Offline	Topic	Number of Lectures	Total students
1St Chapter	November 2021 December 2021 12	Indian and Global Economy 1.1 Economic Development: Meaning and Indicators 1.2 Developed and Developing Countries: Meaning1.3 Characteristics of Indian Economy as an Emerging Economy 1.4 Comparison of the Indian Economy with World Economy with reference to: National Income, Population, Agriculture, Industry and Service Sector	48	160
2nd Chapter	December 2021 12	Agricultural Development In India 2.1 Indian Agriculture: Role and Progress 2.2 Low Productivity of Indian Agriculture: Causes and Measures 2.3 Agricultural Finance: Need and Sources 2.4 Agricultural Marketing: Problems and Measures 2.5 New Farm Act 2020 2.6 Organic Farming and Contract Farming: Meaning and Advantages		
3rd Chapter	December 2021 January 2022 12	Industrial Development in India 3.1 Role of Industrialization in Indian Economic Development 3.2 New Industrial Policy 1991 3.3 Role of Micro, Small and Medium Scale Enterprises (MSMEs) in India 3.4 Role and Problems of Public Sector Enterprises in India 3.5 New Schemes for Industrial Development: Make in India, Start- up India and Stand up India		
4th Chapter	January 2022 February 2022 12	Service Sector and Infrastructural Development in India 4.1 Role and Growth of Service Sector in India 4.2 Meaning and Effects of Digital Economy, E Commerce and E-Finance 4.3 Role of Infrastructure in Economic Development of India 4.4 Role of Public and Private Sector in Infrastructural Development		

Syllabus Completion Report P.G.

Sr. No	Class	Subject	No. of Students	Online Lectures	Offline Lectures	Total Lectures
1	M.A. Part I	AGRICULTURAL ECONOMICS	22	38	-	38
2	M.A. Part II	INDUSTRIAL ECONOMICS	10	38	-	38

Class:- M.A. Part 1 Sem.1
Subject:- EC.1004-AGRICULTURAL ECONOMICS

Sr.No.	Month & No. of lectures Online + Offline	Topic	Number of Lectures	Total students
1St Chapter	November 2021 December 2021 6	1. Introduction 1.1 Role of Agriculture in Indian Economy 1.2 Agrarian Structure in India in a Liberalizing and Globalizing Economy, 1.3 Barriers to Agricultural Growth in India 1.4 Need for Policy Intervention – Productivity, Equity and Sustainability	38	22
2nd Chapter	December 2021 10	2. Agriculture Productivity and Agricultural Labour 2.1 Trends in Agricultural Productivity in India since 1991 2.2 Challenges to Agricultural Productivity– Crop Insurance, Irrigation, Exports 2.3 Agricultural Labour- Trends in Agricultural Employment and Efficiency 2.3 Technology Inputs in Agriculture and Impact on Agriculture Labour 2.4 Review of the National Employment Guarantee Scheme		
3rd Chapter	December 2021 January 2022 08	3. Agriculture and Credit 3.1 Financial Sector Reforms and Rural Credit 3.2 Role of NABARD, Commercial Banks and Cooperative Institutions 3.4 Micro Finance in Rural Finance – Emergence, Role and Challenges 3.5 Challenges to Rural and Agricultural Credit in India		
4th	January 2022	4. Agriculture and Markets		

Chapter	08	4.1 Characteristics of Agricultural Markets in India 4.2 Agriculture and Price System in India 4.3 Role of Farmers' Marketing Cooperatives 4.4 Agro Processing- Need and Challenges 4.5 Agriculture in India and WTO Agreements		
5th Chapter	February 2022 06	5. Agricultural Growth and Rural Development 5.1 Food Security in India 5.2 Gender and Rural Poverty. 5.3 Agriculture and Industry-Interrelations and Management 5.4 Sustainable Agriculture-Concept, Need and Issues		

Class:- M.A. Part II Sem. III
Subject:- EC-3004 INDUSTRIAL ECONOMICS

Sr.No.	Month & No. of lectures Online + Offline	Topic	Number of Lectures	Total students
1St Chapter	November 2021 December 2021 10	1 Introduction 1.1 Industrial Economics – Emergence, Meaning and Definition 1.2 Scope and Importance of Industrial Economics 1.3 Classification of Industries 1.4 New Empirical Industrial Organization Approach	38	22
2nd Chapter	December 2021 08	2 Theories of Industrial Location 2.1 General Determinants of Industrial Location 2.2 Theories of Industrial Location 2.2.1 Alfred Weber's Theory of Industrial Location 2.2.2 Sergeant Florence's Theory of Industrial Location 2.3 Policy of Industrial Location in India 2.4 Need for Balanced Regional Development		
3rd Chapter	December 2021 January 2022 10	3 Industrial Productivity and Growth 3.1 Industrial Productivity - Norms and Measurement 3.2 Factors affecting Productivity and measures to improve Productivity, 3.3 Public Enterprises-Efficiency, Productivity and Performance (Case for/against India) 3.4 Skill Development and Industrial Productivity 3.5 Industrial Growth in India: Cause for Concern, Challenges to Private Sector 3.6 Policy Measures to enhance Industrial Growth		
4th Chapter	January 2022 February 2022 10 12	4 Industrial Policies in India 4.1 Industrial Policy in India – Progress since 1991 4.2 Developments in Industrial Policy – Special Economic Zones, 'Make in India', Public Private Partnership 4.3 Changing Role and Performance of Public and Private Sector in India 4.4 Developments in Policy for MSMEs since 1991 4.5 Development in FDI Policy, Emergence of Indian Multinational Companies 4.6 Globalization of Labour Markets and Impact of Emerging Economies		

K.T.S.P.Mandal's

HutatmaRajguruMahavidyalaya, Rajgurunagar

Department of Economics

Academic Year 2021-22

Syllabus Completion Report Sem-I

Name of Faculty:-Assi. Prof.Dhanapune S.V.

Class:- F.Y.B.Com. Div-A

Subject:- Business Economics (Micro) - I 113

Sr. No.	Month & Number of Lectures Online + offline	Topic		Total Student
1St Chapter		**INTRODUCTION AND BSIC CONCEPT** 1 .1 Meaning, Nature and Scope of Business Economics- (Micro) 1.2 Concepts of Micro and Macro Economics. 1. 3 Tools for Analysis a. Functional Relationships b. Schedules c. Graphs d. Equations 1.4 Basic Concepts Household,Consumer,Firm,Plants,Industry. 4 Goals of firms a) Economic Goals of Firms 1. Profit Maximization 2. Shareholders Wealth Maxi 3. Management Reward Maxi 4. Growth of the firm 5. Sales maximization 6. Long run survival b) Non-Economic goals 1. Political power, Prestige 2. Social responsibility and welfare 3. Goodwill of employees	**61**	**119**
2nd Chapter		**CONSUMER BEHAVIOUR** 2.1 Utility : Concept and types 2.2 Cardinal Utility Approach 2.3 Consumer Surplus 2.4 Ordinal Approach : Indifference Curve,Consumer Equilibrium.		
3rd Chapter		**DEMAND AND SUPPLY ANALYSIS** 3.1Concept of Demand. 3.2 Law of Demand. 3.3 Elasticity of Demand. 3.4 .1 Price Elasticity of Demand. 3.4.2 Income Elasticity of Demand. 3.4.3. Cross Elas of Demand. 3.5 Supply: Concept And Determinants. 3.6 Equilibrium of Demand And Supply for Price Determination.		

4th Chapter		**PRODUCTION ANALYSIS** 4.1 Concept of Production Function. 4.2 Total, Average and Marginal Production 4.3 Law of Variable Proportions - The Three Stages 4.4 Law of Returns to Scale - The Three Stages 4.5 Economies and Diseconomies of Scale – Internal and External SEM I 2021-22 Jan And Feb Internal Record Assignment 10marks, PPT 10 Marks, Test 10Marrks = Total 30 Marks Submission.		

K.T.S.P.Mandal's

HutatmaRajguruMahavidyalaya, Rajgurunagar

Department of Economics

Academic Year 2021-22

Syllabus Completion Report Sem-I

Name of Faculty:-Assi. Prof.Dhanapune S.V.

Class:- F.Y.B.A. Div-B

Subject:-Indian Economic Environment (G1) 11151

Sr. No	Topics to be Taught	Number of Lectures	Total Student
1St Chapter	**Unit – 1** **Introduction** 1.1 Meaning,Factors affecting Economic Environment- Economic,Political,Technological,Social & Cultural 1.2 Challenges to Indian Economy: Nature Resources,Energy resources,Energy Resources,Education,Health,Environment 1.3 Camparison of Indian Economy with the world Economy-Population,Agriculture,Industry & Service Sector	**51**	**120**
2nd Chapter	**Unit-2** **Agricultural Environment** 2.1 Role of Agriculture in Indian Economy 2.2 Challenges to Indian Agriculture-Productivity, Rural Credit, Marketing, Rural Entrepreneurship 3.3 Recent Trends in Indian Agriculture: Cropping pattern, Technology, Crop Insurance, Water Management, Agri- Business		
3rd Chapter	**Unit-3** **Industrial Environment** 3.4 Micro, Small and Medium Enterprises (MSME)- Definition & Role		

	3.5 Recent trends in Indian Industry- Indian Multinationals & New Policies		

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Department of Economics

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Syllabus Completion Report Sem-III

Name of Faculty:-Assi. Prof.Dhanapune S.V.

Class:- S.Y.B.A.

Subject:-Micro Economics (S1) 23151

Sr. No.	Topic	Number of Lectures	Total Student
1St Chapter	**INTRODUCTION** 1 .1 Meaning, Nature and Scope of Business Economics- (Micro)1.2 Concepts of Micro and Macro Economics.1. 3 Tools for Analysis a. Functional Relationships b. Schedules c. Graphs d. Equations 1.4 Basic Concepts – Household,Consumer,Firm,Plants,Industry. 4 Goals of firms a) Economic Goals of Firms 1. Profit Maximization 2. Shareholders Wealth Maximization 3. Management Reward Maximization 4. Growth of the firm 5. Sales maximization 6. Long run survival b) Non-Economic goals 1. Political power, Prestige 2. Social responsibility and welfare 3. Goodwill of employees	**54**	**57**
2ed Chapter	**THEORY OF CONSUMER BEHAVIOUR** 2.1 Utility : Concept and types 2.2 Cardinal Utility Approach 2.3 Consumer Surplus 2.4 Ordinal Approach : Indifference Curve,Consumer Equilibrium.		
3rd Chapter	**DEMAND ANALYSIS** 3.1Concept of Demand. 3.2 Law of Demand. 3.3 Elasticity of Demand. 3.4 .1 Price Elasticity of Demand. 3.4.2 Income Elasticity of Demand. 3.4.3. Cross Elasticity of Demand. 3.5 Supply: Concept And Determinants. 3.6 Equilibrium of Demand And Supply for Price Determination.		
4th Chapter	**SUPPLY AND PRODUCTION ANALYSIS** 4.1 Concept of Production Function. 4.2 Total, Average and Marginal Production 4.3 Law of Variable Proportions - The Three Stages4.4 Law of Returns to Scale - The Three Stages4.5 Economies and Diseconomies of Scale		

	– Internal and External		

K.T.S.P.Mandal's
HutatmaRajguruMahavidyalaya, Rajgurunagar
Department of Economics

Academic Year 2021-22

Syllabus Completion Report Sem-III

Name of Faculty:-Assi. Prof. Dhanapune S.V.

Class:-S.Y.B.Com

Subject:-Business Economics (Macro)233

Sr.No.	Topic	Number of Lectures	Total students
1St Chapter	**Basic Concepts of macro Economics** 1.1 Meaning of Macro Economics 1.2 Nature and Scope of Macro Economics 1.3 Significance and limitations of Macro Economics 1.4 Difference between Micro and Macro Economics Objectives of Macro Economic Policy	**53**	**118**
2nd Chapter	**National Income:** Concept - a) (GNP) b) (NNP) c) Income at Factor cost or National Income at Factor Prices d) Per Capita Income e) Personal Income (PI) f) Disposable Income(DI) 2.3 Measurement of National Income – Circular Flow of Income-Two sector model 2.4 Difficulties in Measurement of National Income		
3rd Chapter	Theories of Output and Employment: Classical Theories of Employment - Keynesian Criticism on Classical Theories of Employment, Keynesian Theory of Employment		
4th Chapter	Consumption Function and Investment Function- Keynes Psychological law of consumption, APC & MPC, Determinants of Consumption Function, Saving Function, Investment Investment Function, MEC, Multiplier, Accelerator		

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HutatmaRajguruMahavidyalaya, Rajgurunagar
Department of Economics

Academic Year 2021-22

Syllabus Completion Report Sem-I

Name of Faculty:-Assi. Prof. Dhanapune S.V.

Class:-T.Y.B.Com

Subject:- International Economics (353 B)

Sr. No.	Topic	Number of Lectures	Total students
1St Chapter	**Introduction** Meaning and Scope of International Economics. 2. Importance of International Trade 3.Domestic Trade Vs International Trade 4.Role of International Trade in Economic Growth	**51**	**120**
2nd Chapter	**Theories of International Trade** 1 Theory of absolute cost advantage 2 Theory of comparative cost advantage 3 Theory of factor endowment (Hecksher-ohlinTheory,Leontief Paradox) 4 Intra Industrial Trade		
3rd Chapter	**Trade Policy** **3.1** Free Trade Policy – Meaning, Arguments for and against 3.2 Protection Policy – Meaning, Arguments for and against 3.3 Tools of Protection : Meaning and Types 3.3.1 Tariffs 3.3.2 Quotas 3.4 Dumping: concept and its effects		
4th Chapter	**Terms of Trade** 4.1 Concept of Terms of Trade A) Gross Barter Terms of Trade B) Net Barter Terms of Trade C) Income Terms of Trade and Trade Policy D) Single Factorial Terms of Trade E) Double Factorial Terms of Trade 4.2 Factors affecting on Terms of Trade 4.3 Causes of Unfavorable Terms of Trade to developing countries		

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HutatmaRajguruMahavidyalaya, Rajgurunagar

Department of Economics

Academic Year 2021-22

Syllabus Completion Report Sem-I

Name of Faculty :- Assi. Prof.A.N.Gaikwad

Class:- F.Y.B.Com. Div D&E

Subject:- Business Economics (Micro) - I : 113

Sr. No.	Topic	Number of Lectures	Total Student
1St Chapter	**INTRODUCTION AND BSIC CONCEPT** 1 .1 Meaning, Nature and Scope of Business Economics-(Micro) 1.2 Concepts of Micro and Macro Economics. 1. 3 Tools for Analysis a. Functional Relationships b. Schedules c. Graphs d. Equations 1.4 Basic Concepts Household,Consumer,Firm,Plants,Industry. 4 Goals of firms a) Economic Goals of Firms 1. Profit Maximization 2. Shareholders Wealth Maxi 3. Management Reward Maxi 4. Growth of the firm 5. Sales maximization 6. Long run survival b) Non-Economic goals 1. Political power, Prestige 2. Social responsibility and welfare 3. Goodwill of employees	**64**	**241**
2nd Chapter	**CONSUMER BEHAVIOUR** 2.1 Utility : Concept and types 2.2 Cardinal Utility Approach 2.3 Consumer Surplus 2.4 Ordinal Approach : Indifference Curve,Consumer Equilibrium.		
3rd Chapter	**DEMAND AND SUPPLY ANALYSIS** 3.1Concept of Demand. 3.2 Law of Demand. 3.3 Elasticity of Demand. 3.4 .1 Price Elasticity of Demand. 3.4.2 Income Elasticity of Demand. 3.4.3. Cross Elas of Demand. 3.5 Supply: Concept And Determinants. 3.6 Equilibrium of Demand And Supply for Price Determination.		
4th Chapter	**PRODUCTION ANALYSIS** 4.1 Concept of Production Function. 4.2 Total, Average and Marginal Production 4.3 Law of Variable Proportions - The Three Stages 4.4 Law of Returns to Scale - The Three Stages 4.5 Economies and Diseconomies of Scale – Internal and External SEM I 2021-22 Jan And Feb Internal Record Assignment 10marks, PPT 10 Marks, Test 10Marrks = Total 30 Marks Submission.		

K.T.S.P.Mandal's
HutatmaRajguruMahavidyalaya, Rajgurunagar
Department of Economics

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Syllabus Completion Report Sem-V

Name of Faculty:-Assi. Prof. A.N.Gaikwad

Class:-T.Y.B.Com Div-B

Subject:- International Economics

Sr. No.	Topic	Number of Lectures	Total students
1St Chapter	**Introduction** Meaning and Scope of International Economics. 2. Importance of International Trade 3.Domestic Trade Vs International Trade 4.Role of International Trade in Economic Growth	**49**	**120**
2nd Chapter	**Theories of International Trade** 1 Theory of absolute cost advantage 2 Theory of comparative cost advantage 3 Theory of factor endowment (Hecksher-ohlinTheory,Leontief Paradox) 4 Intra Industrial Trade		
3rd Chapter	**Trade Policy** **3.1** Free Trade Policy – Meaning, Arguments for and against 3.2 Protection Policy – Meaning, Arguments for and against 3.3 Tools of Protection : Meaning and Types 3.3.1 Tariffs 3.3.2 Quotas 3.4 Dumping: concept and its effects		
4th Chapter	**Terms of Trade** 4.1 Concept of Terms of Trade A) Gross Barter Terms of Trade B) Net Barter Terms of Trade C) Income Terms of Trade and Trade Policy D) Single Factorial Terms of Trade E) Double Factorial Terms of Trade 4.2 Factors affecting on Terms of Trade		

	4.3 Causes of Unfavorable Terms of Trade to developing countries		

K.T.S.P.Mandal's

HutatmaRajguruMahavidyalaya, Rajgurunagar

Department of Economics

Academic Year 2021-22

Syllabus Completion Report Sem-III

Name of Faculty:-Assi. Prof.A.N.Gaikwad

Class:- S.Y.B.A.

Subject:-Research Methodology (SEC) 35151

Sr.No.	Topic	Number of Lectures	Total Students
1	**Introduction Of Research** 1.1 Meaning and Definition of Research 1.2 Types Of Research i)Basic or Pure or Fundamental Research ii)Applied Research iii)Action Research 1.3 Importance Of Economics Research	**27**	**57**
2	**Research Design** 2.1 Meaning of Research Design 2.2 Need of Research Design 2.3 Types of Research Design i)Exploratory Design ii)Descriptive Design iii)Experimental Design 2.4 Concepts of Hypothesis and Importance		
3	**Data Collection** 3.1 Meanings and Definition of Data Collection 3.2 Primary Data 3.3 Secondary Data Sources		
4	**SKILL DEVELOPMENT ACTIVITIES** Continuous Assessment - (C. A.): To compete any Three Skill Development Activities from the prescribed syllabus, each activity for 05 marks		

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Department of Economics

Academic Year 2021-22

Syllabus Completion Report Sem-V

Name of Faculty:-Assi. Prof.A.N.Gaikwad

Class:- T.Y.B.A.

Subject:-International Economics (S3) 23154

Sr.No.	Topics to be taught	Number of Lectures	Total Students
1	**Introduction** 1.1 International Economics- Meaning, Scope and Importance 1.2 Inter regional and international trade 1.3 Importance of international trade	45	41
2	**Theories of International Trade** 2.1 Theory of absolute cost advantage and comparative cost advantage 2.2 heckscher-ohlin theory 2.3 leontief's Paradox 2.4 Intra- Industry Trade		
3	**Terms of Trade** 3.1 Meaning, Types and importance of Terms Of Trade 3.2 Determinants of Terms of Trade 3.3 Causes of Unfavorable Terms of Trade to developing countries		
4	**Balance of Payments** 4.1 Balance of Trade and Balance of Payments- Concept 4.2 Balance of Payments- Components 4.3 Disequilibrium of Balance of Payments, Causes and Consequences 4.4 Measures to Correct Disequilibrium in the balance of Payments		

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HutatmaRajguruMahavidyalaya, Rajgurunagar
Department of Economics

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Syllabus Completion Report Sem-I

Name of Faculty:-Assi. Prof. A.N.Gaikwad

M.A. ECONOMICS - PART I (CREDIT &SEMESTER I SYSTEM)

Subject: EC-1003 International Trade –I

(This course will have *FOUR* credits.)

Sr.No.	Topics to be taught	Number of Lectures	Total Students
1	**Overview of Classical and Modern Trade Theories** 1.1 Ricardo and the concept of Comparative Cost Theory 1.2 Opportunity Cost –Heckscher Ohlin Theorem, 1.3 Verification of Physical Criterion and Price Criterion, 1.4 Leontief Paradox – Factor Price Equalization and explanation with Edgeworth Box Diagram 1.5 New theories of Trade, Product Life Cycle and Technology Gap Models, 1.6 Preference similarity and Intra-Industry Trade, 1.7 Economies of Scale and Monopolistic Competition – 1.8 Krugman- Theory of Economic Geography 1.9 Neo-Heckscher Ohlin theorem	38	22
2	**Terms of Trade** 2.1 Concepts of Net Barter Terms of Trade, 2.2 Gross Barter Terms of Trade, Factors affecting Terms of Trade 2.3 Terms of Trade and Economic Development		
3	**Trade Policy** 3.1 Free Trade vs. Controlled Trade, 3.2 Tariffs and Non-Tariff Barriers on Trade, 3.3 Effects of Tariffs under Partial Equilibrium. (Price Effect, Terms of Trade Effect, Competitive Effect, Income Effect, Revenue Effect) 3.4 Effects under General Equilibrium, Stolper – Samuelson Theorem		
4	**GATT, WTO and world Trade** 4.1 International Trade Agreements. 4.3 Dunkel Proposal. 4.3 WTO- Important Agreements under, Major developments since 1995, Expected effects on the Indian Economy.		

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Department of Economics

Academic Year 2021-22

Syllabus Completion Report Sem-I

Name of Faculty:-Assi. Prof. A.D.Khurpe

Class:- F.Y.B.Com. Div B & C

Subject:- Business Economics (Micro) - I : 113

Sr. No.	Topic	Number of Lectures	Total Student
1St Chapter	**INTRODUCTION AND BSIC CONCEPT** 1 .1 Meaning, Nature and Scope of Business Economics-(Micro) 1.2 Concepts of Micro and Macro Economics. 1. 3 Tools for Analysis a. Functional Relationships b. Schedules c. Graphs d. Equations 1.4 Basic Concepts Household,Consumer,Firm,Plants,Industry. 4 Goals of firms a) Economic Goals of Firms 1. Profit Maximization 2. Shareholders Wealth Maxi 3. Management Reward Maxi 4. Growth of the firm 5. Sales maximization 6. Long run survival b) Non-Economic goals 1. Political power, Prestige 2. Social responsibility and welfare 3. Goodwill of employees	**74**	**240**
2nd Chapter	**CONSUMER BEHAVIOUR** 2.1 Utility : Concept and types 2.2 Cardinal Utility Approach 2.3 Consumer Surplus 2.4 Ordinal Approach : Indifference Curve,Consumer Equilibrium.		
3rd Chapter	**DEMAND AND SUPPLY ANALYSIS** 3.1Concept of Demand. 3.2 Law of Demand. 3.3 Elasticity of Demand. 3.4 .1 Price Elasticity of Demand. 3.4.2 Income Elasticity of Demand. 3.4.3. Cross Elas of Demand. 3.5 Supply: Concept And Determinants. 3.6 Equilibrium of Demand And Supply for Price Determination.		
4th Chapter	**PRODUCTION ANALYSIS** 4.1 Concept of Production Function. 4.2 Total, Average and Marginal Production 4.3 Law of Variable Proportions - The Three Stages 4.4 Law of Returns to Scale - The Three Stages 4.5 Economies and Diseconomies of Scale – Internal and External SEM I 2021-22 Jan And Feb Internal Record Assignment 10marks, PPT 10 Marks, Test 10Marrks = Total 30 Marks		

	Submission.		

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Department of Economics

Academic Year 2021-22

Syllabus Completion Report Sem-III

Name of Faculty:-Assi. Prof. A.D.Khurpe

Class:-S.Y.B.Com Div-D & E

Subject:-Business Economics (Macro)

Sr.No.	Topic	Number of Lectures	Total students
1St Chapter	**Basic Concepts of macro Economics** 1.1 Meaning of Macro Economics 1.2 Nature and Scope of Macro Economics 1.3 Significance and limitations of Macro Economics 1.4 Difference between Micro and Macro Economics Objectives of Macro Economic Policy	**69**	**214**
2nd Chapter	**National Income:** Concept - a) (GNP) b) (NNP) c) Income at Factor cost or National Income at Factor Prices d) Per Capita Income e) Personal Income (PI) f) Disposable Income(DI) 2.3 Measurement of National Income – Circular Flow of Income-Two sector model 2.4 Difficulties in Measurement of National Income		
3rd Chapter	Theories of Output and Employment: Classical Theories of Employment - Keynesian Criticism on Classical Theories of Employment, Keynesian Theory of Employment		
4th Chapter	Consumption Function and Investment Function-Keynes Psychological law of consumption, APC & MPC, Determinants of Consumption Function, Saving Function, Investment Investment Function, MEC, Multiplier, Accelerator		

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Department of Economics

Academic Year 2021-22

Syllabus Completion Report Sem-V

Name of Faculty:-Assi. Prof. A.D.Khurpe

Class:-T.Y.B.Com Div-C

Subject:- International Economics(353 B)

Sr. No.	Topic	Number of Lectures	Total students
1St Chapter	**Introduction** Meaning and Scope of International Economics. 2. Importance of International Trade 3.Domestic Trade Vs International Trade 4.Role of International Trade in Economic Growth	**18**	**101**
2nd Chapter	**Theories of International Trade** 1 Theory of absolute cost advantage 2 Theory of comparative cost advantage 3 Theory of factor endowment (Hecksher-ohlinTheory,Leontief Paradox) 4 Intra Industrial Trade		
3rd Chapter	**Trade Policy** **3.1** Free Trade Policy – Meaning, Arguments for and against 3.2 Protection Policy – Meaning, Arguments for and against 3.3 Tools of Protection : Meaning and Types 3.3.1 Tariffs 3.3.2 Quotas 3.4 Dumping: concept and its effects		
4th Chapter	**Terms of Trade** 4.1 Concept of Terms of Trade A) Gross Barter Terms of Trade B) Net Barter Terms of Trade C) Income Terms of Trade and Trade Policy D) Single Factorial Terms of Trade E) Double Factorial Terms of Trade 4.2 Factors affecting on Terms of Trade 4.3 Causes of Unfavorable Terms of Trade to developing countries		

Head
Department of Economics
Hutatma Rajguru Mahavidyalaya
Rajgurunagar,Dist.Pune-410505

Prof. Dr. R. S. Shirasi
Head Department of Economics

SEM II

K.T.S.P.Mandal's

Hutatma Rajguru Mahavidyalaya, Rajgurunagar

Syllabus CompletionReport

Academic Year 2021-22(Term II)

Name of the Teacher: Prof. Dr .R. S. Shirasi

Sr.No.	Class	Subject	Topic
1	S.Y.B.Com Div.A	Business Economics (Macro Economics)-II	Unit1:Money- Functions, Demand for Money, Supply of Money, RBI's Money Measures, Value of Money- Fisher's Theory, Cambridge Approach. Unit 2: Inflation- Meaning, Types, Causes and effects. Stagflation. Unit 3: Trade Cycle- Meaning, Features, Phases and Control Measures. Unit 4: Public Finance- Meaning, Nature, Scope Importance, Principle of Maximum Social Advantage, Taxation- Meaning and Types, Public Expenditure, public Debt, Types of Budget
2	S.Y.B.Com Div.B	Business Economics (Macro Economics)-II	Unit1:Money- Functions, Demand for Money, Supply of Money, RBI's Money Measures, Value of Money- Fisher's Theory, Cambridge Approach. Unit 2 : Inflation- Meaning, Types, Causes and effects. Stagflation. Unit 3: Trade Cycle- Meaning , Features, Phases and Control Measures. Unit 4: Public Finance- Meaning, Nature, Scope Importance, Principle of Maximum Social Advantage, Taxation- Meaning and Types, Public Expenditure, public Debt, Types of Budget
3	T.Y.B.Com Div.D	Indian & Global Economic Development-II	Unit 1: HRD- Role and Concepts, HDI, GDI, HPI, GII, GHI. Unit 2: Foreign Capital: Meaning, Types, Role and Problems. Unit 3: Foreign Trade and BoP- Role of Foreign Trade, India's Foreign Trade, BoP, India's Bop- Causes of disequilibrium, EXIM policy, Convertibility of Rupees on Current and Capital

			Account. Unit 4: International and Regional Organizations- IMF.IBRD, WTO, SAARC, BRICS.
4	S.Y.B.A. Spl.2	Macro Economics-II	Unit1: Money- Functions, Demand for Money, RBI's Money Measures, Value of Money- Fisher's Theory, Cambridge Approach. Unit 2: Inflation and Deflation - Meaning, Types, Causes and effects. Philips Curve, Stagflation. Unit 3: Trade Cycle- Meaning, Features, Phases and Control Measures. Unit 4: Macro Economic Policy: Objectives, Monetary Policy-Instruments, Advantages and Limitations, Fiscal Policy: Instruments, Advantages and Limitations
5	T.Y.B.A. Spl. 4	Public Finance-Ii	Unit 1: Fiscal Policy- Meaning, objectives, Instruments, Role and Limitations, Review of India's Fiscal Policy. Unit 2: Budget- Meaning Nature Objectives Classifications pf Budget, Preparation of Indian Central Budget, Gender Budget- Meaning and Importance. Unit3: Deficit Financing- Meaning Objectives Role and Tends in India's Deficit Financing since 2011, Effects of Deficit Financing/ Unit 4: Centre- State Financial Relationship- Constitutional Provision, Conflict in Centre- State Financial Relationship, Role of the Finance Commission, Recommendations of 15th Finance Commission.

Prof. Dr.R.S.Shirasi
Professor and Head Economics

K.T.S.P.Mandal's

Hutatma Rajguru Mahavidyalaya, Rajgurunagar

Department of Economics

Academic Year 2021-22

Syllabus Completion Report Sem II

Name of Faculty:-Assi. Prof.Dhanapune S.V.

Class:- F.Y.B.A. Div - B

Subject:- Indian Economic Environment- G-1

Sr. No.	Month &Year	Topics to be Taught
1	March 2022	**Unit No 1** **Service Sector Environment** 1.1 Role and Growth of Service Sector in Indian Economy 1.2 Challenges to Indian Service sector- Business-based & Knowledge-based Sector, Education sector, Health sector, Insurance, Tourism, Banking 1.3 Recent Trends in Indian Service Sector- Digital Economy, E-Commerce, E- Finance
2	April 2022	**Unit No 2** **Banking Environment** 2.1 Banking- Definition, Functions, Changing Structure of Banking in India- New Private Banks, Small Banks, Payment Banks 2.2 Bank Accounts- Types, Procedure and Operation of Accounts 2.3 Recent Trends in Indian Banking Environment- E-Banking, E-Wallets, Bank Mergers and Amalgamations
3	May 2022	**Unit No 3** **Overview of Indian economy** 3.1 Challenges of Indian Economy- Poverty, Employment, Inequality, Informal Sector 3.2 Policy Measures (Two-Three recent Programmes)- Poverty Alleviation Programmes; Employment Generation Programmes; Agriculture Development Programmes, Skill Development Programmes

K.T.S.P.Mandal's

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Department of Economics

Academic Year 2020-21

Syllabus Completion Report Sem-IV

Name of Faculty:-Assi. Prof.Dhanapune S.V.

Class:- S.Y.B.A.

Subject:-Micro Economics (S1)

Sr. No.	Month &Year	Topics to be Taught
1	**March 2022**	**Unit No1. खर्चवप्राप्ती** **COST AND REVENUE** 1.1 खर्चाच्या संकल्पना व प्रकार Concepts and Types of Cost 1.1.1 प्रत्यक्ष/लेखांकन खर्च आणि आर्थिकखर्च Direct/Accounting Cost and Economic Cost 1.1.2 संधी/वैकल्पिक खर्च Opportunity Cost 1.1.3 व्यक्त खर्च व अव्यक्त खर्च Explicit Cost and Implicit Cost 1.1.4 वाढीव खर्च व बुडीत खर्च Incremental Cost and Sunk Cost 1.1.5 ऐतिहासिक खर्च व बदली खर्च Historical and Replacement 1.1.6 भूतकालीन खर्च व भविष्यकालीन खर्च Past and Future Cost 1.1.7 खासगी खर्च आणि सामाजिक खर्च Private and Social Cost 1.2 एकूण खर्च, सरासरी खर्च व सीमांत खर्च Relation Between Total Cost,Average Cost and Marginal Cost 1.3 खर्च वक्रांचे वर्तन Behaviour of Cost Curves 1.3.1 अल्पकालीन खर्च वक्र वर्तन विश्लेषण Short Run Cost Curve Behaviour Analysis 1.3.2 दीर्घकालीन खर्च वक्र वर्तन विश्लेषण Long Run Average Cost Curves Behaviour Analysis
2	**April 2022**	1.4 प्राप्ती संकल्पना : अर्थ व महत्त्व Meaning & Importance of Revenue Concepts 1.4.1 एकूण प्राप्ती, सरासरी प्राप्ती व सीमांत प्राप्ती Total Revenue(TR) Average Revenue(AR) , Marginal Revenue(MR) 1.4.2 एकूण प्राप्ती, सरासरी प्राप्ती व सीमांत प्राप्ती यामधील संबंध Relationship Between Total Revenue(TR) Average Revenue(AR) ,

		Marginal Revenue(MR)
3	**April 2022**	**Unit No 2 बाजारसंरचना** **(Market Structure)** 2.1 बाजाररचनेचा अर्थ आणि बाजाराचे वर्गीकरण Meaning and Classification of Market Structure 2.2 पूर्ण स्पर्धा : अर्थ, वैशिष्ट्ये, उद्योगसंस्था व उद्योगाचे अल्पकाळातील आणि दीर्घकाळातील समतोल (Pefect Competition : Meaning, Characteristics, Equillibrium of Firm and Industry in Short Run and Long Run) 2.2.1 पूर्ण स्पर्धेत उद्योगसंस्था व उद्योगाचे अल्पकालीन समतोल 2.2.2 पूर्ण स्पर्धेत उद्योगसंस्था व उद्योगाचे दीर्घकालीन समतोल 2.3 मक्तेदारी : अर्थ, वैशिष्ट्ये, अल्प आणि दीर्घकाळातील समतोल Monopoly : Meaning Characteristics Short-run and Long –run Equilibrium, Price Discrimination 2.3.1 मक्तेदारीतील अल्पकालीन समतोल 2.3.2 मक्तेदारीतील दीर्घकालीन समतोल 2.3.3 मूल्यभेद 2.4 मक्तेदारीयुक्त स्पर्धा : अर्थ, वैशिष्ट्ये, उद्योगसंस्था उद्योगाचे अल्प आणि दीर्घकाळातील समतोल, विक्री खर्च अतिरिक्त क्षमता Monopolistic Competition : Meaning, Characteristic,Short-Run and Long – Run Equilibrium of Firm and Industry, Selling Cost 2.4.1 मक्तेदारीयुक्त स्पर्धेतील उद्योगसंस्थेचे अल्पकालीन समतोल 2.4.2 मक्तेदारीयुक्त स्पर्धेतील उद्योगसंस्थेचे दीर्घकालीन समतोल 2.4.3 विक्री खर्च, अतिरिक्त क्षमता 2.5 अल्पविक्रेताधिकार : अर्थ व वैशिष्ट्ये Oligopoly : Concept and Features 2.6 द्विविक्रेताधिकार : अर्थ व वैशिष्ट्ये Duopoly : Concept and Features
4	**May 2022**	**Unit No 3** **घटककिमती** **FACTOR PRICING** 3.1विभाजनाचा किंवा वाटणीचा सीमांत उत्पादकता सिद्धान्तMarginal Productivity Theory of Distribution 3.2 खंड : अर्थ, रिकार्डोचा खंड सिद्धान्त, खंडाचा आधुनिक सिद्धान्त,आभास खंडाची संकल्पना Rent : Meaning, Ricardian Theory of Rent, Modern Theory of Rent, Concept of Quasi Rent

		3.3 मजुरी/वेतन Wages 3.3.1 मजुरी/वेतन : अर्थ आणि प्रकार Meaning and Types of Wages a) किमान/ न्यूनतमवेतन Minimum Wages b) पैशातील/चलनी/मौद्रिक/नाममात्र वेतन Money Wages c) वास्तविक/वास्तव वेतनReal Wages d)निर्वाह वेतनSubsistence Wages e)योग्य/वाजवी/रास्त/न्यायवेतन/ मजुरी Fair Wages 3.3.2 श्रमाचा पाठीमागे झुकणारा पुरवठा वक्र Backward Bending Supply Curve of Labour 3.3.3 वेतन निर्धारणात सामुदायिक सौदाशक्तीची भूमिका Role of Collective Bargaining in Wage Determination 3.4 व्याज : अर्थ, व्याजाचा कर्जाऊ रकमा निधी सिद्धान्त, व्याजाचा रोखता पसती सिद्धान्त Interest : Meaning, Loanable Fund Theory, Liquidity Preference Theory 3.5 नफा : अर्थ, नफ्याचा धोका आणि अनिश्चितता सिद्धान्त, नफ्याचा गतिशीलता सिद्धान्त, नफ्याचा नवप्रवर्तन सिद्धान्त Profit : Meaning, Risk and Uncertainty Theory of Profit, Dynamic Theory of Profit, Innovation Theory of Profit
5	**May 2022**	**Unit No. 4** **कल्याणकारी अर्थशास्त्राची ओळख** **(Introduction to Welfare Economics)** 4.1 कल्याणकारी अर्थशास्त्र : अर्थ आणि व्याख्या Introduction to welfare Economics 4.1.1 कल्याणकारी अर्थशास्त्राचा अर्थ Welfare Economics : Meaning and Definitions 4.1.2 कल्याणकारी अर्थशास्त्राच्या व्याख्या Welfare Economics : Definitions 4.1.3 कल्याणकारी अर्थशास्त्राची वैशिष्ट्ये Welfare Economics : Characteristics 4.2 पिगू यांचे कल्याणकारी अर्थशास्त्र Pigovian Welfare Economics 4.2.1 पिगू यांच्या कल्याणाच्या अर्थशास्त्राचे मूल्यमापन व टीका Evaluation & Critique of Pigu's Economics of Welfare 4.3 कल्याणकारी अर्थशास्त्राविषयी अमर्त्य सेन यांचे विचार Thought of AmartyaSen on Welfare Economics

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Hutatma Rajguru Mahavidyalaya, Rajgurunagar

Department of Economics

Academic Year 2021-22

Syllabus Completion Report Sem II

Name of Faculty:-Assi. Prof.Dhanapune S.V.

Class:- F.Y.B.Com. Div A

Subject:- Business Economics (Micro) - II : 123

Sr. No.	Month &Year	Topics to be Taught
1	March 2022	**1.Cost and Revenue** **1.1** Concepts and Types of Cost- Economic Cost and Accounting Cost, Private Cost and Social Cost, Actual Cost and Opportunity Cost, Explicit Cost and Implicit Cost, Incremental Cost and Sunk Cost, Fixed Cost and Variable Cost **1.2** Relation between Total Cost, Average Cost and Marginal Cost **1.3** Cost Curves in Short run and Long run **1.4** Concept of Total Revenue, Average Revenue and Marginal Revenue
2	March 2022	**2.Pricing Under Perfect Market Conditions** **2.1**Pure Competition: Meaning and Features **2.2** Features of Perfect Competition **2.3** Price Determination in Perfect Competition **2.4** Equilibrium of Firm and Industry in Short Run and Long Run
3	April 2022	**3.Pricing Under Imperfect Market Conditions** **3.1** Meaning of Imperfect Competition **3.2** Monopoly: Features and Equilibrium, Price Discrimination **3.3** Monopolistic Competition- Features and Equilibrium. **3.4** Oligopoly: Concept and Features **3.5** Duopoly: Concept and Features **3.6** Comparison of Perfect and Imperfect Competition
4	May 2022	**Factor Pricing** **4.1** Marginal Productivity Theory of Distribution **4.2** Rent- Meaning, Ricardian Theory of Rent, Modern Theory of Rent, Concept of Quasi Rent **4.3** Wages **4.3.1** Meaning and Types of Wages- a) Minimum Wages b) Money Wages c) Real Wages d) Subsistence Wages e) Fair Wages **4.3.2** Backward Bending Supply Curve of Labour **4.3.3** Role of Collective Bargaining in Wage Determination **4.4** Interest-Meaning, Loanable Fund Theory, Liquidity Preference Theory **4.5** Profit- Meaning, Risk and Uncertainty Theory of Profit, Dynamic Theory of Profit, Innovation Theory of Profit

		Second Sem. Internal Exam 2021

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Syllabus Completion Report Sem-IV

Name of Faculty:-Assi. Prof. Dhanapune S.V.

Class:-S.Y.B.Com Div - C

Subject:-Business Economics (Macro)

Sr. No.	Month &Year	Topics to be Taught
1	**March 2022**	**Topic No 1 पैसा MONEY** 1.1 पैसा : अर्थ आणि कार्ये (Meaning and Functions of Money) 1.2 पैशाची मागणी (Demand for Money) 1.2.1 सनातन दृष्टिकोन 1.2.2 केन्सचा आधुनिक दृष्टिकोन 1.3 पैशाचा पुरवठा (Supply of Money) 1.3.1 व्यापारी बँकांची पतनिर्मिती 1.3.2 रिझर्व्ह बँकेची पैशाच्या पुरवठ्याची मापने (M, M1, M2, M3.) 1.3.3 पतनियंत्रणाच्या पद्धती 1.4 पैशाचे मूल्य (Value of Money) 1.4.1 पैशाचा चलनसंख्यामान सिद्धान्त 1.4.2 रोख शिल्लक दृष्टिकोन :मार्शल, पिगू, रॉबर्टसन आणि केन्स
2	**April 2022**	**Topic No 2 चलनविस्तार INFLATION** 2.1 चलनविस्तार: अर्थ आणि व्याख्या (Inflation : Meaning and Definition) 2.2 चलनविस्ताराची कारणे (Causes of Inflation) 2.3 चलनविस्ताराचे परिणाम (Consequences of Inflation) 2.4 मागणी-ताणनिर्मित चलनविस्तार आणि खर्चदाबनिर्मित चलनविस्तार (Demand Pull Inflation and Cost Push Inflation)

		2.5 चलनविस्ताराचे नियंत्रण (Control of Inflation) 2.6 मंदीयुक्तचलन अतिवृद्धी : अर्थ आणि कारणे (Stagflation : Meaning and Causes)
3	**April 2022**	**व्यापारचक्रे TRADE CYCLE** 3.1 व्यापारचक्रे : अर्थ आणि व्याख्या (Trade Cycle : Meaning and Definition) 3.2 व्यापारचक्राची वैशिष्ट्ये (Characteristics of Trade Cycle) 3.3 व्यापारचक्राच्या अवस्था (Stages of Trade Cycle) 3.4 व्यापारचक्राचे नियंत्रण : चलनीसाधने व राजकोषीय साधने(Control of Trade Cycle : Monetary Measures and Fiscal Measures)
4	**May 2022**	**Topic No 4 सार्वजनिक आयव्यय** **PUBLIC FINANCE** 4.1 सार्वजनिक आयव्यय : अर्थ आणि व्याख्या (Public Finance : Meaning and Definitions) 4.2 सार्वजनिक आयव्ययाची व्याप्ती (Scope of Public Finance) 4.3सार्वजनिक आयव्ययाचे महत्त्व (Importance of Public Finance) 4.4कर : अर्थ आणि प्रकार (Meaning and Types of Tax) 4.5सार्वजनिक खर्च : अर्थ आणि वाढ होण्याची कारणे (Public Expenditure : Meaning and Causes of Increasing Public Expenditure) 4.6 सार्वजनिक कर्ज : अर्थ आणि महत्त्व (Public Debt: Meaning and Importance) 4.7 अंदाजपत्रक: अर्थ आणि प्रकार (Budget: Meaning Types)

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Department of Economics

Academic Year 2021-22

Syllabus Completion Report Sem VI

Name of Faculty:-Assi. Prof. Dhanapune S.V.

Class:-T.Y.B.Com

Subject:- International Economics 303 (B)

Sr. No.	Month &Year	Topics to be Taught
1	**March 2022**	**Balance of Payment** 1.1 Concept of Balance of Trade and Balance of Payments 1.2 Balance of Payment on Current Account and Capital Account 1.3 Causes of Disequilibrium in Balance of Payment 1.4 Measures to Correct Disequilibrium in Balance of Payment 1.5 Convertibility of Rupee on Current and Capital Account
2	**April 2022**	**2 Foreign Exchange** 2.1 Foreign Exchange Market 2.1.1 Meaning 2.1.2 Functions 2.1.3 Structure 2.1.4 Euro Dollar Market 2.2. Foreign Exchange Rate 2.2.1 Meaning of Foreign Exchange Rate 2.2.2 Fixed and Flexible Exchange Rate- Merits and Demerits 2.2.3 Determination of Foreign Exchange Rate: Purchasing Power Parity Theory
3	**April 2022**	**3. International Factor Mobility** 3.1 Labor Migration- Meaning, Causes and Effects 3.2 Brain Drain- Concept, Causes and Effects 3.3 Types of Foreign Capital 3.3.1 Foreign Direct Investment 3.3.2 Foreign Institutional Investments 3.4 Problems of Foreign Capital 3.5 Role of Multinational Corporations (MNC's)
4	**May 2022**	**4. International Economic Institutions and Regional Cooperation** 4.1 World Trade Organization (WTO): Objectives and Functions 4.2 International Monetary Fund (IMF): Organization and Functions 4.3 World Bank: Objectives and Functions 4.4 South Asian Association for Regional Cooperation (SAARC): Objectives and Functions 4.5 BRICS- Introduction and Functions

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Department of Economics

Academic Year 2021-22

Syllabus Completion Report Sem-II

Name of Faculty:-Assi. Prof. Dhanapune S.V.

M.A. ECONOMICS - PART I (CREDIT & SEMESTER I SYSTEM)

Subject: EC-2001 Micro-Economic Analysis–II

Sr. No.	Month &Year	Topics to be Taught
1	March 2022	**1. बाजार रचना** **Market Structures** 1. 1पूर्ण स्पर्धा अल्पकालीन व दीर्घकालीन समतोलPerfect Competition - Short Run and Long Run Equilibrium 1.2 उद्योग व उद्योगसंस्थेचा समतोल Equilibrium of a Firm and Industry
2	April 2022	**2.मक्तेदारी Monopoly** 2.1 मक्तेदारीतील उद्योग व उद्योगसंस्थेतील अल्पकालीन व दीर्घकालीन समतोलShort Run & Long Run Equilibrium of a Firm under Monopoly 2.2 मक्तेदारीतील किंमत व उत्पादननिश्चितीPrice Discrimination under Monopoly, Degrees of PriceDiscrimination 2.3 पूर्ण स्पर्धा व मक्तेदारी बाजारयातील तुलना Comparison of Monopoly and Perfectly CompetitiveMarket outcomes. 2.4 मक्तेदारी शक्तीचे नियमन.Regulation of Monopoly Power.
3	April 2022	3. **मक्तेदारीयुक्तस्पर्धा Monopolistic Competition** 3.1 मक्तेदारीयुक्त स्पर्धेत किंमत व उत्पादननिश्चिती समतोल Monopolistic Competition, Price and Non-price competition, Equilibrium. 3.2 उत्पादनभेदभाव, विक्री खर्च आणि जास्त क्षमता Product Differentiation, Selling Costs and Excess Capacity.
4	May 2022	**4. अल्पविक्रेताधिकार Oligopoly** 4.1 अल्पविक्रेताधिकार,बाजाराची रचना, किंमतनिश्चिती Oligopoly, Basic market structure, Kinky Demand Curve, Price and Output Determination 4.2 एकत्रित नसलेला अल्पविक्रेताधिकार,कुर्नोत – बेर्त्रंड उपाययोजनाNon-collusive oligopoly, Cournot- Bertrand Solution 4.3 एकत्रित अल्पविक्रेताधिकार, किंमतनिश्चितीCollusive Oligopoly, Price Leadership, Cartels
5	May 2021	**5. गेम सिद्धांताची ओळख Introduction to Game Theory** 5.1गेम सिद्धांत,मुलभूत संकल्पना,प्रबळरणनीती समतोल 5.2नॅश समतोल

		पुनरावृत्ती आणि अनुक्रमिक खेळ

K.T.S.P.Mandal's
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Academic Year 2020-21

Syllabus Completion Report Sem-IV

Name of Faculty:-Assi. Prof. Dhanapune S.V.

M.A. ECONOMICS - PART I (CREDIT & SEMESTER I SYSTEM)

Subject: EC-2001 Macro-Economic Analysis–II

(This course will have *FOUR* credits.)

Sr. No.	Month &Year	Topics to be Taught
1	**March 2022**	**1. Traditional Approaches to Macroeconomics** 1.1 Classical Approach-Introduction and main features 1.2 Keynesian Approach-Introduction and main features 1.3 Neoclassical Approach-Introduction and main features
2	**April 2022**	2. **National Income and Social Accounting** 2.1 Circular Flow Income in two-three and four sector economy 2.2 Different forms of national income accounting- 2.2.1 Social accounting 2.2.2 Input-output accounting 2.2.3 Flow of funds Accounting 2.2.4 Balance of payments Accounting 2.2.5 Matrix presentation of Social Accounting
3	**April 2022**	**3. Demand and Supply of Money** 3.1 Definition of Money, Debates relating to definition of Money 3.2 The Liquidity Theory, Gurley and Shaw Hypothesis, Demand for Money-Classical and Keynesian 3.4 Cash Balance Approach- Post Keynesian Theories of Demand for Money, Tobins Approach, Baumol's Inventory Theoretic Approach, Friedman's Theory of Demand for Money.
4	**May 2022**	**4. Supply of Money** 4.1 Financial Intermediation 4.2 A Mechanistic Model of Bank Deposit Determination. 4.3 A Behavior Model of Money Supply Determination, 4.4 A Demand-determined Money Supply process, 4.5 RBI approach to Money Supply-High Powered Money and Money Multiplier; Budget Deficit and Money Supply, Money Supply and Open Economy. 4.7 Control of Money Supply.

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Syllabus Completion Report Sem-IV

Name of Faculty:-Assi. Prof. Dhanapune S.V.

M.A. ECONOMICS - PART I (CREDIT & SEMESTER I SYSTEM)

Subject: EC-4002 Growth and Development – II

(This course will have *FOUR* credits.)

Sr. No.	Month &Year	Topics to be Taught
1	March 2022	**UNIT NO 1** **Sectoral Development: An Overview** **क्षेत्रीय विकास: एक विहंगावलोकन** 1.1 International agreements and Agriculture in India आंतरराष्ट्रीय करार आणि भारतातील शेती 1.2 Agriculture Productivity, Agriculture Price Policy, Land Holding and Cropping Pattern कृषीउत्पादकता, कृषी किंमत धोरण, जमीन धारण व पीक पद्धती 1.3 Industrial Production Trends at National and International Level, Role Of MSMEs, Government Policies for Industrial Development राष्ट्रीय व आंतरराष्ट्रीय स्तरावरील औद्योगिक उत्पादनाचा कल, MSMEची भूमिका, औद्योगिक विकासासाठी शासकीय धोरणे 1.4 Growth of Services Sector in India, ICT and Services sector, International Comparison. भारतातील सेवा क्षेत्राची वाढ, आय.सी.टी आणि सेवा क्षेत्र, आंतरराष्ट्रीय तुलना.
2	April 2022	**UNIT NO 2.** **Technology and Development** **तंत्रज्ञान आणि विकास** 2.1 Role of Technology and Development तंत्रज्ञान आणि विकासाची भूमिका 2.2 Capital Formation and Technical Progress as Sources of Growth भांडवलाची निर्मिती आणि विकासाचे स्रोत म्हणून तांत्रिक प्रगती 2.3 Technological Strategy of Development विकासाची तांत्रिक रणनीती 2.5 Economics of R&D, Invention and Innovation, Relation to Development अनुसंधान व विकास, आविष्कार आणि नाविन्यपूर्ण अर्थव्यवस्था, विकासाशी संबंधित 2.6 Technology Centered Development

		तंत्रज्ञान केंद्र विकास
3	**May 2022**	**UNIT NO. 3** **Environment and Development** **पर्यावरण आणि विकास** 3.1Sustainable Development, Sustainability Performance and Reporting टिकाऊ स्वरूपाचा विकास, टिकाऊ स्वरुपाची कामगिरी आणि अहवाल देणे 3.3 Environment and Rural-Urban Development पर्यावरण आणि ग्रामीण-शहरी विकास 3.4 Industrialization and Environment Protection औद्योगिकीकरण आणि पर्यावरण संरक्षण 3.5 Climate change and Agriculture 30 हवामान बदल आणि शेती
4	**May 2022**	**UNIT NO. 4** **Development Strategies** **विकास रणनीती** 4.1 The Role of the Government in the Developmental process विकास प्रक्रियेत सरकारची भूमिका 4.2 The Market versus Detailed Centralized Planning बाजार विरुद्ध तपशीलवार केंद्रीकृत नियोजन 4.3 Approaches to Poverty Alleviation and Employment Generationगरीबी निर्मूलन आणि रोजगार निर्मितीकडे दृष्टिकोन 4.4 Policy of Export Promotion & Import Substitution निर्यात जाहिरात आणि आयात प्रतिस्थानाचे धोरण 4.5 Policy of Infrastructure Development पायाभूत सुविधा विकासाचे धोरण

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Department of Economics

Academic Year 2021-22

Syllabus Completion Report Sem II

Name of Faculty:-Assi. Prof.Gaikwad A.N.

Class:- F.Y.B.A. Div – C

Subject:- Indian Economic Environment- G-1

Sr. No.	Month &Year	Topics to be Taught
3	**May 2022**	**Unit No 3** **Overview of Indian economy** ` 3.1 Challenges of Indian Economy- Poverty, Employment, Inequality, Informal Sector 3.2 Policy Measures (Two-Three recent Programmes)- Poverty Alleviation Programmes; Employment Generation Programmes; Agriculture Development Programmes, Skill Development Programmes

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Hutatma Rajguru Mahavidyalaya, Rajgurunagar

Department of Economics

Academic Year 2021-22

Syllabus Completion Report

Name of Faculty:- Prof. Gaikwad A.N.

Class:- F.Y.B.Com. Div – (D & E) Sem-II

Subject:- Business Economics (Micro) - II : 123

Sr. No.	Month &Year	Topics to be Taught
1	**March 2022**	**1.Cost and Revenue** **1.1** Concepts and Types of Cost- Economic Cost and Accounting Cost, Private Cost and Social Cost, Actual Cost and Opportunity Cost, Explicit Cost and Implicit Cost, Incremental Cost and Sunk Cost, Fixed Cost and Variable Cost **1.2** Relation between Total Cost, Average Cost and Marginal

		Cost **1.3** Cost Curves in Short run and Long run **1.4** Concept of Total Revenue, Average Revenue and Marginal Revenue
2	**April 2022**	**2.Pricing Under Perfect Market Conditions** **2.1**Pure Competition: Meaning and Features **2.2** Features of Perfect Competition **2.3** Price Determination in Perfect Competition **2.4** Equilibrium of Firm and Industry in Short Run and Long Run
3	**May 2022**	**3.Pricing Under Imperfect Market Conditions** **3.1** Meaning of Imperfect Competition **3.2** Monopoly: Features and Equilibrium, Price Discrimination **3.3** Monopolistic Competition- Features and Equilibrium. **3.4** Oligopoly: Concept and Features **3.5** Duopoly: Concept and Features **3.6** Comparison of Perfect and Imperfect Competition
4	**May 2022**	**Factor Pricing** **4.1** Marginal Productivity Theory of Distribution **4.2** Rent- Meaning, Ricardian Theory of Rent, Modern Theory of Rent, Concept of Quasi Rent **4.3** Wages **4.3.1** Meaning and Types of Wages- a) Minimum Wages b) Money Wages c) Real Wages d) Subsistence Wages e) Fair Wages **4.3.2** Backward Bending Supply Curve of Labour **4.3.3** Role of Collective Bargaining in Wage Determination **4.4** Interest-Meaning, Loanable Fund Theory, Liquidity Preference Theory **4.5** Profit- Meaning, Risk and Uncertainty Theory of Profit, Dynamic Theory of Profit, Innovation Theory of Profit **Second Sem. Internal Exam 2021**

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Department of Economics

Academic Year 2021-22

Syllabus Completion Report

Name of Faculty:- Prof.Gaikwad A.N.

Class:- T.Y.B.A. (Sem VI)

Subject:-International Economics (S3)

Sr. No	Month &Year	Topics to be Taught
1	March 2021	**5.Trade policy & Exchange Rate** 5.1 Free trade policy - case for and against 5.2 Protection Policy – case for and against 5.3 Types of tariffs and quotas 5.4 Exchange rates-Fixed and flexible
2	April 2022	**6. India's Foreign Trade and Policy** 6.1 Growth of India's foreign trade 6.2 Changes in the composition and direction of foreign trade since 2000-2001 6.3 Foreign Trade policy 2015-2020. 6.4 India and WTO
3	May 2022	**7. Export Promotion measures** 7.1 Export promotion - Contribution of SEZ 7.2 Role of multinational corporations in India. 7.3 FEMA-provisions and impact 7.4 Convertibility of Indian rupee
4	May 2022	**8. Regional and International Co-operation** Nature and Functions of- 8.1 South Asian Association for Regional Co-operation (SAARC) 8.2 Brazil, Russia, India, China and South Africa (BRICS) 8.3 European Economic Community (EEC)

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Department of Economics

Academic Year 2021-22

Syllabus Completion Report

Name of Faculty :- Prof.Gaikwad A.N.

Class:- S.Y.B.A.(SEM IV)

Subject:- SEC II – 2B –Basic Concept of Research Methodology-II

Sr. No	Month &Year	Topics to be Taught
1	**March 2022**	**Unit 1 Data Analysis** 1.1 Meaning and Definition of Data Analysis 1.2 Nature and Importance 1.3 Tools 1.3.1 Graphs 1.3.2 Tabulations
2	**April 2022**	**Unit 2 Measures of Central Tendencies** 2.1 Definition of Mean 2.2 Definition of Medium 2.3 Definition of Mode 2.4 Meaning of Dispersion Definition - Range, Median Deviation, Quartile Derivation, Standard Derivation 2.5 Concept of Percentage 2.6 Concepts - I) Frequency Distribution ii) Cumulative Frequency iii) Clade Boundaries iv) Midpoint v) Class Width
3	**May 2022**	**Unit 3 Research Report** 3.1 Meanings and Objective of Research Report 3.2 Concept of Case Study 3.3 Characteristics of Good Research Report Writing 3.4 Objective of Research report 3.5 Types of Research Report 3.6 Concepts of I) Appendices ii) Review of Literature iii) Bibliography and References iv) Recommendation v) Hypothesis Testing

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Department of Economics

Academic Year 2021-22

Syllabus Completion Report Sem VI

Name of Faculty:-Assi. Prof. Dhanapune S.V.

Class:-T.Y.B.Com

Subject:- International Economics 303 (B)

Sr. No.	Month &Year	Topics to be Taught
1	**March 2022**	**Balance of Payment** 1.1 Concept of Balance of Trade and Balance of Payments 1.2 Balance of Payment on Current Account and Capital Account 1.3 Causes of Disequilibrium in Balance of Payment 1.4 Measures to Correct Disequilibrium in Balance of Payment 1.5 Convertibility of Rupee on Current and Capital Account
2	**April 2022**	**2 Foreign Exchange** 2.1 Foreign Exchange Market 2.1.1 Meaning 2.1.2 Functions 2.1.3 Structure 2.1.4 Euro Dollar Market 2.2. Foreign Exchange Rate 2.2.1 Meaning of Foreign Exchange Rate 2.2.2 Fixed and Flexible Exchange Rate- Merits and Demerits 2.2.3 Determination of Foreign Exchange Rate: Purchasing Power Parity Theory
3	**April 2022**	**3. International Factor Mobility** 3.1 Labor Migration- Meaning, Causes and Effects 3.2 Brain Drain- Concept, Causes and Effects 3.3 Types of Foreign Capital 3.3.1 Foreign Direct Investment 3.3.2 Foreign Institutional Investments 3.4 Problems of Foreign Capital 3.5 Role of Multinational Corporations (MNC's)
4	**May 2022**	**4. International Economic Institutions and Regional Cooperation** 4.1 World Trade Organization (WTO): Objectives and Functions 4.2 International Monetary Fund (IMF): Organization and Functions 4.3 World Bank: Objectives and Functions 4.4 South Asian Association for Regional Cooperation (SAARC): Objectives and Functions 4.5 BRICS- Introduction and Functions

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Department of Economics

M.A.Economics

Academic Year 2021-22

Syllabus Completion Report

Name of Faculty:- Prof.Gaikwad A.N.

Class:- M.A.I.SEM II

Subject:-International Finance (EC-2003)

Sr. No	Month &Year	Topics to be Taught
1	March 2022	**Unit 1** **Balance of Payment** 1.1 Balance of Trade- Concept, Structure & Components 1.2 Balance of Payments- Concept, Disequilibrium, Causes of Disequilibrium; 1.3 Correction of Disequilibrium-Automatic Correction, Deliberate Correction, 1.4 Foreign Trade Multiplier- Meaning, Working, Implications & Limitations 1.5 Policies for Internal and External Balance-Fiscal and Monetary Policy Under Fixed and Floating Exchange Rates 1.6 Devaluation of Indian Rupee- Effect on Balance of Payment in 1991.
2	April 2022	**Unit 2** **Foreign Exchange** 2.1 Components of Foreign Exchange Market- Transfer of Purchasing Power, Provision of Credit, Provision of Hedging Facilities 2.2 Transactions in the Foreign Exchange Market- Options, Forwards, Futures, and Swap, Concept of Arbitrage, Hedging and Speculation; Types of Risk in International Markets 2.3 Determination of Rate of Exchange- Purchasing Power Parity Theory, Balance of Payments Theory, Monetary Models. 2.4 Exchange Control-Scope of Exchange Control, Objectives and Methods of Exchange Control. 2.5 Exchange Rate Systems- Fixed and Flexible Exchange Rates-Case for and against Fixed and Flexible Exchange Rates
3	May 2022	**Unit 3** **International Capital Flows**

		3.1 Classification of International Capital Flows-Direct and Portfolio Investment, Government, Institutional and Private Capital, Short term and Long term Capital, Home and Foreign Capital, Foreign Aid 3.3 Importance and Role of Foreign Capital-Trade and Investment, Theories of International Investment, Factors Affecting International Capital Movements 3.4 Current and Capital Account Convertibility- Concept and Prerequisites, Developments on Convertibility in the Indian Context 3.5 Foreign Exchange Management Act- Objectives and Features
4	**May 2022**	**Unit 4** **International Banking** 4.1 International Banking- Concept, Classification - Offshore Banking Unit, Foreign Banks, Foreign Subsidiaries/ Affiliates, Correspondent Banks 4.2 International Banking Laws- Choice of Law, Proper Law, Use of Language and Nature of Legal Disputes; 4.3 International Banking Agreements-Basel Norms; Introduction to LIBOR 4.4 Changing Role of International Economic Organizations- IMF and IBRD (World Bank)- Global Crisis and Development, Introduction to BRICS Bank

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Hutatma Rajguru Mahavidyalaya, Rajgurunagar

Department of Economics

Academic Year 2021-22

Syllabus Completion Report Sem II

Name of Faculty:-Assi. Prof. Khurpe A.D.

Class:- F.Y.B.A. Div – C & D

Subject:- Indian Economic Environment- G-1

Sr. No.	Month &Year	Topics to be Taught
1	**March 2022**	**Unit No 1** **Service Sector Environment** 1.1 Role and Growth of Service Sector in Indian Economy 1.2 Challenges to Indian Service sector- Business-based & Knowledge-based Sector, Education sector, Health sector, Insurance, Tourism, Banking 1.3 Recent Trends in Indian Service Sector- Digital Economy, E-

		Commerce, E- Finance
2	**April 2022**	**Unit No 2** **Banking Environment** 2.1 Banking- Definition, Functions, Changing Structure of Banking in India- New Private Banks, Small Banks, Payment Banks 2.2 Bank Accounts- Types, Procedure and Operation of Accounts 2.3 Recent Trends in Indian Banking Environment- E-Banking, E-Wallets, Bank Mergers and Amalgamations
3	**May 2022**	**Unit No 3** **Overview of Indian economy** ` 3.1 Challenges of Indian Economy- Poverty, Employment, Inequality, Informal Sector 3.2 Policy Measures (Two-Three recent Programmes)- Poverty Alleviation Programmes; Employment Generation Programmes; Agriculture Development Programmes, Skill Development Programmes

K.T.S.P.Mandal's

Hutatma Rajguru Mahavidyalaya, Rajgurunagar

Department of Economics

Academic Year 2021-22

Syllabus Completion Report Sem II

Name of Faculty:-Assi. Prof. Khurpe A.D.

Class:- F.Y.B.Com. Div B & C

Subject:- Business Economics (Micro) - II : 123

Sr. No.	Month &Year	Topics to be Taught
1	**March 2022**	**1.Cost and Revenue** **1.1** Concepts and Types of Cost- Economic Cost and Accounting Cost, Private Cost and Social Cost, Actual Cost and Opportunity Cost, Explicit Cost and Implicit Cost, Incremental Cost and Sunk Cost, Fixed Cost and Variable Cost **1.2** Relation between Total Cost, Average Cost and Marginal Cost **1.3** Cost Curves in Short run and Long run **1.4** Concept of Total Revenue, Average Revenue and Marginal Revenue
2	**March 2022**	**2.Pricing Under Perfect Market Conditions** **2.1**Pure Competition: Meaning and Features **2.2** Features of Perfect Competition **2.3** Price Determination in Perfect Competition

		2.4 Equilibrium of Firm and Industry in Short Run and Long Run
3	**April 2022**	**3.Pricing Under Imperfect Market Conditions** **3.1** Meaning of Imperfect Competition **3.2** Monopoly: Features and Equilibrium, Price Discrimination **3.3** Monopolistic Competition- Features and Equilibrium. **3.4** Oligopoly: Concept and Features **3.5** Duopoly: Concept and Features **3.6** Comparison of Perfect and Imperfect Competition
4	**May 2022**	**Factor Pricing** **4.1** Marginal Productivity Theory of Distribution **4.2** Rent- Meaning, Ricardian Theory of Rent, Modern Theory of Rent, Concept of Quasi Rent **4.3** Wages **4.3.1** Meaning and Types of Wages- a) Minimum Wages b) Money Wages c) Real Wages d) Subsistence Wages e) Fair Wages**4.3.2** Backward Bending Supply Curve of Labour **4.3.3** Role of Collective Bargaining in Wage Determination **4.4** Interest-Meaning, Loanable Fund Theory, Liquidity Preference Theory **4.5** Profit- Meaning, Risk and Uncertainty Theory of Profit, Dynamic Theory of Profit, Innovation Theory of Profit **Second Sem. Internal Exam 2021**

K.T.S.P.Mandal's
Hutatma Rajguru Mahavidyalaya, Rajgurunagar
Department of Economics

Academic Year 2021-22

Syllabus Completion Report Sem-IV

Name of Faculty:-Assi. Prof. Khurpe A.D.

Class:-S.Y.B.Com Div – D & E

Subject:-Business Economics (Macro)

Sr. No.	Month &Year	Topics to be Taught
1	**March 2022**	**Topic No 1 पैसा MONEY** 1.1 पैसा : अर्थ आणि कार्ये (Meaning and Functions of Money) 1.2 पैशाची मागणी (Demand for Money) 1.2.1 सनातन दृष्टिकोन 1.2.2 केन्सचा आधुनिक दृष्टिकोन 1.3 पैशाचा पुरवठा (Supply of Money) 1.3.1 व्यापारी बँकांची पतनिर्मिती

		1.3.2 रिझर्व्ह बँकेची पैशाच्या पुरवठ्याची मापने (M, M1, M2, M3.) 1.3.3 पतनियंत्रणाच्या पद्धती 1.4 पैशाचे मूल्य (Value of Money) 1.4.1 पैशाचा चलनसंख्यामान सिद्धान्त 1.4.2 रोख शिल्लक दृष्टिकोन :मार्शल, पिगू, रॉबर्टसन आणि केन्स
2	**April 2022**	**Topic No 2 चलनविस्तार INFLATION** 2.1 चलनविस्तार: अर्थ आणि व्याख्या (Inflation : Meaning and Definition) 2.2 चलनविस्ताराची कारणे (Causes of Inflation) 2.3 चलनविस्ताराचे परिणाम (Consequences of Inflation) 2.4 मागणी-ताणनिर्मित चलनविस्तार आणि खर्चदाबनिर्मित चलनविस्तार (Demand Pull Inflation and Cost Push Inflation) 2.5 चलनविस्ताराचे नियंत्रण (Control of Inflation) 2.6 मंदीयुक्तचलन अतिवृद्धी : अर्थ आणि कारणे (Stagflation : Meaning and Causes)
3	**April 2022**	**व्यापारचक्रे TRADE CYCLE** 3.1 व्यापारचक्रे : अर्थ आणि व्याख्या (Trade Cycle : Meaning and Definition) 3.2 व्यापारचक्राची वैशिष्ट्ये (Characteristics of Trade Cycle) 3.3 व्यापारचक्राच्या अवस्था (Stages of Trade Cycle) 3.4 व्यापारचक्राचे नियंत्रण : चलनीसाधने व राजकोषीय साधने(Control of Trade Cycle : Monetary Measures and Fiscal Measures)
4	**May 2022**	**Topic No 4 सार्वजनिक आयव्यय PUBLIC FINANCE** 4.1 सार्वजनिक आयव्यय : अर्थ आणि व्याख्या (Public Finance : Meaning and Definitions) 4.2 सार्वजनिक आयव्ययाची व्याप्ती (Scope of Public Finance) 4.3सार्वजनिक आयव्ययाचे महत्त्व (Importance of Public Finance) 4.4कर : अर्थ आणि प्रकार (Meaning and Types of Tax) 4.5सार्वजनिक खर्च : अर्थ आणि वाढ होण्याची कारणे (Public Expenditure : Meaning and Causes of

		Increasing Public Expenditure) 4.6 सार्वजनिक कर्ज : अर्थ आणि महत्त्व (Public Debt: Meaning and Importance) 4.7 अंदाजपत्रक: अर्थ आणि प्रकार (Budget: Meaning Types)

K.T.S.P.Mandal's

HutatmaRajguruMahavidyalaya, Rajgurunagar

Department of Economics

Academic Year 2021-22

Syllabus Completion Report Sem VI

Name of Faculty:-Assi. Prof. Khurpe A.D.

Class:-T.Y.B.Com

Subject:- International Economics 303 (B)

Sr. No.	Month &Year	Topics to be Taught
1	**March 2022**	**Balance of Payment** 1.1 Concept of Balance of Trade and Balance of Payments 1.2 Balance of Payment on Current Account and Capital Account 1.3 Causes of Disequilibrium in Balance of Payment 1.4 Measures to Correct Disequilibrium in Balance of Payment 1.5 Convertibility of Rupee on Current and Capital Account
2	**April 2022**	**2 Foreign Exchange** 2.1 Foreign Exchange Market 2.1.1 Meaning 2.1.2 Functions 2.1.3 Structure 2.1.4 Euro Dollar Market 2.2. Foreign Exchange Rate 2.2.1 Meaning of Foreign Exchange Rate 2.2.2 Fixed and Flexible Exchange Rate- Merits and Demerits 2.2.3 Determination of Foreign Exchange Rate: Purchasing Power Parity Theory
3	**April 2022**	**3. International Factor Mobility** 3.1 Labor Migration- Meaning, Causes and Effects 3.2 Brain Drain- Concept, Causes and Effects 3.3 Types of Foreign Capital 3.3.1 Foreign Direct Investment 3.3.2 Foreign Institutional Investments 3.4 Problems of Foreign Capital 3.5 Role of Multinational Corporations (MNC's)
4	**May 2022**	**4. International Economic Institutions and Regional Cooperation** 4.1 World Trade Organization (WTO): Objectives and Functions 4.2 International Monetary Fund (IMF): Organization and Functions 4.3 World Bank: Objectives and Functions

		4.4 South Asian Association for Regional Cooperation (SAARC): Objectives and Functions 4.5 BRICS- Introduction and Functions

Prof. Dr. R. S. Shirasi
Head Department of Economics

Hutatma Rajguru Mahavidyalaya, Rajgurunagar (Pune)-410505

Syllabus Completion Report

Academic Year 2021-22 (1st, 3rd & 5th Semester)

The following subjects were taught in the first part of the academic year 2021-22. The workload of the teaching is as follows;

Class	Subject	Workload Per Week
S.Y.B.A.	English Special Paper II (S2)	04
S.Y.B.A.	Functional English IV (F4) Sharing	02
S.Y.B.SC (CS)	English	04
T.Y.B.A.	English General Paper III (G3)	04
T.Y.B.A. (Div 'A')	Compulsory English	04
M.A. I	English Literature from 1978 to the Present	02

The total number of classes taken through both online and offline mode during the said period as given below;

Subject	October	November	December	January	February	Total No of Classes
S.Y.B.A. S2	8(online)	5(online)	14(offline)	8(online) 5(offline)	8(offline)	48
S.Y.B.A. F4	2(online)	2(online)	13(offline)	3(online)	5(offline)	25
S.Y.B.Sc (CS) English	5(online)	5(online)	18(offline)	10(online) 5(offline)	2(online) 4(offline)	49
T.Y.B.A. G3	-	7 (online)	15(offline)	9(online) 8(offline)	9 (offline)	48
T.Y.B.A. Com English (A)	-	9(online)	19 (offline)	10(online) 5(offline)	2(online) 4(offline)	49
M.A. I (Paper 1.2)			7(online)	8(online)	15(offline)	30

S. Y. B. A. Discipline Specific Course (DSC-2A) (Old Special Paper-II)Appreciating Poetry :48 Classes

Month	Classes	Syllabus Content	Sub Content
Sept, 2021	-	-	-
Octo, 2021	8	Introduction of Syllabus Prescribed Text: Mirage: An Anthology of English Poetry A) Theory of Poetry	Syllabus Contents, Objectives, Section wise discussion History of English Poetry, Poetic Devices (a) What is poetry? Significant development in the art of poetry during major periods (b) Elements of poetry: Rhythm, Meter, Sound Structure, Stanza Forms,
Nov,2021	5	A) Theory of Poetry	(c) Figures of Speech, Symbols, Imagery, Simile, Metaphor, Personification and other Poetic Devices like Repetition and Contrast. (d) Types of Poetry: Elegy, Sonnet, Dramatic Monologue, Lyric, Ode, Ballad

		B) Poems	1. The Nightingale- Philip Sidney
Dec,2021	14	B) Poems	1. The Nightingale- Philip Sidney 2. Sonnet 3- William Shakespeare 3. The Sun Rising- John Donne 4. London- William Blake 5. Ode on a Grecian Urn- John Keats
Jan,2022	13	B) Poems	6. To a Skylark- P. B. Shelley MCQs Paraphrase of the poem Critical Analysis of the poem
Feb,2022	8	Revision of the Syllabus	Discussions on MCQs Section wise

S. Y. B. A.SYFE Paper IV(F4) Oral Communication in English: Intermediate & Key Competency Modules (Practical Paper): 25 Classes

Month	Classes	Syllabus Content	Sub Content
Sept, 2021	-	-	-
Octo, 2021	2	Introduction of Syllabus	Syllabus Contents, Objectives, Section wise discussion
Nov,2021	2	A: Oral Communication in English	I - Non-verbal Communication: Importance of Body Language
Dec,2021	13	A: Oral Communication in English	II- Conversation in Formal and Informal Situations: Identifying formal/informal situations and using appropriate expressions to make conversation creative. MCQs discussed
Jan,2022	3	A: Oral Communication in English	III- Reading out news from the newspaper: IV- Talking in different situations: Formal and informal:
Feb,2022	5	A: Oral Communication in English B: Key competency Modules: Revision of the Syllabus	V- Compeering/anchoring a programme: VI- Role playing VII- Debating I- Logical Thinking, Reasoning, Analytical Ability II- Introduction to various Digital Learning Platforms: Google Classroom, Google Meet, Zoom, YouTube etc. Discussions on MCQs Section wise

SYBSC (CS) ENGLISH- Ability Enhancement Compulsory Course-AEC: 49 Classes

Month	Classes	Syllabus Content	Sub Content
Sept, 2021	-	-	-
Octo, 2021	5	Introduction of Syllabus Prescribed Text: Horizons: English in Multivalent Contexts Unit I- Short Story	Syllabus Contents, Objectives, Unit wise discussion Features of short stories dicussed
Nov,2021	5	Unit I- Short Story Unit I- Poetry	i) 'A Shadow': R. K. Narayan i) La Belle Dame Sans Merci: John Keats ii)Where the Mind is without Fear: Rabindranath Tagore Paraphrase of the poem Critical Analysis of the poem
Dec,2021	18	Unit I- Short Story i)R. K. Narayan Unit I- Poetry i)John Keats	i) La Belle Dame Sans Merci ii)Where the Mind is without Fear Paraphrase of the poem Critical Analysis of the poem

		ii)Rabindranath Tagore Unit-II-Conversational Skill	i) 'A Shadow': R. K. Narayan MCQ's of the taught syllabus Some instances of Sample Dialogues, Useful Expressions and Exercises
Jan,2022	15	Unit-II-Conversational Skill Unit-III-Interview Techniques	1. Introducing Yourself and Others 2. Asking, Giving and Refusing Permission 3. Describing Daily Routine 4. Complaining and Apologizing 1. Job Application Letter 2. Resume Writing
Feb,2022	6	Unit-III-Interview Techniques	3. GDPI 4. Presentations 5.Practical Discussion

T.Y.B.A. Skill Enhancement Course (Old G-3): Enhancing Employability Skills: 48 Classes

Month	Classes	Syllabus Content	Sub Content
Sept, 2021	-	-	-
Octo, 2021	-	-	-
Nov,2021	7	Introduction of Syllabus\ Prescribed Text- Aspirations: English for Careers Unit-I- Exploring Careers	Syllabus Contents, Objectives, Section wise discussion 1. Creative Writing 2. Translation 3. Mass Communication and Journalism 4. Academia and Other Careers
Dec,2021	15	Unit-II- Basic Preparation for Jobs	1. Application Letter and Résumé Writing 2. GDPI 3. Writing Notices and Agendas 4. Writing Minutes
Jan,2022	17	Unit-III- English for Employability Skills Unit-IV- English for Corporate Field	1. Style and Techniques for Effective Communication 2. Description, Narration and Demonstration in English 3. Soft Skills for Employers 4. Soft Skills for Employees 1. English for Sales Services
Feb,2022	9	 Unit-IV- English for Corporate Field Revision of the Syllabus	2. English for Customer Services 3. Presentation Skills 4. Writing a Project Report Discussions on MCQs Section wise

T. Y. B. A. Compulsory English (Div-A) (CC-Core Course):49 Classes

Month	Classes	Syllabus Content	Sub Content
Sept, 2021	-	-	-
Octo, 2021			
Nov,2021	9	Introduction of Syllabus Prescribed Text: Exploring New Horizons Unit-II- Poetry	Syllabus Contents, Objectives, Section wise discussion 1. The Neutral Tones – Thomas Hardy
Dec,2021	19	Unit-II- Poetry Unit-IV- Writing	2. Strange Meeting – Wilfred Owen 3. Have you got a brook in your little heart – Emily Dickinson 1. Paragraph Writing

Jan,2022	15	Unit-IV- Writing Unit-V- Soft Skills and Employability Skills Unit-III- Grammar	2. Note-making and Note-taking 3. Reference Skills (Using dictionaries/thesaurus/encyclopedias/year books/table of contents/indices etc) 1. Body Language/Non-verbal Communication 2. Tips for Effective Communication 3. Telephone Skills 4. Teleconference 1. Adverbs and their types (manner, place, time, frequency etc.) 2. Synthesis of sentences by using participles, infinitives, adverbials etc.)
Feb,2022	6	Unit-III- Grammar Revision of the Syllabus	3. Types of Sentences according to function: Declaratives, Interrogatives, Imperatives Discussions on MCQs Section wise

M.A. I Paper – 1.2: English Literature from 1798 to the Present: 30 Classes

Month	Classes	Syllabus Content	Sub Content
Nov, 2021	-	-	-
Dec,2021	7	Introduction of Syllabus Unit-I: ST Coleridge, William Wordsworth	Syllabus Contents, Objectives, Section wise discussion S. T. Coleridge: i) "Frost at Midnight"; ii) "Dejection: An Ode"
Jan,2022	8	Unit-I: ST Coleridge, William Wordsworth Unit-II: PB Shelley, John Keats, Felicia Hemans:	William Wordsworth: "Resolution and Independence" P. B Shelley: "England in 1819" John Keats: i) "Ode on a Grecian Urn"
Feb,2022	15	Unit-II: PB Shelley, John Keats, Felicia Hemans: Revision of the Syllabus	John Keats: ii) "On First Looking into Chapman's Homer" Felicia Hemans: "The Bird's Release" Discussions on MCQs Unit wise

S.Y.B.A. Discipline Specific Course (DSC-2A)- Appreciating Poetry (Old Special Paper-II (S2): - During the course teaching of special English students of S.Y.B.A, poetry recitation, question answer session, quiz sessions were conducted and the entire syllabus of the 3rd semester from the prescribed poetry book 'Mirage: An Anthology of English Poetry' was successfully finished through online & offline mode.

S.Y.B.A. Functional English IV: Oral Communication in English: Intermediate & Key Competency Modules (Practical Paper) During the course teaching of Functional English Paper IV of S.Y.B.A, all the related activities to the course were conducted and the entire syllabus of the 3rd semester from the prescribed poetry book 'Mirage: An Anthology of English Poetry' was successfully finished through online& offline mode.

T.Y.B.A. Skill Enhancement Course (SEC 1-C & SEC 1-D) (Old G-3)-
During the course teaching of Skill Enhancement Course of T.Y.B.A, all the related activities and the entire syllabus of 5th semester from the prescribed text 'Aspirations: English for Careers' was successfully finished through both online & offline mode.

T.Y.B.A. Compulsory English (Div 'A')- During the course teaching of Compulsory English paper of T.Y.B.A, all the related activities to the course were conducted and the entire syllabus of the 5th semester from the prescribed poetry book 'Exploring New Horizons' was successfully finished through online & offline mode.

S.Y.B.Sc (CS): Ability Enhancement Compulsory Course-AECC (English) During the course teaching of English

paper of S.Y.B.Sc (CS), all the related activities to the course were conducted and the entire syllabus of the 3rd semester from the prescribed text 'Horizons: English in Multivalent Contexts'was successfully finished through online & offline mode.

M.A. I Paper 1.2 (English Literature from 1978 to the Present) During the course teaching of said paper, all the related activities to the course were conducted and the entire syllabus of the 1st semester was successfully finished through online & offline mode.

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Department of English

Hutatma Rajguru Mahavidyalaya, Rajgurunagar (Pune)-410505

Syllabus Completion Report

Academic Year 2021-22 (2nd, 4th & 6th Semester)

The following subjects were taught in the first part of the academic year 2021-22. The workload of the teaching is as follows;

Class	Subject	Workload Per Week
S.Y.B.A.	English Special Paper II (S2)	04
S.Y.B.A.	Functional English IV	02
T.Y.B.A.	English General Paper III (G3)	04
T.Y.B.A. (Div 'A')	Compulsory English	04
S.Y.B.SC (CS)	English	04
M.A. I	English Literature from 1978 to the Present	02

S.Y.B.A. Discipline Specific Course (DSC-2A)- Appreciating Poetry (Old Special Paper-II (S2): - During the course teaching of special English students of S.Y.B.A, poetry recitation, question answer session, quiz sessions were conducted and the given topics of the prescribed poetry book 'Mirage: An Anthology of English Poetry' were taught in the given scheduled time. The topics taught as given below;

1. My Last Duchess- Robert Browning
2. Sailing to Byzantium- W. B. Yeats
3. Futility- Wilfred Owen
4. A Bird Came Down the Walk- Emily Dickinson
5. Talking in Their Sleep- Edith M. Thomas
6. What Is Life- John Clare
7. Sympathy- Paul Laurence Dunbar
8. The Awakening- James Weldon Johnson
9. The Wind- Amy Lowell
10. Freedom- Rabindranath Tagore
11. Caged Bird- Maya Angelou
12. Failure of Communication- Judith Wright

S.Y.B.A. Functional English IV: Oral Communication in English: Intermediate & Key Competency Modules (Practical Paper) During the course teaching of Functional English Paper IV of S.Y.B.A, the given topics of the syllabus were taught in the scheduled time. The topics taught as given below;

A: Oral Communication in English
I- Group discussion:
II- Personal Interview:
Preparing for an interview
III- Interviewing:
Preparations for interviewing others
IV- Conducting Panel discussion:
Similarities and differences between group discussion and panel discussion
V- Preparing and presenting an ad of a product (emphasis on language)
VI- Opening/closing a radio/TV programme
VII- Appreciation of a TV/Radio programme with reference to its type, content,
presentation: use of sounds/ colours/ music/ acting/ voice modulation/ (TV) long shots, close ups and total impact

T.Y.B.A. Skill Enhancement Course (SEC 1-C & SEC 1-D) (Old G-3)-

The following topics of prescribed text 'Aspirations: English for Careers' were taught in the scheduled time. The topics taught as given below;

Unit-V- English for Competitive Examinations (12 Clock Hours) 1. Vocabulary 2. Tenses 3. Prepositions 4. Précis Writing Unit-VI- English for Research Purposes (11 Clock Hours) 1. Research Writing 2. Writing a Research Proposal 3. Writing a Research Paper 4. Strategies for Writing Effective Research Papers Unit-VII- Content Writing (11 Clock Hours) 1. Applications and Types of Content Writing 2. Writing Blog Posts and Online Articles 3. Writing for Websites 4. Writing for Social Media Platforms Unit-VIII- English for Advertising (11 Clock Hours) 1. Writing for Advertisements 2. Writing Newspaper Advertisements 3. Writing Television and Radio Advertisements 4. Writing Internet Advertisements

T.Y.B.A. Compulsory English (Div 'A')- The following topics of prescribed text 'Exploring New Horizons' were covered. The topics taught as given below;
Unit-I- Prose 1. Shakespeare's Sister – Virginia Woolf 2. After Twenty Years – O. Henry 3. The Conjuror's Revenge – Stephen Leacock Unit-II- Poetry 1. The Man of Life Upright – Thomas Campion 2. Money Madness – D.H. Lawrence 3. The Toys – Coventry Patmore Unit-III- Grammar 1. Transforming Declarative sentences into Yes-No questions 2. Transforming Declarative sentences into Wh- questions 3. Transforming Positive Imperative sentences into Negative imperatives Unit-IV- Writing 1. Email Writing 2. Using Graphs and Charts 3. Dialogue Writing Unit-V- Soft Skills and Employability Skills 1. Stress Management 2. Motivation and Positive Approach 3. Goal Setting 4. Adaptability Skills -

S.Y.B.Sc (CS): Ability Enhancement Compulsory Course-AECC (English)
The following topics of prescribed text 'Horizons: English in Multivalent Contexts' were taught in the scheduled time.
UNIT-I-LITERATURE- 1. Short Story: i) My Lost Dollar: Stephen Leacock
2. Poetry: i) The Bird Sanctuary: Sarojini Naidu
ii) Stopping by Woods on a Snowy Evening: Robert Frost
UNIT-II-WRITING SKILLS (Sample Passages, Useful Techniques and Exercises)
1. Notices 2. Agenda 3. Minutes 4. Content Writing
UNIT-III-SOFT SKILLS AND PERSONALITY DEVELOPMENT (Sample Situations, Useful Techniques and Exercises) 1. An Introduction to Soft Skills 2. SWOC Analysis 3. Goal Setting
4. Project Management
M.A. I Paper 2.2 English Literature from 1978 to the Present- The following topics of prescribed syllabus were taught in the scheduled time.
Unit-I Elizabeth Barrett Browning: "The Cry of the Children" Alfred Lord Tennyson: From In Memoriam "I envy not in any moods" Robert Browning: "Among the Rocks" Unit-II T. S. Eliot: "Preludes" 28 W. B. Yeats: i) "Easter 1916" ii) "The Second Coming" Siegfried Sassoon: "Counter-Attack" Unit-III Seamus Heaney: "Blackberry-Picking" Anthony Thwaite: "Simple Poem" Kathryn Simmonds: "Experience" Jean Rhys: Wide Sargasso Sea Unit-IV: Tom Stoppard: Rosencrantz and Guildenstern Are Dead

Vikas Y. Raskar

Department of English

Syllabus Completion Report

2021-22

UG

Sr. No	Class	Subject	Number of Students	Online Lectures	Offline Lectures	Total Lectures
1	Fyba(B)	Com English	120	22	20	42
2	Fyba	Add Eng	14	21	22	43
3	Syba(A)	Com English	120	23	21	42
4	Syba	F4(Half Paper)	4	13	12	22
5	Tyba	S4(Half Paper)	18	12	14	24
6	Tyba	F6	17	21	23	44

Fyba Compulsory English Div- B Semester-I

Sr. No	Month	Lectures	Unit	Sub-Unit
1	Sept	5	**Prose:**	1. Engine Trouble — R. K. Narayan 2. On Saying 'Please' — A. G. Gardiner
2	Oct	10	**Prose:**	3. The Gift of the Magi — O. Henry
3	Nov	5	**Poetry:**	*1.* A Red, Red Rose — Robert Burns 2. Leave this Chanting and Singing — Rabindranath Tagore

4	Dec	8	**Poetry:** **Grammar:**	3. The Felling of a Banyan Tree — Dilip Chitre 1. Articles 2. Prepositions 3. Verbs Regular and Irregular Verbs Auxiliary Verbs: Primary and Modal

5	Jan	12	**Grammar:** **Communication Skills:**	4. Punctuation 1. Greeting and Taking Leave 1. Greeting and Taking Leave 2. Introducing Yourself 3. Introducing People to One Another 4. Making Requests and Asking for Directions
6	Feb	2	**Communication Skills:**	5. Making and Accepting Apology

Fyba Additional English Semester - I

Sr. No	Month	Lectures	Unit	Sub-Unit
1	Sept	5	**Prose Pieces:**	1. A Lesson My Father Taught Me - A.P.J. Abdul Kalam 2. Toasted English - R. K. Narayan (Half done)

2	Oct	9	**Prose Pieces:** **Short Stories:**	2. Toasted English - R. K. Narayan 1. The Romance of a Busy Broker - O. Henry
3	Nov	5	**Poetry:**	1. Sonnet 29: 'When in disgrace with Fortune and men's eyes' - William Shakespeare 2. The World is too much with Us - William Wordsworth
4	Dec	10	**Poetry:**	3. The Listeners - Walter de la Mare 4. No Men are Foreign - James Kirkup
5	Jan	10	**Short Stories:** **Language Studies: Introduction to the Sounds of English: Part - I**	2. The Open Window - Saki (Discrepancy between English Spelling and Pronunciation)
6	Feb	4	**Language Studies: Introduction to the Sounds of English: Part - I**	Phonetic Symbols and Transcription, The Concept of Phoneme and phonetics

SYBA Functional English Paper- IV(Half Paper) Semester- III

Sr. No	Month	Lectures	Unit	Sub-Unit
1.	Oct	2	**Types of Communication**	* Non-verbal Communication: * Importance of Body Language

2	Nov	4	**Situational Communication**	* Conversation in Formal and Informal Situations: Identifying formal/informal situations and using appropriate expressions to make conversation creative
3	Dec	4	**News Reading**	* Reading out news from the newspaper
4	Jan	8	**Speaking Activity**	* Talking in different situations: Formal and informal: * Compeering/anchoring a programme
5	Feb	4	**Speaking Activity**	* Role playing * Debating

Syba Compulsory English Div- A

Sr. No	**Month**	**Lectures**	**Unit**	**Sub-Unit**
1	Oct	8	**Unit-I- Prose**	1. The Chicago Speech- **Swami Vivekananda** 2. The Lottery Ticket- **Anton Chekhov**
2	Nov	6	**Unit-II- Poetry**	3. The Open Window- **Saki (H. H. Munro)** 1. On Another's Sorrow- **William Blake**

3	Dec	10	**Unit-II- Poetry** **Unit-III- Grammar**	2. Laugh and Be Merry- **John Masefield** **3.** The Rock and the Bubble- **Louisa May Alcott** 1. Question tags 2. Simple, Compound and Complex sentences
4	Jan	14	**Unit-III- Grammar** **Unit-IV- Vocabulary**	3. Degrees of Comparison 1. Collocations: Words that go together 2. Phrasal Verbs 3. Commonly Confused Words
5	Feb	4	**Unit-V- Soft Skills**	1. Problem-solving skills 2. Time management

TYBA Functional English Paper- VI Semester-V

Sr. No	**Month**	**Lectures**	**Unit**	**Sub-Unit**
1	Nov	10	**Unit I : Entrepreneurship Development**	Meaning and Concept of Entrepreneurship Development ii. Who is an Entrepreneur? iii. Factors affecting the growth of Entrepreneurship

2	Dec	16	**Unit I : Entrepreneurship Development** **Unit II. Introduction to Laws and Regulations**	Benefits of Being an Entrepreneur v. Qualities of an Entrepreneur vi. SWOT Analysis vii. Functions of an Entrepreneur i. Legal Aspects: Agreement, Franchisee, Lease, MOU etc. (Basics. Teachers can use some examples to explain these documents) ii. Basic Knowledge of Income Tax and GST
	Jan	17	**Unit III: SME and Start-ups** **Unit IV: Service Industry**	Promotional steps for starting a Small and Medium Enterprises (SMEs) ii. Meaning, definition and types of SME iii. Role of the Government in promoting SME iv. Role of the Government in promoting Start-ups (Eg. Startup India) i. Meaning, definition and scope

4	Feb	4	**Unit IV: Service Industry**	ii. Process of registration: SME and service industries iii. Similarities and differences between SMEs and service industries

TYBA Special English Paper- IV(Half Paper) Semester- V

Sr. No	**Month**	**Lectures**	**Unit**	**Sub-Unit**
1	Nov	7	**Unit-I- Orientation**	* Literary Criticism- definitions and functions * . Qualities of a good critic
2	Dec	7	**Unit-I- Orientation**	* Literature of knowledge and literature of power
3	Jan	6	**Unit-III- Romantic/Victorian Criticism**	* Wordsworth's definition of poetry, Coleridge's distinction between fancy and imagination
4	Feb	4	**Unit-III- Romantic/Victorian Criticism**	* Matthew Arnold's three estimates of poetry

Dr.Shwetambari S Alhat

Subject Teacher

Syllabus Completion Report

PG

Total workload- 2.5 Papers

Sr. No	Class	Subject	Number of Students	Online Lectures	Offline Lectures	Total Lectures
1	MA -I	English Literature From 1550-1798	25	14	6	20
2	MA -I	Contemporary Studies in English Language	25	15	5	20
3	MA -II	Indian Writing in English	05	13	7	20
4	MA -II	American Literature	05	12	8	20
5	MA -II	World Literature	05	13	7	20

MA PART - I

Paper 1.1 English literature from 1550- 1798

(Half Paper) Semester- I

Sr. No	Month	Lectures	Unit	Sub-Unit
1	Oct	2	**Unit-I**: **Sir Philip Sidney**:	The following lyric from *Astrophel and Stella*: 'Come Sleep! O Sleep, the certain knot of peace'

2	Nov	2	**Unit-I**: **Edmund Spenser**: **Unit-II** **John Donne**:**Andrew Marvell**:	The following poem from *Amoretti*–"Ye tradefull Merchants that with weary toyle" i) "The Sunne Rising" ii) "Batter my heart, three-person'd God" "On Mr. Milton's Paradise Lost"
3	Dec	4	**Sir Walter Raleigh: Robert Herrick:** **George Herbert**: **Edmund Waller**:	"The Lie" "Delight in Disorder" I. "Death II. "The Collar" I "Go, lovely Rose"
4	Jan	6	**Unit-III** **Christopher Marlowe**:	*Edward II*
5	Feb	6	**Unit-IV** **William Shakespeare**:	*The Tempest*

MA PART - I

Paper 1.3 Contemporary Studies in English Language

(Half Paper) Semester- I

Sr. No	Month	Lectures	Unit	Sub-Unit

1	Oct	2	**Unit-1: Introduction to Linguistics and Contemporary Theories/Views of Language**	A) Introduction: What is Linguistics? Major branches of Linguistics (Psycholinguistics,
2	Nov	2	**Unit-II: Phonology**	i) The Phonemes of English: Description and Classification
3	Dec	4	**Unit-III: Morphology**	i) Structure of words: The concepts of Morpheme and Allomorph ii) Types of Morpheme (free, bound, prefixes, suffixes: class changing, class-maintaining, inflectional, derivational), General Principles of Lexicography.
4	Jan	6	**Unit-IV: SYNTAX**	a) Sentences and their Parts b)Sociolinguistics, Computational linguistics, Historical linguistics), Linguistics in the 20th century: A short history
5	Feb	6	**Unit-IV: SYNTAX**	i) Words ii) The Syllable: Structure and Types, Syllabic Consonants

MA PART - II

Paper 3.1 Indian Writing in English Literature

(Half Paper) Semester- III

Sr. No	Month	Lectures	Unit	Sub-Unit
1	Oct	2	**Unit-III:** Derozio to Naidu-	Henry Derozio: 1) *Freedom to the Slave* 2) *The Orphan Girl*
2	Nov	2	**Unit-III:** Derozio to Naidu-	Toru Dutt: 1) *Sita* 2) The Sower Manmohan Ghose: 1) *Can IT Be?*
3	Dec	4	**Unit-III:** Derozio to Naidu-	Sri Aurobindo: 1) *Rose of God* 2) *The Tiger and the Deer* Rabindranath Tagore: 1) *Defamation* 2) *Little Flute*
4	Jan	6	**Unit-IV**:	Sarojini Naidu: 1) *Autumn Song* 2) *Summer Woods* *My Days: A Memoir*- R. K. Narayan

5	Feb	6	**Unit-IV**:	*My Days: A Memoir*- R. K. Narayan

MA PART - II

Paper 3.6 American Literature

(Half Paper) Semester- III

Sr. No	**Month**	**Lectures**	**Unit**	**Sub-Unit**
1	Oct	2	**UNIT-I: Early writings** **UNIT-III**: **Novel 15 clock hours** **James Fennimore Cooper**- *The Last of the Mohicans* **UNIT-IV**: **Autobiography**	**Columbus**, From *Letter to Ferdinand and Isabella Regarding the Fourth Voyage* [Jamaica, July 7, 1503].
2	Nov	2	**UNIT-I: Early writings**	b) **John Heckewelder**, From *History, Manners, and Customs of the Indian Nations* (Chapter II &III) [Delaware Legend of Hudson's Arrival

3	Dec	4	**UNIT-I: Early writings**	**J Hector St. John De Crevecoeur**, From *Letter IX. Description of Charles-Town;* *Thoughts on Slavery; on Physical Evil; A Melancholy Scene*
4	Jan	6	**UNIT-II**: **Poetry**	a) **Anonymous-** "Lenape War Song" b) **Philip Freneau**- i) "On Mr. Paine's Rights of Man" ii) "On the Religion of Nature"
5	Feb	6	**UNIT-II**: **Poetry**	**Anne Bradstreet**- i) "The Author to Her Book" ii) "In Memory of My Dear Grandchild Anne Bradstreet, Who Deceased June 20, 1669, Being Three Years and Seven Months Old" d) **Paul Laurence Dunbar-** i) "We Wear the Mask", ii) "Harriet Beecher Stowe"

MA PART - II

Paper 3.8 World Literature

(Half Paper) Semester- III

Sr. No	Month	Lectures	Unit	Sub-Unit
1	Oct	2	**Unit-II**: **Poetry** **Unit-IV: Biography 15 clock hours** **Anne Frank**- *The Diary of a Young Girl*	**Geoffrey Chaucer**- "The Canterbury Tales: General Prologue" **Aleksandr Pushkin**- "To a Poet"
2	Nov	2	**Unit-II**: **Poetry**	**Lucy Maud Montgomer**- "Come, Rest Awhile" **Gabriela Mistral**- "Song of death"
3	Dec	4	**Unit-II**: **Poetry**	**Doris Lessing**- i) "Fable", ii) "Dark Girl's Song" **Margaret Atwood**- "Marrying the Hangman", "A Sad Child"
4	Jan	6	**Unit-III**: **Fiction**	**Nadine Gordimer**- *My Son's Story*

5	Jan	6	**Unit-III**: **Fiction**	**Nadine Gordimer**- *My Son's Story*

Dr.Shwetambari S Alhat

Subject Teacher

Hutatma Rajguru Mahavidyalaya, Rajgurunagar (Pune)-410505

Syllabus Completion Report

Academic Year 2021-22 (2nd, 4th & 6th Semester)

The following subjects were taught in the first part of the academic year 2021-22. The workload of the teaching is as follows;

Class	Subject	Workload Per Week
F.Y.B.A.	Additional English (G1)	04
S.Y.B.A. (Div 'A & B')	Compulsory English	08
S.Y.B.A.	Functional English IV (F4)Sharing	02
S.Y.B.A.	SEC	02
T.Y.B.A.	English Special paper VI (S4) Sharing	02
T.Y.B.A.	Fun English Paper VI	04

F. Y. B. A- Optional English (General Paper-1)

During the course teaching of additional English students of F.Y.B.A, along with prescribed syllabus competition, question answer session, quiz sessions were conducted and the entire syllabus of the 2nd semester from the prescribed book ***Initiations: Minor Literary Forms & Basics of Phonology*** was successfully finished through online & offline mode.

Semester - II

Short Stories:

1. The Doll's House - Katherine Mansfield
2. The Thief – Ruskin Bond

Poetry:

1. I remember; I remember – Thomas Hood
2. Where the Mind is without Fear - Rabindranath Tagore
3. The Mountain and the Squirrel - R. W. Emerson

4. Up – Hill - Christina Rossetti

One Act Plays:

1. The Monkey's Paw - W.W. Jacobs

2. Swansong - Anton Chekhov

S.Y.B.A. Compulsory English (Core Course-CC) Div 'A&B'

The following topics of prescribed text Panorama: Values and Skills through Literature were so far completed in the both online & offline scheduled time. The topics taught so far as given below;

Unit-I- Prose

1. The Chicago Speech- **Swami Vivekananda**

2. The Lottery Ticket- **Anton Chekhov**

3. The Open Window- **Saki (H. H. Munro)**

Unit-II- Poetry

1. On Another's Sorrow- **William Blake**

2. Laugh and Be Merry- **John Masefield**

3. The Rock and the Bubble- **Louisa May Alcott**

Unit-III- Grammar

1. Question tags

2. Simple, Compound and Complex sentences

3. Degrees of Comparison

Unit-IV- Vocabulary

1. Collocations: Words that go together

2. Phrasal Verbs

3. Commonly Confused Words

Unit-V- Soft Skills

S.Y.B.A. Functional English IV: Oral Communication in English: Intermediate & Key Competency Modules (Practical Paper)

During this vocational course took practice of students of Topic presentation, seminar , group discussion, writing an advertisement. The prescribed paper is based on oral practice so took activities accordingly.

Discipline Specific Elective (DSE-2C & DSE-2D) (Old S-4)

Title of the Paper: Introduction to Literary Criticism

The above paper was shared with Prof. Wadekar . I dealt half paper and successfully completed the two units given below.

Unit-I- Modern Criticism

Eliot's theory of impersonality, William Empson's seven types of ambiguity, Georg Lukacs' concept of realism, Sigmund Freud's structure of human mind- id, ego and superego

Unit-III- Critical Terms and Practical Criticism (15 clock hours)

Critical Terms:

1. Catharsis
2. Allegory
3. Diction
4. Irony
5. Motif and theme
6. Genre
7. Metaphor
8. Point of view

Paper VI Entrepreneurship Development, Project Report & Oral Communication in English: Advanced (Practical Paper)

This is practical paper . During this vocational course offered to the class TYBA under the title Functional English Paper VI, speech practice, news reading and project writing had been taken.

Dr. S S Alhat

Department of English

Hutatma Rajguru Mahavidyalaya, Rajgurunagar (Pune)-410505
Syllabus completion Report
Academic Year 2021-22

FY. B.COM DIV (B,C,D,E) SUBJECT - COMPULSORY ENGLISH : SUCCESS AVENUE : 138 LECTURES

MONTH	LECTURES	TABLE OF CONTENTS IN THE SYLLABUS	Sub points
DECEMBER	38	Prose: 1) The Beggar: Anton Chekov 2)Black money black economy: C. Rammanohar Reddy 3) NIghtingale and the Rose	Author's biography, themes, characters, analysis, questions. Definition of the term black money, demonitization, indian economy, sources of black money, assets. Author's introduction, background to the story, themes, characters, plotline, genre, questions and discussion
JANUARY	48	4) Muhammad Yunus: An Economics for Peace: Farida Khan Poetry: Up Hill: Christiana Rossetti Stay Calm: Grenvile Kleiser	Author's introduction, microfinance and microcredit, history of nobel prize, establishment of Gramin Bank in Bangladesh Background, what is an allegory, cannotative and denotative meaning. themes like life and death, heaven, hell and afterline. The art of staying calm, sprituality, tranquilty. Getting angry in day to day life. causes of getting angry.
FEBRUARY	45	Communication and Life Skills:	Greeting People and

		1) Meeting and Greeting People, and Dialogues 2)Group discussion, and Interview and Interviewing skills 3) Presentation Skills	exchanging dialogues. How to speak in public. What is GD. elements of a group discussion. Scope and importance of interview skills. techniques of taking an interview. What is Presentation? Importance and scope. techniques and strategies involving into a presentation. How to be a good presentator. How to prepare a slide

F.Y. B.A. SUBJECT: SKILL ENHANCEMENT COURSE : 18 LECTURES

MONTH	LECTURES	TOPICS	SUB TOPICS
DECEMBER	06	1) Meaning and Nature of Skills. 2)Importance of Life Skills	Importance of life skills in human life. Scope, nature and importance of life skills. Application of life skills in human life. merits and demerits of having a life skill. communication skill as a life skill
JANUARY	09	3) Problem solving and decision making skill. 4) Critical and Creative Thinking	Dealing with various problems in daily life. Finding a solution. how to make decisions quickly What is critical and creative thinking? difference between the two. how to make use of critical thinking in using creative thinking

FEBRUARY	08	5) Interpersonal skills: Understanding and cooperating with others 6) Management of stress and emotions	Communication skills as an interactive skills. avoiding an argument. cooperating with other fellow being Managing anger and emotional breakdowns. helping yourself with other techniques of venting anger

M.A. PART TWO. SUBJECT: 3.4. INDIAN LITERATURES IN ENGLISH TRANSLATION

MONTH	LECTURES	UNITS	SUB UNITS
DECEMBER	10	Introduction to Indian writing in English Drama: Vultures: Vijay Tendulkar	Introduction, background to the play. plotline, characters, themes, analysis, critical appreciation of the text, summary and commentaries by critics. Students presentation on Vijay Tendulkar as a dramatist.

JANUARY	15	Novel: Paraja: Gopinath Mohanty. Prose: Short Stories 1) Some Poses and some snaps: Bashir Akhtar 2) The Patch: Suresh Joshi	Backround to the work and introduction to the author. subaltern studies. critics of subaltern studies. Paraja as a subaltern novel. plot, themes, character construction. summary and analysis. Students presentation on paraja as a subaltern novel. Background and introduction to the author and the short stories. a detailed summary and critical analysis. themes and characters. History of Gujrati literature and contribution of suresh joshi in it. Significance of the title. a detailed summary and character analysis.
FEBRUARY	15	Poetry: 1)Thiruvalluvar: from Thirukkural (chapter 5 family life and on friendship) 2) would a circling surface vulture: Akka Mahadevi 3)Hey brother, why do you want me to talk? 'I wont come' By Kabir Das 4) 'Life in the world'	Background and introduction to the author and the short stories. a detailed summary and critical analysis. themes and characters. Background and introduction to the author and the short stories. a detailed summary and critical analysis. themes and characters. Background and introduction to the

		'strange is the path when you lovee' by Mirabai 5) Being in turmoil' Dilip Chitre 6) 'if fortune has brought you my way at last' by jogeshwari 7) 'my father keshva' I am no scholar' by Atukuri Molla.	author and the short stories. a detailed summary and critical analysis. themes and characters. Background and introduction to the author and the short stories. a detailed summary and critical analysis. themes and characters.

Prof. R. S. Pawar

Department of English

Hutatma Rajguru Mahavidyalaya, Rajgurunagar (Pune)-410505
Workload Report
Academic Year 2021-22 (2nd, 4th, 6th Semester)

To,

The Principal,

Hutatma Rajguru Mahavidyalaya,

Rajgurunagar

Subject Teacher : Saloni Suraj Wadekar

Subject : Second Semester workload.

Respected Sir,

The following subjects were taught in the second part of the academic year 2021-22. The workload of the teaching is as follow :

Class	Subject	Workload Per Week
F.Y.B.A. (Div 'B')	Compulsory English	04
F.Y.B.A. (Div 'C')	Compulsory English (Sharing)	02
S.Y.B.A.	English General Paper II (G2)	02
S.Y.B.A.	Functional English Paper III	04
S.Y.B.SC (CS)	English (Sharing)	02
T. Y. B. A.	English special Paper IV (S4) (Sharing)	02
T. Y. B. A.	Functional English Paper V	04

Prof. S. S. Wadekar

Department of English

Hutatma Rajguru Mahavidyalaya, Rajgurunagar (Pune)-410505
Syllabus completion Report
Academic Year 2021-22 (2nd, 4th, 6th Semester)

To,

The Principal,

Hutatma Rajguru Mahavidyalaya,

Rajgurunagar

Subject Teacher : Saloni Suraj Wadekar

Subject : Second Semester Syllabus Completion Report.

Respected Sir,

Syllabus completion report of UG

Sr.no	Class	Subject	Syllabus
1	FYBA 'B'	Compulsory English	100%
2	FYBA C Sharing	Compulsory English	100%
3	SYBA	English General Paper II (G2)	100%
4	SYBA	Functional English Paper -III (F3)	100%
5	SYBSC - Sharing	English	100%
6	TYBA Sharing	English special Paper IV (S4)	100%
7	TYBA	Functional English Paper V	100%

F. Y. B. A. Compulsory English, Prescribed Text : Literary Gleam : An Anthology of Prose and Poetry

Prose:
1. In Sahyadri Hills, A Lesson in Humility — Sudha Murthy
2. The Model Millionaire — Oscar Wilde
3. The Eyes are not Here — Ruskin Bond

Poetry:
1. My Heart Leaps Up — William Wordsworth
2. Ozymandias — P. B. Shelley
3. Success is Counted Sweetest — Emily Dickinson

Grammar:
1. Tenses
2. Subject–Verb Agreement
3. Vocabulary

Communication Skills
1. Inviting and Accepting/Declining Invitations
2. Making a Complaint
3. Congratulating, Expressing Sympathy and Offering Condolences
4. Making Suggestions, Offering Advice and Persuading

S. Y. B. A. Skill Enhancement Course-SEC-1A (Old General English-G-2)

1. Syntax:

1. Concept of Phrase, Phrase structure rules/ types of Phrases: Noun phrase, Adjective phrase, Adverb phrase, Prepositional phrase and Verb phrase.
2. Concept of Clause, Parts of Clauses: Subjects and objects, complements and Adverbials, Concept of Subject –verb Concord, Clause patterns.
3. Types of Sentences: Structural Classification - Simple Sentence, Compound Sentence and Complex sentence
4. Types of Sentences: Functional Classification - (affirmatives/interrogatives/imperatives) Wh –questions, Yes-No Questions, Tag Questions, Negative Sentences, Do-support, Imperatives

2. Semantics: (Introductory)

1. What is Semantics? Difference between Denotative and Connotative meaning.
2. Lexical relations: Synonymy, Antonymy, Homonymy, Homography and Homophony, Polysemy, Difference between Homonymy and Polysemy, Superordinate terms and Hyponymy, Metonymy.

3. Pragmatics: (Introductory)

1. What is Pragmatics?
2. Speech Acts: Types
a. Austin's typology - locutionary, illocutionary, perlocutionary.
b. Searle's typology – the six types
c. Direct and Indirect Speech Acts
3. The Co-operative Principle and Its Maxims
4. The Politeness Principle and Its Maxims

S.Y.B.A. FUNCTIONAL ENGLISH Paper III (w.e.f. 2020-21) (Choice Based Credit System)

I . Writing Reports

Nature and structure of reports, Types of reports: visit reports, survey reports and reports on events.

II. Writing Scripts for Compeering a Programme

Writing Scripts for Compeering a programme, functions, festivals etc.

III. Introduction to Blog Writing

Introduction to Blog Writing (Discussions on various blog platforms viz. Wordpress, Blogspot.com/Blogger)
Types of Blogs: Features of different types of blogs like Travel, Recipe, Hobbies, Vlog- Video Blog, etc.

IV. Introduction to Electronic Media: A) Radio:

a. Radio as Mass Media

b. Functions and structure of Radio Studio

i) Types of Radio programmes a) Educational b) Informative

c) Entertainment

d) Miscellaneous

V. Introduction to Electronic Media:
B) TV:

a. TV as Mass Media

b. TV Studio

i i) Types of TV programmes a) Educational

b) Informative

c) Entertainment

d) Miscellaneous

VI. Similarities and differences between Radio and TV as Mass Media with special reference to the use of language in both:

SYBSC (Computer Science) ENGLISH (Ability Enhancement Compulsory Course-AECC)

UNIT-I-LITERATURE
1. Short Story:
i) My Lost Dollar: Stephen Leacock
2. Poetry:
i) The Bird Sanctuary: Sarojini Naidu
ii) Stopping by Woods on a Snowy Evening: Robert Frost

UNIT-II-WRITING SKILLS
(Sample Passages, Useful Techniques and Exercises)

1. Notices
2. Agenda
3. Minutes
4. Content Writing

UNIT-III-SOFT SKILLS AND PERSONALITY DEVELOPMENT
(Sample Situations, Useful Techniques and Exercises)
1. An Introduction to Soft Skills
2. SWOC Analysis
3. Goal Setting
4. Project Management

T. Y. B. A. Discipline Specific Elective (DSE-2C & DSE-2D) (Old S-4) Introduction to Literary Criticism

Unit-II- New Criticism

Allen Tate's concept of tension, Cleanth Brooks' notion of paradox as the structure of poetry, Wimsatt and Beardsley's concept of intentional fallacy

Practical Criticism:

Practical criticism of poems, passages from novels and plays, etc.

T. Y. B. A. . FUNCTIONAL ENGLISH Paper V (w.e.f. 2020-21) (Choice Based Credit System)I. Writing Book Review

i) What is Book Review?
ii) Nature, characteristics and purpose of book review
iii) Types of Review
iv) Review and critical analysis

II. Basics of Translation studies with reference to mass media

i) Meaning, definition and Nature of translation in Mass media
ii) Scope for translation in media sector
iii) Writing and translating news, articles, column in print media
iv) Study of the translated words and phrases for their effective use while writing for media
v) Translating given text from Hindi/ Marathi into English and vice-a versa

III. Appreciating Film and Writing Film Reviews:

i) A Brief History of film studies (Origin, Development and Present)
ii) Types of Films: Documentary, Feature film
iii) Essentials of a film:
a. Story and Plot
b. Screenplay and dialogue
c. Direction or Authorship
d. Acting
e. Mise en Scene
f. Cinematography
g. Sound and Music
h. Costume and Make up
i. Writing film reviews with reference to the above points
ii. Similarities and differences between a film and a literary work with special reference to the structure and language

B: Key Competency Modules

i. Stress, Time and Conflict Management
ii. Introduction to Right to Information
iii. Creative and Critical Thinking

Prof. S. S. Wadekar

Department of English

K.T.S.P. Mandal's

HUTATMA RAJGURU MAHAVIDYALAYA

Rajgurunagar, Tal. Khed, Dist. Pune- 410505

Faculty :- Mental Moral & Social Science

DEPARTMENT OF POLITICAL SCIENCE

SYLLABUS COMPLETION REPORT AND OTHER ACTIVITY REPORT -2021-22

Name of Professor: DR. KAILAS SONAWANE

Sr.	Class	Subject Name	Subject Professor
1.	FYBA	Introduction to Indian Constitution -[G1]	Dr. Kailas Sonawane
2.	SYBA	Western Political Thought (S1)	Dr. Kailas Sonawane
3.	TYBA	Public Administration (S3)	Dr. Kailas Sonawane
4.	SEC1	Basics Of Indian Constitution	Dr. Kailas Sonawane

(A) SYLLABUS COMPLETION REPORT-2021-22

Paper Name: **INTRODUCTION TO INDIAN CONSTITUTION-[G-1]**

Class : **F.Y.B.A,** Division: **A, B, C, D**

Number of Students : 456

Name of Professor: **DR. KAILAS SONAWANE**

Sem. I

Month	No. of Periods	Actual Periods	Unit/ Chapter	Sub- Units
Sep.2021	12	**16**	**Topic 1: Background and the Salient Features of Indian Constitution**	a) Formation of Constituent Assembly b) Philosophy of the Preamble for Indian Constitution c) Major Features: Parliamentary Democracy, Federalism, Independent Judiciary –Social Justice and Social Transformation
Oct. Nov. 2021	12	**16**	**Topic 2: Fundamental Rights, Duties and the Directive Principles of State Policy**	a) Nature of Fundamental Rights –Major Fundamental Rights-Right to Equality, Right to Liberty, Right to Freedom of Religion, Cultural and Educational Rights b) Importance of Fundamental Duties c) Nature and Significance of Directive Principles of State Policy
Dec.2021	12	**15**	**Topic 3: Federalism**	A) Salient Features of Indian Federalism b) Centre –State Relations c) Issues of Conflict-Water Issue, Border Issue and Sharing of Resources
Jan. Feb.2022	12	**15**	**Topic 4: Constitutional Amendments: Scope and Limitations**	a) Constitutional Provisions b) Major Constitutional Amendments (42, 44 & 86) c) Basic Structure of the Indian Constitution
Total	48	**62**	-	-

SYLLABUS COMPLETION REPORT–2021-22

Paper Name : **WESTERN POLITICAL THOUGHT [S-1]**
Class : **S.Y.B.A,** Division : **– S-1**
Number of Students : 66
Name of Professor : **DR. KAILAS SONAWANE**

Term-V

Month	No. of Periods	Actual Periods	Unit/ Chapter	Sub- Units
Sep. 2021	12	**12**	**Unit 1: Plato**	a) Ideal State b) View on Education c) Theory of Justice
Oct. Nov.2021	12	**12**	**Unit 2: Aristotle**	a) Classification of the State b) Views on Slavery c) Theory of Revolution
Dec. 2021	12	**12**	**Unit 3: Machiavelli**	a) Human Nature b) Attitude towards Religion and Morality c) Views on State
Jan. - Feb.2022	12	**15**	**Unit 4: Locke**	a) State of Nature b) Natural Rights c) Theory of Social Contract
Total	**48**	**51**	-	-

SYLLABUS COMPLETION REPORT–2021-22

Paper Name : **PUBLIC ADMINISTRATION (S 3)**
Class : **T.Y.B.A,** Division : –
Number of Students : 56
Name of Professor : **DR. KAILAS SONAWANE**

Sem.-V

Month	No. of Periods	Actual Periods	Unit/ Chapter	Sub- Units
Sept. 2021	12	**12**	**Unit 1: Public Administration**	a) Meaning b) Nature c) Scope and Significance
Oct.- Nov. 2021	12	**12**	**Unit 2: New Public Administration**	a) Evolution b) Salient Features c) Goals
Dec. 2021	12	**12**	**Unit 3: Approaches to Public Administration**	a) Traditional Approach b) Behavioral Approach c) System Approach
Jan.- Feb.2021	12	**12**	**Unit 4: Governance**	a) Idea of Good Governance b) E-Governance c) Public Private Partnership
Total	48	**48**	-	-

SYLLABUS COMPLETION REPORT–2021-22

Paper Name : **BASICS OF INDIAN CONSTITUTION (SEC)**
Class : **S.Y.B.A,** Division : **–**
Number of Students : 66
Name of Professor : **DR. KAILAS SONAWANE , & PROF.H.DEVARE**

Sem-III

Month	No. of Period	Actual Period	Unit/ Chapter	Sub- Units
Sept. Oct. Nov.2021	10	12	**UNIT – I** **1. Making of the Indian Constitution**	a) Historical Background b) Constituent Assembly c) Preamble d) Salient Features
Dec. 2021 Jan. 2022	10	12	**UNIT - II** **2. Fundamental Rights**	Major Fundamental Rightsa) Right to Equality b) Right to Liberty c) Right to Freedom of Religion d) Cultural and Educational Rights
Total	20	24		

SYLLABUS COMPLETION REPORT PG –2021-22

Paper Name : Political Thought Of Dr. Babasaheb Ambadkar.
Class : **M.A., III Sem.**
Number of Students : 21
Name of Professor : **DR. KAILAS SONAWANE**

Sem. -III

Month	No. of Periods	Unit/ Chapter
Sept. 2021	9	**UNIT – I** **1. Constitution Philosophy.**
Sep Dec. 2021	10	**UNIT – II** **2. Views On Caste And Untouchability.**
Dec. 2021 Jan. 2022	9	**UNIT – III** **Views On Social Democracy .**
Feb. 2022	9	**UNIT – IV** **Views On Indian Economy .**
Feb. 2022	9	**UNIT – V** **Views On Dhama, Religion .**

(B) E- Content : -

1..INTRODUCTION TO INDIAN CONSTITUTION-[G-1] : All Topic Upload
2. WESTERN POLITICAL THOUGHT [S-1]: All Topic Upload
3. PUBLIC ADMINISTRATION (S 3) : All Topic Upload
4.BASICS OF INDIAN CONSTITUTION (SEC) : : All Topic Upload

(C) Research work :

1. **One Research paper Peer –Reviewed & Refreed Indexed :**
2. **One Book in process.**

(D) Department Activity :

1. Chatrapati Shau Maharaj Jayanti – 26/06/2021.
2. Constitution Day .-26/11/2021.

(E) Website information:

1.Upload all Activity Report

(F) Timetable :

	Time	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.
1	7.30 -8.20	F-B	F-B	F-C	F-B		F-A
2	8.20 – 9.10	S-1	F-C	F-A	S-1	S-1	S-1
3	9.20 – 10.10	F-C		S-3	F-C	S3	S-3
4	10.10 – 11.00		S -3		F-A	F-A	F-B
5	11.00 – 11.50	SEC	SEC				
6	11.50 – 12.30						

DR. KAILAS SONAWANE

K.T.S.P. Mandal's

HUTATMA RAJGURU MAHAVIDYALAYA

Rajgurunagar, Tal. Khed, Dist. Pune- 410505

Faculty :- Mental Moral & Social Science

DEPARTMENT OF POLITICAL SCIENCE

SYLLABUS COMPLETION REPORT–2021-22

Name of Professor: **DR. PRABHAKAR JAGTAP**

Sr.	Class	Subject Name	Subject Professor
1.	SYBA	An Introduction to Political Science -[G-2]-Sem. III	Dr. Prabhakar Jagtap
2.	SYBA	Political Journalism -[S-2] - Sem. IV	Dr. Prabhakar Jagtap
3.	TYBA	International Relations -[S-4]	Dr. Prabhakar Jagtap
4.	TYBA	Local Self Government In Maharashtra -[G-3]	Dr. Prabhakar Jagtap
5.	SEC1	Samyukta Maharashtra Movement Sem. (V) SEC-2C(2)	Dr. Prabhakar Jagtap

SYLLABUS COMPLETION REPORT–2021-22

Paper Name : An Introduction to Political Science -**[G-2]**

Number of Students : **193**

Class : **S.Y.B.A,** Division: **A & B**

Name of Professor : **DR. PRABHAKAR JAGTAP**

Sem. - III

Month	No. of Periods	Actual Periods	Unit/ Chapter	Sub- Units
Oct. –Nov. 2021	**12**	**13**	**Unit 1: The Study of Political Science**	a) Definition b) Nature c) Scope
Nov. – Dec. 2021	**11**	**13**	**Unit 2: Approaches to Study Political Science**	a) Normative b) Empirical c) Feminist
Dec. -Jan. 2021-22	**11**	**13**	**Unit 3: Basic Concepts**	a) The State b) The Market c) The Civil Society
Jan, Feb. 2022	**11**	**12**	**Unit 4: Democracy**	a) Representative b) Deliberative c) Participatory
Total	**45**	**51**	-	-

SYLLABUS COMPLETION REPORT–2021-22

Paper Name : Political Journalism -[S-2] - Sem. III
Number of Students : **66**
Class : **S.Y.B.A** Division : --
Name of Professor : **DR. PRABHAKAR JAGTAP**

Sem. III

Month	No. of Periods	Actual Periods	Unit/ Chapter	Sub- Units
Oct. – Nov. 2021	**12**	**14**	**Unit 1: An introduction to Political Journalism**	a) Definition and Meaning b) Nature c) Scope
Nov. – Dec. 2021	**11**	**14**	**Unit 2: Agencies of Political Journalism**	a) Print b) Electronic c) Web
Dec. - Jan. 2021-22	11	**15**	**Unit 3: History of Political Journalism**	a) Pre-Independence b) Post-Independence c) World History
Jan, Feb. 2022	11	**14**	**Unit 4: Methods of Political Journalism**	a) Reporting of Political Events b) Political Interview c) Commentary of Legislation
Total	45	57	-	-

SYLLABUS COMPLETION REPORT–2021-22

Paper Name : **LOCAL SELF GOVERNMENT IN MAHARASHTRA [G-3]**
Class : **T.Y.B.A** Division: A&B SEMESTER-**(V) CC-1 E (3)**
Number of Students : **151**
Name of Professor : **DR. PRABHAKAR JAGTAP**

Term-I

Month	No. of Periods	Actual Periods	Unit/ Chapter	Sub- Units
Oct. – Nov. 2021	12	**12**	**Unit 1:** Evolution of Local Self Government	a. Background of Panchayati Raj in British Era b. Community Development Program – 1952 c. Balavantrai Mehata Committee – 1957
Nov. – Dec. 2021	12	**13**	**Unit 2:** Varies committee of Local Self Government in Maharashtra	a. Vasantrao Naik Committee – 1960 b. L. N. Bongirwar Committee – 1970 c. P. B. Patil Committee – 1985
Dec. -Jan. 2021-22	12	**12**	**Unit 3:** 73rd Amendment and Rural Bodies	a. Background of 73rd Constitutional Amendment b. Constitutional change in Article 243 c. Gram Sabha & Gram Panchayat
Jan, Feb. 2022	12	**12**	**Unit 4:** 73rd Constitutional Amendment and Rural Bodies	a. Panchayat Samiti b. Zilha Parishad c. Schedule XI In Constitution
Total	48	**49**	-	-

SYLLABUS COMPLETION REPORT–2021-22

Paper Name : **INTERNATIONAL RELATIONS [S-4]**
Class : **T.Y.B.A** Division :-- **SEMESTER- (V) DSE 2 C (3)+1**
Number of Students : **56**
Name of Professor : **DR. PRABHAKAR JAGTAP**

Term-I

Month	No. of Periods	Actual Periods	Unit/Chapter	Sub- Units
Oct. – Nov. 2021	12	**12**	**Unit 1: Introduction to International Relations**	a) Development and Meaning b) Nature c) Scope
Nov. – Dec. 2021	12	**13**	**Unit 2: Approaches to International Relations**	a) Idealism b) Realism – Neo realism c) System approach d) Marxism
Dec. -Jan. 2021-22	12	**13**	**Unit 3: World War II and the Cold War**	a) Causes and Consequences of the world war II b) Emergence of the cold war and its phase c) End of cold war and the emerging world order
Jan, Feb. 2022	12	**12**	**Unit 4: International Organizations**	a) The United Nations - its structure and peacekeeping Functions- Reforms of UN b) International Financial institutions : World Bank, IMF, WTO c) Regional Organizations : EU, SAARC, ASEAN, BRICS
Total	48	**50**	-	-

दि . 01 जुन 2022

प्रती

मा . प्राचार्य

हुतात्मा राजगुरू महाविद्यालय

राजगुरूनगर

विषय : सत्र दुसरे अभ्यासक्रम पूर्तता अहवाल 2021 - 2022

महोदय,

मी या शैक्षणिक वर्षात दुस-या सत्रात प्रथम वर्ष कला, द्वितीय वर्ष कला, तृतीय वर्ष कला या वर्गाना इतिहास विषयाचे अध्यापन केले . या वर्गाचे संबंधित अभ्यासक्रम पूर्ण झाले आहेत . पूर्ण केलेले अभ्यासक्रम खाली देत आहे .

प्रथम वर्ष कला : प्रारंभिक भारत : उत्तर - मौर्यकाळ ते राष्ट्रकुट काळ

प्र . 1 मध्य आशियाशी संबंध आणि शुंग -सातवाहन काळ प्र . 2 दक्षिण भारताचा प्रारंभिक इतिहास प्र . 3 उत्तर भारत : गुप्त साम्राज्य आणि हर्षवर्धन प्र . 4 प्रादेशिक राज्ये : संक्षिप्त इतिहास

द्वितीय वर्ष कला : मराठयांचा इतिहास (1707 - 1818)

प्र . 1 मराठी सत्तेचे एकत्रीकरण आणि विस्तार प्र . 2 मराठा सत्तेचे दृढीकरण प्र . 3 पानिपतनंतरचे पुनरूज्जीवन आणि -हास प्र . 4 पेशवेकालीन प्रशासन व समाज

तृतीय वर्ष कला : स्वातंत्र्योत्तर भारत (1947 - 1991)

प्र . 1 स्वातंत्र्यानंतरची आव्हाने प्र . 2 भारताचे परराष्ट्र धोरण प्र . 3 भारताचे अंतर्गत धोरण प्र . 4 भारताचे आर्थिक धोरण

उपरोक्त अभ्यासक्रम पूर्ण केला आहे . तरी यावावत योग्य ती नोंद व्हावी ही विनंती .

कळावे

आपला

किशोर जनार्दन लांडेपाटील

इतिहास विभाग

Scanned with CamScanner

खेड तालुका शिक्षण प्रसारक मंडळाचे

हुतात्मा राजगुरू महाविद्यालय

राजगुरूनगर, ता. खेड, जि. पुणे ४१०५०५

भूगोल विभाग

अभ्यासक्रम पूर्तता अहवाल

शैक्षणिक वर्ष २०२१— २०२२ करिता

वर्ग—प्रथम वर्ष कला (FYBA)

विषय — प्राकृतिक भूगोल — (प्रथम सत्र) जी १

विषय शिक्षकांचे नाव — प्रा. दिलीप मुळूक **शैक्षणिक वर्ष २०२१—२०२२**

तुकडी —ऑनलाईन टिचींग /ऑफलाईन तुकडी अ आणि ब

महिना	प्रस्तावित तासिका	घेतलेल्या तासिका	एकूण विद्यार्थी संख्या	घटक
ऑक्टोबर 2021	12	13	240	प्राकृतिक भूगोलाचा परिचय
नोव्हेंबर 2021	12	14		शिलावरण
डिसेंबर 2021	12	16		वातावरण
जानेवारी 2022	12	12		जलावरण
	48	57	240	

वर्ग—द्वितीय वर्ष कला (SYBA)

विषय —लोकसंख्या भूगोल — (प्रथम सत्र) एस १

विषय शिक्षकांचे नाव — प्रा. दिलीप मुळूक **शैक्षणिक वर्ष २०२१ — २०२२**

तुकडी —ऑनलाईन टिचींग /ऑफलाईन

विषयाचे नाव - लोकसंख्या भूगोल -1, विषय क्रमांक -Gg. - 220 (A)

महिना	प्रस्तावित तासिका	घेतलेल्या तासिका	एकूण विद्यार्थी संख्या	Topic
ऑक्टोंबर 2021	12	14	46	लोकसंख्या भूगोलाचा परिचय
नोव्हेंबर 2021	12	13		लोकसंख्या आकडेवारी आणि सादरीकरण
डिसेंबर 2021	12	13		लोकसंख्या वाढ आणि लोकसंख्येचे गुणधर्म
जानेवारी 2022	12	14		लोकसंख्येची संरचना
	48	54	**46**	

अभ्यासक्रम पूर्तता अहवाल २०२१ – २०२२
वर्ग– तृतीय वर्ष कला (TYBA)
विषय –भूगोल (प्रात्यक्षिक भूगोल) एस ४

प्रा. डी. डी. मुळूक **तुकडी –ऑनलाईन टिचींग**

अभ्यासक्रम पूर्तता अहवाल

महिना	प्रस्तावित तासिका	घेतलेल्या तासिका	एकूण विद्यार्थी संख्या	घटक
नोव्हेंबर 2021	15	17	33	भारतीय स्थलनिर्देशक नकाशांचा अभ्यास
डिसेंबर 2021				भूउठाव दर्शविण्याच्या पध्दती
जानेवारी 2021	15	18		भारतीय स्थलनिर्देशनक नकाशांचे वाचन
जानेवारी /फेब्रुवारी 2022				भारतीय स्थलनिर्देशनक नकाशांचे वाचन
	30	**35**	**33**	

खे.ता.शि.प्र.मंडळाचे

हुतात्मा राजगुरू महाविद्यालय, राजगुरूनगर

ता.खेड, जि.पुणे.

भूगोल विभाग

अभ्यासक्रम पूर्तता अहवाल २०२१ - २२

सेमिस्टर पहिले

प्रा. डी.एम.मारकड

विषय – वाणिज्य भूगोल **विद्यार्थीसंख्या – 40**

शिक्षकाचे नाव – प्रा.डी.एम.मारकड

महिने	घटक	तासिका	घेतलेल्या तासिका
ऑक्टोबर 2021	वाणिज्य भूगोलाचा परिचय	12	10
नोव्हेंबर 2021	भौगोलिक पर्यावरण आणि आर्थिक क्रिया	12	20
डिसेंबर 2021	आर्थिक साधनसंपदा	12	16
जानेवारी 2022	मानवी साधनसंपदा	12	15

विषय – पर्यावरणीय भूगोल **वर्ग – एस.वाय.बी.ए. (ए)**

विद्यार्थीसंख्या – 120

शिक्षकाचे नाव – प्रा.डी.एम. मारकड

महिने	घटक	तासिका	घेतलेल्या तासिका
ऑक्टोबर 2021	पर्यावरणीय भूगोलाचा परिचय	12	13
नोव्हेंबर 2021	परिसंस्था	12	20
डिसेंबर 2021	जैव विविधता आणि त्यांचे संवर्धन	12	12
जानेवारी 2022	पर्यावरणीय प्रदूषण	12	12

वर्ग – एस.वाय.बी.ए. (ब) **विषय – पर्यावरणीय भूगोल**

विद्यार्थीसंख्या – 80

शिक्षकाचे नाव – प्रा.डी.एम. मारकड

महिने	घटक	तासिका	घेतलेल्या तासिका
ऑक्टोबर 2021	पर्यावरणीय भूगोलाचा परिचय	12	8
नोव्हेंबर 2021	परिसंस्था	12	20
डिसेंबर 2021	जैव विविधता आणि त्यांचे संवर्धन	12	12
जानेवारी 2022	पर्यावरणीय प्रदूषण	12	12

वर्ग – टी.वाय.बी.ए. **विषय – भारताचा भूगोल**

विद्यार्थीसंख्या – 36

शिक्षकाचे नाव – प्रा.डी.एम. मारकड

महिने	घटक	तासिका	घेतलेल्या तासिका
ऑक्टोबर 2021	भारत प्रास्ताविक	12	12
नोव्हेंबर 2021	भारताची प्राकृतिक रचना	12	20
डिसेंबर 2021	जलप्रणाली	12	12
जानेवारी 2022	हवामान, मृदा व नैसर्गिक वनस्पती	12	12

वर्ग – एस.वाय.बी.ए. **विषय – पर्यावरणीय भूगोल**

विद्यार्थीसंख्या – 175

शिक्षकाचे नाव – प्रा.डी.एम. मारकड

महिने	घटक	तासिका	घेतलेल्या तासिका
ऑक्टोबर / नोव्हेंबर 2021	नकाशा प्रक्षेपण	08	10
डिसेंबर 2021 / जानेवारी 2022	नकाशा प्रक्षेपणाची रचना व गुणधर्म	14	16

खेड तालुका शिक्षण प्रसारक मंडळाचे

हुतात्मा राजगुरू महाविद्यालय

राजगुरूनगर, ता. खेड, जि. पुणे ४१०५०५

भूगोल विभाग

अभ्यासक्रम पूर्तता अहवाल

शैक्षणिक वर्ष २०२१— २०२२ करिता

प्रा. एम. एल. मुळूक

अ. क्र.	वर्ग	विषय	विद्यार्थीसंख्या	ऑनर्लाइल तासिका	ऑफलाईन तासिका	एकूण
1.	एफ.वाय.बी.ए.	प्राकृतिक भूगोल	120	20	32	52
2.	एस.वाय.बी.ए.	प्रात्यक्षिक भूगोल	46	06	63	69
3	टी.वाय.बी.ए.	प्रात्यक्षिक भूगोल	30	—	66	66
4.	टी.वाय.बी.ए.	पर्यटन भूगोल	162	13	37	50

वर्ग – एफ.वाय.बी.ए. (ए)

सेमिस्टर – 1(ऑनलाईन आणि ऑफलाईन)

विषय – प्राकृतिक भूगोल – 1

प्रा. एम. एल. मुळूक

कालावधी	तासिका	घटक
ऑक्टोबर	08	प्राकृतिक भूगोलाचा परिचय
नोव्हेंबर	08	पृथ्वीचे अंतरंग
डिसेंबर	12	पृथ्वीचे अंतरंग
जानेवारी	14	वतावरणाची संरचना
फेब्रुवारी	10	सागरजल

वर्ग –एस.वाय.बी.ए.

सेमिस्टर – 3 (ऑनलाईन व ऑफलाईन)

विषय –प्रात्यक्षिक भूगोल (एस 2)

प्रा. एम. एल. मुळूक

कालावधी	तासिका	घटक
ऑक्टोबर	08	नकाशा
नोव्हेंबर	08	नकाशा प्रमाण
डिसेंबर	16	शब्द प्रमाण
जानेवारी	17	शब्द प्रमाण व संख्याप्रमाण रूपांतर
फेब्रुवारी	20	साधी प्रमाणपट्टी

वर्ग– टी.वाय.बी.ए.
सेमिस्टर – 5 (ऑनलाईन व ऑफलाईन)
विषय –पर्यटन भूगोल (जी 3)

प्रा. एम. एल. मुळूक

कालावधी	तासिका	घटक
ऑक्टोबर	08	पर्यटन भूगोलाची ओळख
नोव्हेंबर	08	पर्यटन विकासाचे निर्धारक घटक
डिसेंबर	10	पर्यटन विकासाचे निर्धारक घटक
जानेवारी	12	पर्यटन : संकल्पना व वर्गीकरण
फेब्रुवारी	12	पर्यटनातील पायाभूत सुविधा

वर्ग टी.वाय.बी.ए.
सेमिस्टर – 5
विषय – प्रात्यक्षिक भूगोल (एस 4)

प्रा. एम. एल. मुळूक

कालावधी	तासिका	घटक
ऑक्टोबर	08	समभार रेषांची प्रारूपे
नोव्हेंबर	08	हवामानदर्शक नकाशांचे वाचन
डिसेंबर	18	हवामानदर्शक नकाशांचे वाचन
जानेवारी	14	नकाशा वाचन – उन्हाळा व पावसाळा
फेब्रुवारी	18	नकाशा वाचन – हिवाळा व जर्नल तपासणी

खेड तालुका शिक्षण प्रसारक मंडळाचे

हुतात्मा राजगुरू महाविद्यालय

राजगुरूनगर, ता. खेड, जि. पुणे ४१०५०५

भूगोल विभाग

अभ्यासक्रम पूर्तता अहवाल प्रथम सत्र

शैक्षणिक वर्ष २०२१— २०२२ करिता

प्रा. जी. पी. मोढवे

अभ्यासक्रम पूर्तता अहवाल –

अ. क्र.	वर्ग	विषय	विद्यार्थीसंख्या	ऑनर्लाइल तासिका	ऑफलाईन तासिका	एकूण
1.	एस.वाय.बी.ए. (ए)	पर्यावरणशास्त्र / पर्यावरण अभ्यास	120	04	08	12
2.	एस.वाय.बी.ए. (बी)	पर्यावरणशास्त्र / पर्यावरण अभ्यास	116	03	07	10
3	एस.वाय.बी. कॉम.(ए)	पर्यावरणशास्त्र / पर्यावरण अभ्यास	120	05	14	19
4.	एस.वाय.बी. कॉम. (बी)	पर्यावरणशास्त्र / पर्यावरण अभ्यास	120	04	13	17
5.	एस.वाय.बी. कॉम. (सी)	पर्यावरणशास्त्र / पर्यावरण अभ्यास	120	03	11	14
6.	एस.वाय.बी. कॉम. (डी)	पर्यावरणशास्त्र / पर्यावरण अभ्यास	120	05	14	19
7.	एस.वाय.बी. कॉम. (इ)	पर्यावरणशास्त्र / पर्यावरण अभ्यास	96	04	12	16
8.	एस.वाय.बी. एस्सी. (ए)	पर्यावरणशास्त्र / पर्यावरण अभ्यास	120	05	13	18
9.	एस.वाय.बी.सी. ए.	पर्यावरणशास्त्र / पर्यावरण अभ्यास	49	03	14	17
10.	एस.वाय.बी.सी. एस.	पर्यावरणशास्त्र / पर्यावरण अभ्यास	27	04	13	17
11.	एस.वाय.बी.ए. (भूगोल)	आपत्ती व्यवस्थापन (क्रेडिट कोर्स)	46	04	06	10
12.	टी.वाय.बी.ए. (भूगोल)	संशोधन पद्धती (क्रेडिट कोर्स)	30	05	07	12

वर्ग –एस.वाय.बी.ए.

तुकडी –(ए आणि बी)

सेमिस्टर – 1 (ऑनलाईन आणि ऑफलाईन

विषय –पर्यावरणशास्त्र / पर्यावरण अभ्यास

प्रा. जी. पी. मोढवे

कालावधी	तासिका	घटक
09/12/21 ते 15/12/21 (डिसेंबर)	07	पर्यावरण अभ्यासाचा परिचय
16/12/21 ते 30/12/21 (डिसेंबर)	05	परिसंस्था
01/01/22 ते 20/01/22 (जानेवारी)	06	नैसर्गिक साधनसंपत्ती
21/01/22 ते 09/02/22 (जानेवारी/फेब्रुवारी)	04	जैवविविधता आणि तीचे संवर्धन

वर्ग – एस.वाय.बी.कॉम.

तुकडी – ए,बी,सी,डी आणि इ.

सेमिस्टर – 1 (ऑनलाईन आणि ऑफलाईन

विषय –पर्यावरणशास्त्र / पर्यावरण अभ्यास

प्रा. जी. पी. मोढवे

कालावधी	तासिका	घटक
09/12/21 ते 15/12/21 (डिसेंबर)	16	पर्यावरण अभ्यासाचा परिचय
16/12/21 ते 30/12/21 (डिसेंबर)	18	परिसंस्था
01/01/22 ते 20/01/22 (जानेवारी)	18	नैसर्गिक साधनसंपत्ती
21/01/22 ते 09/02/22 (जानेवारी/फेब्रुवारी)	16	जैवविविधता आणि तीचे संवर्धन

वर्ग –एस.वाय.बी.एस्सी.

तुकडी – ए.

सेमिस्टर – 1 (ऑनलाईन आणि ऑफलाईन

विषय –पर्यावरणशास्त्र / पर्यावरण अभ्यास

प्रा. जी. पी. मोढवे

कालावधी	तासिका	घटक
09/12/21 ते 15/12/21 (डिसेंबर)	06	पर्यावरण अभ्यासाचा परिचय
16/12/21 ते 30/12/21 (डिसेंबर)	04	परिसंस्था
01/01/22 ते 20/01/22 (जानेवारी)	05	नैसर्गिक साधनसंपत्ती
21/01/22 ते 09/02/22 (जानेवारी/फेब्रुवारी)	04	जैवविविधता आणि तीचे संवर्धन

वर्ग – एस.वाय.बी.सी.ए.

सेमिस्टर – 1 (ऑनलाईन आणि ऑफलाईन

विषय –पर्यावरणशास्त्र / पर्यावरण अभ्यास

प्रा. जी. पी. मोढवे

कालावधी	तासिका	घटक
09/12/21 ते 15/12/21 (डिसेंबर)	05	पर्यावरण अभ्यासाचा परिचय
16/12/21 ते 30/12/21 (डिसेंबर)	05	परिसंस्था
01/01/22 ते 20/01/22 (जानेवारी)	04	नैसर्गिक साधनसंपत्ती
21/01/22 ते 09/02/22 जानेवारी/फेब्रुवारी)	03	जैवविविधता आणि तीचे संवर्धन

वर्ग – एस.वाय.बी.सी.एस.

सेमिस्टर – 1 (ऑनलाईन आणि ऑफलाईन

विषय –पर्यावरणशास्त्र / पर्यावरण अभ्यास

प्रा. जी. पी. मोढवे

कालावधी	तासिका	घटक
09/12/21 ते 15/12/21 (डिसेंबर)	05	पर्यावरण अभ्यासाचा परिचय
16/12/21 ते 30/12/21 (डिसेंबर)	05	परिसंस्था
01/01/22 ते 20/01/22 (जानेवारी)	04	नैसर्गिक साधनसंपत्ती
21/01/22 ते 09/02/22 (जानेवारी/फेब्रुवारी)	03	जैवविविधता आणि तीचे संवर्धन

वर्ग – एस.वाय.बी.ए.

सेमिस्टर – 1 (ऑनलाईन आणि ऑफलाईन

विषय –आपत्ती व्यवस्थापन (क्रेडीट कोर्स)

प्रा. जी. पी. मोढवे

कालावधी	तासिका	घटक
09/12/21 ते 15/12/21 (डिसेंबर)	04	मुलभूत संपकल्पना, मापन, मोजणीयंत्र, आपत्तीचे प्रकार
16/12/21 ते 30/12/21 (डिसेंबर)	03	आपत्ती व्यवस्थापनाचे टप्पे, आपत्ती व्यवस्थापनामधील भूगोल शास्त्रज्ञांचा आणि संघटनांचा असलेला सहभाग
01/01/22 ते 20/01/22 (जानेवारी)	02	आपत्ती व्यवस्थापनाचे तुलनात्मक मुल्यमापन – 1
21/01/22 ते 09/02/22 जानेवारी/फेब्रुवारी)	01	आपत्ती व्यवस्थापनाचे तुलनात्मक मुल्यमापन – 2

वर्ग – टी.वाय.बी.ए.

सेमिस्टर – 1 (ऑनलाईन आणि ऑफलाईन

विषय –संशोधन पद्धती – 1 (क्रेडीट कोर्स)

प्रा. जी. पी. मोढवे

कालावधी	तासिका	घटक
09/12/21 ते 15/12/21 (डिसेंबर)	05	संशोधन पद्धतींचा परिचय / ओळख
16/12/21 ते 30/12/21 (डिसेंबर)	04	संशोाधन आराखाडा
01/01/22 ते 20/01/22 (जानेवारी)	03	संशोधनामधील समस्या

खेड तालुका शिक्षण प्रसारक मंडळाचे

हुतात्मा राजगुरू महाविद्यालय

राजगुरूनगर, ता. खेड, जि. पुणे ४१०५०५

भूगोल विभाग

अभ्यासक्रम पूर्तता अहवाल सत्र दुसरे

शैक्षणिक वर्ष २०२१— २०२२ करिता

वर्ग—प्रथम वर्ष कला (FYBA)

विषय — प्राकृतिक भूगोल — (द्वीतीय सत्र) जी १

विषय शिक्षकांचे नाव —डॉ . दिलीप मुळूक **शैक्षणिक वर्ष २०२१—२०२२**

तुकडी —तुकडी अ आणि ब

महिना	प्रस्तावित तासिका	घेतलेल्या तासिका	एकूण विद्यार्थी संख्या	घटक
मार्च 2020	12	13	240	मानवी भूगोलाचा परिचय
मार्च/एप्रिल 2022	12	14		लोकसंख्या
एप्रिल 2022	12	16		वसाहती
मे 2022	12	12		शेती
	48	57	240	

वर्ग—द्वितीय वर्ष कला (SYBA)

विषय —लोकसंख्या भूगोल — (द्वीतीय सत्र) एस १

विषय शिक्षकांचे नाव —डॉ. दिलीप मुळूक **शैक्षणिक वर्ष २०२१ — २०२२**

तुकडी —ऑनलाईन टिचींग /ऑफलाईन

विषयाचे नाव - लोकसंख्या भूगोल -1, विषय क्रमांक -Gg. - 220 (A)

महिना	प्रस्तावित तासिका	घेतलेल्या तासिका	एकूण विद्यार्थी संख्या	Topic
मार्च 2020	12	14	46	लोकसंख्या संकल्पना आणि सिध्दात
मार्च/एप्रिल 2022	12	13		लोकसंख्या विषयक समस्या आणि धोरणे
एप्रिल 2022	12	13		लोकसंख्या एक साधनसंपत्ती आणि सद्यकालीन घटनाा
मे 2022	12	14		नागरीकरण
	48	54	**46**	

अभ्यासक्रम पूर्तता अहवाल २०२१ – २०२२

वर्ग– तृतीय वर्ष कला (TYBA)

विषय –भूगोल (प्रात्यक्षिक भूगोल) एस ४(द्वीतीय सत्र)

प्रा. डी. डी. मुळूक **तुकडी –बॅच १, २, ३**

अभ्यासक्रम पूर्तता अहवाल

महिना	प्रस्तावित तासिका	घेतलेल्या तासिका	एकूण विद्यार्थी संख्या	घटक
मार्च 2020	15	17	33	भौगोलिक आकडेवारी आणि वर्गीकरण
मार्च/एप्रिल 2022				भौगोलिक आकडेवारी आणि वर्गीकरण
एप्रिल 2022	15	18		मध्यमान, मध्यगा, वारंवारीता
मे 2022				गावसर्वेक्षण अहवाल लेखन
	30	**35**	**33**	

खे.ता.शि.प्र.मंडळाचे

हुतात्मा राजगुरू महाविद्यालय, राजगुरूनगर

ता.खेड, जि.पुणे.

भूगोल विभाग

अभ्यासक्रम पूर्तता अहवाल २०२१ - २२

सेमिस्टर दुसरे **प्रा. डी.एम.मारकड**

वर्ग – एफ. वाय .बी. कॉम. **सेमिस्टर – II**

विषय – वाणिज्य भूगोलाची मूलतत्वे – 2

कालावधी	प्रस्तावित तासिका	घेतलेल्या तासिका	घटक
एप्रिल 2022	12	12	उद्योगधंदे
एप्रिल मे 2022	12	13	उद्योगधंदे, भारतातील प्रमुख उद्योग
मे 2022	12	12	व्यापार आणि वाहतूक, पर्यटन
जून 2022	12	12	सांख्यकीय आकृत्या
एकूण	48	49	

वर्ग एस.वाय.बी.ए.ए.

तुकडी – अ

विषय – पर्यावरणीय भूगोल – 2 (जी2)

कालावधी	प्रस्तावित ता.	घे.तासिका	घटक
मार्च 2022	12	12	पर्यावरणीय आपत्ती
एप्रिल 2022	12	13	पर्यावरणीय समस्या,
मे 2022	12	12	पर्यावरण नियोजन, व्यवस्थापन
जून 2022	12	12	पर्यावरणीय धोरणे
एकूण	48	49	

वर्ग एस.वाय.बी.ए.बी

सेमिस्टर – 4

तुकडी – ब

विषय – पर्यावरणीय भूगोल – 2 (जी2)

कालावधी	प्रस्तावित	घे.तासिका	घटक
मार्च 2022	12	12	पर्यावरणीय आपत्ती
एप्रिल 2022	12	12	पर्यावरणीय समस्या,
मे 2022	12	12	पर्यावरण नियोजन, व्यवस्थापन
			ए. आणि बी. तुकडी ऑनलाईन एकत्र
एकूण	36	36	

वर्ग एस..वाय.बी.ए.

सेमिस्टर – 4

विषय – प्रात्यक्षिक भूगोल – 2

कालावधी	प्रस्तावित	तासिका	घटक
एप्रिल 2022	8	09	नकाशातील सांख्यिकीय पद्धती
मे. 2022	14	14	नकाशाशास्त्र परिचय, इतिहास, महत्त्व, मर्यादा.
एकूण	22	23	

वर्ग – टी.वाय.बी.ए.

सेमिस्टर – 4

विषय – भारताचा भूगोल – 2

कालावधी	प्रस्तावित	घेतासिका	घटक
एप्रिल 2022	12	12	भारताची सांस्कृतिक पार्श्वभूमी
मे. 2022	16	16	भारतातील साधनसंपत्ती
जून 2022	20	20	भारतातील दळणवळण, शेती
एकूण	48	48	

यु.जी. वेळापत्रक

तास	वेळ	सोम	मंगळ	बुध	गुरू	शुक्र	शनि
1	7.30 ते 8.20	S2	S2		G2(B)	G2(B)	G2(A)
2	8.20 ते 9.10	S2	S2		ComG	ComG	ComG
3	9.20 ते 10.10	S2	S2	G2(A)		S3	S3
4	10.10 ते 11.00	S3	S3			G2(A)	G2(B)
5	11.00 ते 11.50		G2(A)	G2(B)			
6	11.50 ते 12.40	Com.G					

वेबसाईडला अपलोड नोट्स –

वर्ग – टी.वाय.बी.ए सेमिस्टर – 2

प्रा. डी.एम.मारकड

विषय – भारताचा भूगोल (एस.3).

वर्ग – टी.वाय.बी.ए सेमिस्टर – 2

अ.क्र.	इ. कन्टेंटचे नाव
1	प्रकरण 1/5 – भारताची सांस्कृतिक पार्श्वभूमी
2	प्रकरण 3/7 – MCQ भारतातील खनिजे.

ोड तालुका शिक्षण प्रसारक मंडळाचे

हुतात्मा राजगुरू महाविद्यालय

राजगुरूनगर, ता. खेड, जि. पुणे ४१०५०५

भूगोल विभाग

अभ्यासक्रम पूर्तता अहवाल सत्र दुसरे

शैक्षणिक वर्ष २०२१— २०२२ करिता

वर्ग—प्रथम वर्ष कला (FYBA)

विषय — प्राकृतिक भूगोल — (द्वीतीय सत्र) जी १

विषय शिक्षकांचे नाव —प्रा. एम. एल. मुळूक **शैक्षणिक वर्ष २०२१—२०२२**

तुकडी —तुकडी अ आणि ब

महिना	प्रस्तावित तासिका	घेतलेल्या तासिका	एकूण विद्यार्थी संख्या	घटक
मार्च 2020	12	13	240	मानवी भूगोलाचा परिचय
मार्च/एप्रिल 2022	12	14		लोकसंख्या
एप्रिल 2022	12	16		वसाहती
मे 2022	12	12		शेती
	48	57	240	

विषय –भूगोल (प्रात्यक्षिक भूगोल) एस ४(द्वीतीय सत्र)

प्रा. एम. एल.. मुळूक **तुकडी –बॅच १, २, ३**

अभ्यासक्रम पूर्तता अहवाल

महिना	प्रस्तावित तासिका	घेतलेल्या तासिका	एकूण विद्यार्थी संख्या	घटक
मार्च 2020	15	17	33	सहसंबंध गुणांक पध्दती
मार्च/एप्रिल 2022				गृहीत तत्वाच्या चाण्या, सहसंबध गुणांक,
एप्रिल 2022	15	18		काय वर्ग चाचणी रॅक ऑर्डर
मे 2022				गावसर्वेक्षण अहवाल लेखन
	30	**35**	**33**	

अभ्यासक्रम पूर्तता अहवाल २०२१ – २०२२

वर्ग– तृतीय वर्ष कला (TYBA)

विषय –भूगोल (पर्यटन भूगोल भूगोल) जी ३(द्वीतीय सत्र)

प्रा. एम. एल.. मुळूक **तुकडी –अ आणि**

बअभ्यासक्रम पूर्तता अहवाल

महिना	प्रस्तावित तासिका	घेतलेल्या तासिका	एकूण विद्यार्थी संख्या	घटक
मार्च 2020	12	12	150	निवासस्थानांची पर्यटनातील भूमिका
मार्च/एप्रिल 2022	12	14		पर्यटनाचे परीणाम
एप्रिल 2022	12	13		पर्यटन धोरणे आणि विकास
मे 2022	12	12		भारतातील पर्यटन स्थळांचा अभ्यास
	48	**51**	**150**	

महाविद्यालयाच्या वेबसाईटला तृतीय वर्षाच्या विषयांचे अपलोड केलेले इ E-Content Material

Name of Prof. - Muluk D. D.

Subject - TYBA (S4) Gg-301 भूगोल (प्रात्यक्षिक भूगोल) एस 4

Sr. No.	Class	Title
1	TY	प्रकरण चौथे – भौगोलिकमाहिती प्रणाली आणि सुदूर संवेदन प्रणालीचे भूगोल विषयातील महत्त्व
2	TY	प्रात्यक्षिक 13. - भारतीय स्थलनिर्देशक नकाशा वाचन : पठारी प्रदेश
3	TY	प्रात्यक्षिक 4. - SOI MAP सांकेतिक चिन्हे आणि खुणा
4	TY	प्रात्यक्षिक 1. - नकाशाची मुलतत्त्वे
5	TY	प्रात्यक्षिक 2. - भारतीय स्थलनिर्देशक नकाशांची प्रस्तावना
6	TY	प्रात्यक्षिक 3. - भारतीय स्थलनिर्देशक नकाशांचे प्रकार
7	TY	प्रात्यक्षिक 5. - भारतीय स्थलनिर्देशक नकाशांची सामासिक माहिती
8	TY	प्रात्यक्षिक 6. - भारतीय स्थलनिर्देशक नकाशातील - वृत्तजाळी संदर्भ
9	TY	प्रात्यक्षिक 7. - भूउठाव व्यक्त करण्याच्या पध्दती गुणात्मकपध्दती
10	TY	प्रात्यक्षिक 8. - भूउठाव व्यक्त करण्याच्या पध्दतीसंख्यात्मक पध्दती
11	TY	प्रात्यक्षिक 9. - समोच्च रेषांच्या साहयाने उतारदर्शविण्याच्या पध्दती
12	TY	प्रात्यक्षिक 10. - समोच्च रेषांच्या साहयाने भूआकार दर्शविणे
13	TY	प्रात्यक्षिक 11. - समोच्चरेषा नकाशावरून छेद तयार करणे
14	TY	प्रात्यक्षिक 12. - Weather Map- सांकेतिक चिन्हे आणि खुणा
15	TY	MCQ TEST - 4:समोच्चरेषांच्या साहयाने भूआकार दर्शविणे Online
16	TY	MCQ TEST - 3:SOI Maps सांकेतिक चिन्हे आणि खुणा Online
17	TY	MCQ TEST - 2:भारतीयस्थलनिर्देशक नकाशांचा अभ्यास Online
18	TY	MCQ TEST - 1:भारतीयस्थलनिर्देशक नकाशांचा अभ्यास Online
19	TY	समभार रेषांचे प्रारूप
20	TY	भारतीय हवामान दर्शकनकाशांचे वाचन

Head of Department
Department of Geography

दिनांक २५/०५/२०२२

खेड तालुका शिक्षण प्रसारक मंडळाचे

हुतात्मा राजगुरू महाविद्यालय

राजगुरूनगर ता.खेड, जि.पुणे.

मराठी विभाग

अभ्यासक्रम पूर्तता अहवाल

शैक्षणिक वर्ष २०२१ –२०२२

अ.क्र.	वर्ग	विषयाचे नाव	तुकडी	विषय शिक्षक
१	प्रथम वर्ष कला	मराठी साहित्य : कथा आणि भाषिक कौशल्यविकास (जी १)	ए	डा. सजय शिंदे
			बी	डॉ.बाळासाहेब अनुसे
			सी	प्रा. प्रतिक्षा खराडे
२	प्रथम वर्ष वाणिज्य	भाषा, साहित्य आणि कौशल्यविकास	ए	डॉ. सजय शिंदे
			बी, सी, डी, इ.	प्रा प्रतिक्षा खराडे
३	द्वितीय वर्ष कला	मराठी साहित्य : कादंबरी आणि भाषिक कौशल्यविकास (जी २)	ए	डॉ. सजय शिंदे
४	द्वितीय वर्ष कला	मराठी साहित्यातील विविध साहित्यप्रकार (एस.१)	ए	डॉ.बाळासाहेब अनुसे
५	द्वितीय वर्ष कला	साहित्यविचार व समीक्षाविचार (एस.२)	ए	डॉ. सजय शिंदे
६	द्वतीय वर्ष कला	प्रकाशन व्यवहार SEC	ए	प्रा. साईनाथ पाचारणे
७	द्वतीय वर्ष कला	आधुनिक मराठी भाषा MIL	ए	प्रा. साईनाथ पाचारणे
८	द्वितीय वर्ष विज्ञान	मराठी साहित्य आणि उपयोजित मराठी	ए	डॉ.बाळासाहेब अनुसे
९	तृतीय वर्ष कला	भाषिक कौशल्यविकास आणि आधुनिक मराठी साहित्यप्रकार (जी ३)	ए	डॉ.बाळासाहेब अनुसे
१०	तृतीय वर्ष कला	मध्ययुगीन मराठी वाङ्मयाचा इतिहास (एस.३)	ए	डॉ. सजय शिंदे
११	तृतीय वर्ष कला	वर्णनात्मक भाषाविज्ञान (एस.४)	ए	डॉ.बाळासाहेब अनुसे
१२	तृतीय वर्ष कला	भाषिक संयोजन कौशल्ये SEC	ए	प्रा. साईनाथ पाचारणे

प्रा. साईनाथ पाचारणे
विषय शिक्षक

प्रा. प्रतिक्षा खराडे
विषय शिक्षक

डॉ.बाळासाहेब अनुसे
विषय शिक्षक

डा. सजय शिंदे
विषय शिक्षक

मराठी विभाग प्रमुख
हुतात्मा राजगुरु महाविद्यालय
राजगुरुनगर,ता.खेड,जि.पुणे.

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वर्ग – प्रथम वर्ष कला - सत्र पहिले

विषय – मराठी साहित्य : कादंबरी आणि भाषिक कौशल्यविकास (जी २)

विषय शिक्षकाचे नाव – डॉ. संजय शिंदे, डॉ.बाळासाहेब अनुसे, प्रा. प्रतिक्षा खराडे

महिना	तासिका	घटक	उपघटक
ऑक्टोबर २०२१	१६	घटक १ – मराठी कथा : स्वरूप आणि वाटचाल	मराठी कथा : संकल्पना आणि स्वरूप
नोव्हेंबर २०२१	१६	कथा : घटक कथा : प्रकार (रचनाप्रकार आणि प्रवाह) अभ्यासपुस्तक 'समकालीन मराठी कथा'	मराठी कथेची वाटचाल कथेचे घटक व स्वरूप १) जेव्हा मी जात चोरली होती : बाबुराव बागुल
डिसेंबर २०२१	१६	अभ्यासपुस्तक 'समकालीन मराठी कथा'	२) लाल चिखल : भास्कर चंदनशिव ३) गाऊस आला मोठा : गौरी देशपांडे ४) उठावण : मदानंद देशमुख ५) वाजा : उषाकिरण आत्राम
जानेवारी २०२२	१६	अभ्यासपुस्तक 'समकालीन मराठी कथा'	६) दगड दवाखाना : राजेंद्र मलोसे ७) वापसी : अभिराम भडकमकर ८) शुभमंगल सावधान : संजय कळमकर ९) कटाची भाकरी : सचिन पाटील

वर्ग – प्रथम वर्ष कला : सत्र दुसरे

विषय – मराठी साहित्य : एकांकिका आणि भाषिक कौशल्यविकास

महिना	तासिका	घटक	उपघटक
फेब्रुवारी २०२२	१६	एकांकिका स्वरूप एकांकिका : घटक एकांकिका : सहितामूल्य आणि प्रयोगमूल्य	एकांकिका स्वरूप एकांकिका : घटक एकांकिका : सहितामूल्य आणि प्रयोगमूल्य
मार्च २०२२	१६	अभ्यासपुस्तक : मराठी एकांकिका	'विठ्ठल तो आला आला' : पु.ल.देशपांडे 'हंडाभर चांदण्या' : दत्ता पाटील
एप्रिल २०२२	१६	अभ्यासपुस्तक : मराठी एकांकिका भाषा उपयोजनाची विविध आविष्कार रूपे	'हंडाभर चांदण्या' : दत्ता पाटील संवादलेखन, कल्पनाविस्तार
मे २०२२	१२	भाषा उपयोजनाची विविध आविष्कार रूपे	घोषवाक्य लेखन, भाषांतर

P.K.Kharade

प्रा. प्रतिक्षा खराडे
विषय शिक्षक

डॉ.बाळासाहेब अनुसे
विषय शिक्षक

डॉ. संजय शिंदे
विषय शिक्षक

मराठी विभाग प्रमुख
हुतात्मा राजगुरु महाविद्यालय
राजगुरुनगर,ता.खेड,जि.पुणे.

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वर्ग – प्रथम वर्ष वाणिज्य – सत्र पहिले

विषय – भाषा, साहित्य आणि कौशल्यविकास

विषय शिक्षकाचे नाव – डॉ. संजय शिंदे, प्रा. प्रतिक्षा खराडे

महिना	तासिका	घटक	उपघटक
ऑक्टोबर २०२१	०६	घटक १ – निबंध लेखन	वैचारिक, ललित आणि वाणिज्यविषयक
नोव्हेंबर २०२१	१६	घटक १ – निबंध लेखन घटक २ – पाठ्यपुस्तक 'उत्कर्षवाटा'	वैचारिक, ललित आणि वाणिज्यविषयक १) सहकारी चळवळ : शेती व सुधारणा सयाजीराव महाराज गायकवाड
डिसेंबर २०२१	१६	घटक २ – पाठ्यपुस्तक 'उत्कर्षवाटा'	२) केली पण शेती : विनायक पाटील ३) ज्ञानयुगातील नेतृत्व : विवेक सावंत ४)चला, आपण काम करू : राजेश मंडलिक
जानेवारी २०२२	१६	घटक २ – पाठ्यपुस्तक 'उत्कर्षवाटा'	५) मन्वंतर घडविणारी पत्रकारिता : गंगाधर पानतावणे ६) शेतकरी संघटना : शरद जोशी ७) बीजमाता : राहीबाई पोपेरे ८) बीबीजी यशोगाथा ९) नैनालाल किदवई १०) मार्ग शोधताना – नीलिमा मिश्रा

वर्ग – प्रथम वर्ष वाणिज्य –सत्र दुसरे

विषय – भाषा आणि कौशल्यविकास

महिना	तासिका	घटक	उपघटक
फेब्रुवारी २०२२	१६	अर्जलेखन व पत्रलेखन	अर्जाचे विविध नमुने : विनंती, नोकरी, माहिती अधिकार, संगणकीय अर्ज, युनिकोडमधून मायक्रोसॉफ्ट वर्डमध्ये अर्जलेखन, पत्रलेखन
मार्च २०२२	१६	प्रशासनिक मराठी	१) इतिवृत्त लेखन २) माहितीपत्रक ३) जाहीर निवेदन ४) वाणिज्य व माहिती तंत्रज्ञान विषयक पारिभाषिक संज्ञा
एप्रिल २०२२	१६	प्रगत भाषिक कौशल्ये जाहिरातलेखन	१) सारांशलेखन २) भाषांतरलेखन १) आकाशवाणी २)वृत्तपत्र
मे २०२२	१२	जाहिरातलेखन	३) दूरचित्रवाणी

प्रा. प्रतिक्षा खराडे
विषय शिक्षक

डॉ. संजय शिंदे
विषय शिक्षक

मराठी विभाग प्रमुख
हुतात्मा राजगुरु महाविद्यालय
राजगुरुनगर,ता.खेड,जि.पुणे.

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वर्ग- द्वितीय वर्ष कला : सत्र पहिले (मराठी G2)

विषय- भाषिक कौशल्य विकासआणि आधुनिक मराठी साहित्यप्रकार: कादंबरी

विषय शिक्षकाचे नाव- डॉ. संजय शिंदे

महिना	तासिका	घटक	उपघटक
ऑक्टोबर २०२१	१६	१	१ संगणक आणि मोबाईलवर युनिकोडमधून मराठी मुद्रण २ कळफलक प्रकार- इनस्क्रिप्ट, फोनेटिक ३ मराठी टंकलेखन आणि युनिकोडचा वापर: गुगल इनपुट, मायक्रोसॉफ्ट इनपुट व इतर साधने
नोव्हेंबर २०२१	१६	२	१ कादंबरी: स्वरूप आणि घटक २ कादंबरी: प्रकार आणि वाटचाल
डिसेंबर २०२१	१६	३	अभ्यासपुस्तक रारंग ढांग- प्रभाकर पेंढारकर
जानेवारी २०२२	१६	४	अभ्यासपुस्तक रारंग ढांग- प्रभाकर पेंढारकर

वर्ग- द्वितीय वर्ष कला : सत्र दुसरे (मराठी G2)

विषय- भाषिक कौशल्य विकास आणि आधुनिक मराठी साहित्यप्रकार: ललितगद्य

विषय शिक्षकाचे नाव- डॉ. संजय शिंदे

महिना	तासिका	घटक	उपघटक
फेब्रुवारी २०२२	१६	१	अ गुगल साधनांचा अध्यायनातील वापर: गुगल फॉर्म, गुगल क्लासरूम, यु. ट्यूब
मार्च २०२२	१६	२	१ ललितगद्य: स्वरूप आणि घटक २ ललितगद्य:प्रकार आणि वाटचाल
एप्रिल २०२२	१६	३	अभ्यासपुस्तक- साहित्यरंग
मे २०२२	१६	४	अभ्यासपुस्तक- साहित्यरंग

डॉ. संजय शिंदे
विषय शिक्षक

मराठी विभाग प्रमुख
हुतात्मा राजगुरु महाविद्यालय
राजगुरुनगर,ता.खेड,जि.पुणे.

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वर्ग- द्वितीय वर्ष कला : सत्र पहिले (मराठी S1)
विषय- आधुनिक मराठी साहित्य: प्रकाशवाटा
विषय शिक्षकाचे नाव- डॉ. बाळासाहेब अनुसे

महिना	तासिका	घटक	उपघटक
ऑक्टोबर २०२१	१६	१	१ आत्मचरित्र: संकल्पना, स्वरूप, प्रेरणा आणि वाटचाल
नोव्हेंबर २०२१	१६	२	१ ललित गद्यातील अन्य साहित्य प्रकारांच्या तुलनेत आत्मचरित्राचे वेगळेपण
डिसेंबर २०२१	१६	३	अभ्यासपुस्तक प्रकाशवाटा- डॉ. प्रकाश आमटे
जानेवारी २०२२	१६	४	अभ्यासपुस्तक प्रकाशवाटा- डॉ. प्रकाश आमटे

वर्ग- द्वितीय वर्ष कला : सत्र दुसरे (मराठी S1)
विषय-मध्ययुगीन मराठी साहित्य: निवडक मध्ययुगीन गद्य, पद्य

महिना	तासिका	घटक	उपघटक
फेब्रुवारी २०२२	१६	१	१ मध्ययुगीन गद्य: बखर, ऐतिहासिक पत्रे, स्वरूप आणि विशेष
मार्च २०२२	१६	२	१मध्ययुगीन पद्य: अभंग, भारुड, गवळण, पोवाडा, लावणी, स्वरूप आणि विशेष
एप्रिल २०२२	१६	३	अभ्यासपुस्तक- निवडक मध्ययुगीन गद्य, पद्य
मे २०२२	१६	४	अभ्यासपुस्तक- निवडक मध्ययुगीन गद्य, पद्य

मराठी विभाग प्रमुख
हुतात्मा राजगुरु महाविद्यालय
राजगुरुनगर,ता.खेड,जि.पुणे.

डॉ. बाळासाहेब अनुसे
विषय शिक्षक

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वर्ग- द्वितीय वर्ष कला : सत्र पहिले (मराठी S2)

विषय- साहित्यविचार

विषय शिक्षकाचे नाव- डॉ. संजय शिंदे

महिना	तासिका	घटक	उपघटक
ऑक्टोबर २०२१	१६	१ साहित्याचे स्वरूप आणि प्रयोजन	१ साहित्याची संकल्पना, साहित्यातील अनुभवांचे विशेष, संवेदानात्मकता, भावनात्मकता, वैचारिकता, सेंद्रियत्व, सूचकता, विशिष्ट आणि विश्वात्मकता
नोव्हेंबर २०२१	१६		२ प्रयोजन, मम्मटाची प्रयोजने, प्रयोजनांचा विचार
डिसेंबर २०२१	१६	२ साहित्याची निर्मितीप्रक्रिया	१ प्रतिभा, स्फूर्ति, कल्पना, चमत्कृती यांचे स्वरूप, संकल्पना आणि कार्य, साहित्यिकाचे व्यक्तिमत्व, साहित्यिकाचा जीवनविषयक व साहित्य विषयक दृष्टिकोन
जानेवारी २०२२	१६	४ साहित्याची सामाजिकता वभाषा	१ साहित्य आणि समाज, साहित्य वाचनाची प्रक्रिया आणि आवश्यकता २ साहित्याची भाषा ३ शैली विषयक स्थूल चर्चा

वर्ग- द्वितीय वर्ष कला : सत्र दुसरे (मराठी S2)

विषय- साहित्यसमीक्षा

महिना	तासिका	घटक	उपघटक
फेब्रुवारी २०२२	१६	१ समीक्षा: संकल्पना आणि स्वरूप	१ संकल्पना, स्वरूप, प्रयोजन २ व्याप्ती आणि प्रकार ३ साहित्यविचार आणि समीक्षा यातील अनुबंध ४ साहित्यव्यवहारातील समीक्षेचे स्थान व कार्य
मार्च २०२२	१६	२ साहित्य आणि समीक्षा यांचे परस्पर संबंध	१ साहित्यकृती आणि वाचक २ साहित्यकृती आणि समीक्षक ३ समिक्षेतील साहित्याच्या आकलन, आस्वाद, विश्लेषण, अर्थनिर्णयन, मूल्यमापन आणि शब्दांकन यांचे स्थान व कार्य
एप्रिल २०२२	१६	३ समीक्षकाचे गुण व पाळावयाची पथ्ये	१ समीक्षकाचे गुण रसिकता, प्रज्ञा, तुलनाक्षमता, चिकित्सकता, मुल्यविवेक, विश्लेषकता, व्युत्पन्नता, ई.
मे २०२२	१६	४ ग्रंथ समीक्षा	२ समीक्षकाने पाळावयाची पथ्ये ३ भाषिक, साहित्यिक, सांस्कृतिक संकेत आणि मुल्यव्यवहार ४ उपयोजित समीक्षा: ग्रंथ परिचय, ग्रंथ परीक्षण, ग्रंथ समीक्षा

डॉ. संजय शिंदे
मराठी विभाग प्रमुख
हुतात्मा राजगुरु महाविद्यालय
राजगुरुनगर,ता.खेड,जि.पुणे.

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वर्ग- द्वितीय वर्ष कला : सत्र पहिले (SEC)

विषय- प्रकाशनव्यवहार आणि संपादन

विषय शिक्षकाचे नाव- प्रा. साईनाथ पाचारणे

महिना	तासिका	घटक	उपघटक
ऑक्टोबर २०२१	०४	१प्रकाशन संस्था	१ स्वरूप, कार्यप्रणाली, कॉपीराईट कायदा, ग्रंथविक्री, वितरण, जाहिरात, वाचकसंवाद
नोव्हेंबर २०२१	०४	२ ग्रंथनिर्मिती प्रक्रिया	१ संहिता संपादन, संपादकीय संस्कार, लेखक संवाद, मुखपृष्ठ, मुद्रणप्रत, छपाई, ग्रंथ बांधणी
डिसेंबर २०२१	०४	२ ग्रंथप्रकार	१ ललित, माहितीपर, शास्त्रीय, संदर्भग्रंथ ई.
जानेवारी २०२२	०४	३ मुद्रितशोधन	१ लेखनविषयक नियम २ मुद्रितशोधन खुणा ३ विरामचिन्हे ४ संदर्भग्रंथसूची ५ परिशिष्टे ६ दर्शनीय स्वरूप व आकार

वर्ग- द्वितीय वर्ष कला : सत्र दुसरे

विषय- उपयोजित लेखनकौशल्ये

महिना	तासिका	घटक	उपघटक
फेब्रुवारी २०२२	०४	१ जाहिरातलेखन	१ प्रयोजन, स्वरूप, प्रकार २ जाहिरात कल्पना, संहितालेखन
मार्च २०२२	०४	२ मुलाखतलेखन	१ वृत्तपत्रे, नियतकालिके २ दृकश्राव्य माध्यमांसाठी मुलाखतलेखन
एप्रिल २०२२	०४	३ माहितीपर नोंदी	१ शास्त्रीय ज्ञानकोश २ विविध ज्ञानकोश
मे २०२२	०४	३ माहितीपर नोंदी	३ विविध माध्यमांसाठी लेखन

डॉ. संजय छोरे
मराठी विभाग प्रमुख
हुतात्मा राजगुरु महाविद्यालय
राजगुरुनगर,ता.खेड,जि.पुणे.

प्रा. साईनाथ पाचारणे
विषय शिक्षक

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वर्ग- द्वितीय वर्ष कला

(MIL) मराठी भाषिक संज्ञापनकौशल्ये : सत्र पहिले

विषय शिक्षकाचे नाव- प्रा. साईनाथ पाचारणे

महिना	तासिका	घटक	उपघटक
ऑक्टोबर २०२१	०४	१ भाषा आणि व्यक्तिमत्त्व विकास	१) भाषा आणि व्यक्तिमत्व विकास : सहसंबंध
नोव्हेंबर २०२१	०४	१. लोकशाही व प्रसारमाध्यमे	२)लोकशाहीतील जीवनव्यवहार आणि प्रसारमाध्यमे
डिसेंबर २०२१	०४	२ प्रसारमाध्यमांसाठी लेखन	१)वृत्तपत्रासाठी बातमीलेखन आणि मुद्रितशोधन २) नभोवाणी भाषणाची संहितालेखन
जानेवारी २०२२	०४	२ प्रसारमाध्यमासाठी लेखन	३) दूरचित्रवाणीसाठी माहितीपटासाठी संहितालेखन

वर्ग- द्वितीय वर्ष कला

विषय- नवमाध्यमे आणि समाजमाध्यमांसाठी मराठी : सत्र दुसरे (MIL)

महिना	तासिका	घटक	उपघटक
फेब्रुवारी २०२२	०४	१	१)भाषा, जीवन व्यवहार आणि नवमाध्यमे, समाजमाध्यमे
मार्च २०२२	०४	१	२) नवमाध्यमे आणि समाजमाध्यमांचे प्रकार, Blog, Facebook & Twiter ३) नवमाध्यमे आणि समाजमाध्यमांविषयक साक्षरता, दक्षता, वापर आणि परिणाम
एप्रिल २०२२	०४	२	१)Website, Blog & Twiterसाठी लेखन
मे २०२२	०४	२	२)व्यावसायिक पत्रव्यवहार

मराठी विभाग प्रमुख
हुतात्मा राजगुरु महाविद्यालय
राजगुरुनगर,ता.खेड,जि.पुणे.

प्रा. साईनाथ पाचारणे
विषय शिक्षक

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वर्ग- द्वितीय वर्ष विज्ञान : सत्र पहिले

विषय- उपयोजित मराठी

विषय शिक्षकाचे नाव- डॉ. बाळासाहेब अनुसे

महिना	तासिका	घटक	उपघटक
ऑक्टोबर २०२१	१६	१ भाषा आणि जीवनव्यवहार	१ भाषा आणि जीवनव्यवहार २ अर्जलेखन
नोव्हेंबर २०२१	१६	१ भाषा आणि जीवनव्यवहार	३ संगणकीय अर्जलेखन ४ स्व- परिचय
डिसेंबर २०२१	१६	२ प्रसारमध्यमांसाठी लेखन	१ प्रसारमध्यमांसाठी लेखन १ वृत्तपत्रे २ नभोवाणी ३ चित्रवाणी ४ महाजाल ५ नवसमाजमाध्यमांसाठी लेखन
जानेवारी २०२२	१६	२ प्रसारमध्यमांसाठी लेखन	३ चित्रवाणी ४ महाजाल ५ नवसमाजमाध्यमांसाठी लेखन

वर्ग- द्वितीय वर्ष विज्ञान : सत्र दुसरे

विषय- मराठी साहित्य

महिना	तासिका	घटक	उपघटक
फेब्रुवारी २०२२	१६	१ निबंधलेखन	वैचारिक, सामाजिक, विज्ञानविषयक
मार्च २०२२	१६		
एप्रिल २०२२	१६	२ अभ्यासपुस्तक	मराठी कथा दर्शन
मे २०२२	१६		

मराठी विभाग प्रमुख
हुतात्मा राजगुरु महाविद्यालय
राजगुरुनगर,ता.खेड,जि.पुणे.

डॉ. बाळासाहेब अनुसे
विषय शिक्षक

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वर्ग- तृतीय वर्ष कला : सत्र पहिले (मराठी G3)

विषय- भाषिक कौशल्यविकास आणि आधुनिक मराठी साहित्यप्रकार : प्रवासवर्णन

विषय शिक्षकाचे नाव- डॉ. बाळासाहेब अनुसे

महिना	तासिका	घटक	उपघटक
ऑक्टोबर २०२१	१६	१मुद्रितमध्यमांसाठी लेखन कौशल्ये	१ वृत्तलेख- स्वरूप व वैशिष्ट्ये २ अग्रलेख- स्वरूप व वैशिष्ट्ये
नोव्हेंबर २०२१	१६	१मुद्रितमध्यमांसाठी लेखन कौशल्ये	३ सदरलेखन- स्वरूप व वैशिष्ट्ये ४ परीक्षण- स्वरूप व वैशिष्ट्ये
डिसेंबर २०२१	१६	प्रवासवर्णन साहित्यप्रकार	स्वरूप, प्रेरणा, प्रयोजने, वाटचाल आणि वैशिष्ट्ये
जानेवारी २०२२	१६	२ अभ्यासपुस्तक	तीन मुलांचे चार दिवस

वर्ग- तृतीय वर्ष कला : सत्र दुसरे (मराठी G3)

विषय- भाषिक कौशल्यविकास आणि आधुनिक मराठी साहित्यप्रकार

महिना	तासिका	घटक	उपघटक
फेब्रुवारी २०२२	१६	मराठी साहित्य, भाषिक कौशल्यविकास आणि शासन व्यवहार	१ राज्यघटनेतील भाषाविषयक तरतुदी २ मराठी राजभाषा अधिनियम
मार्च २०२२	१६		३ मराठीविषयक कार्य करणाऱ्या शासकीय संस्थांचा परिचय
एप्रिल २०२२	१६	कविता	स्वरूप, वाटचाल, प्रेरणा आणि वैशिष्ट्ये
मे २०२२	१६	संपादित अभ्यासपुस्तक	रूप- कवितेचे

मराठी विभाग प्रमुख
हुतात्मा राजगुरु महाविद्यालय
राजगुरुनगर,ता.खेड,जि.पुणे.

डॉ. बाळासाहेब अनुसे
विषय शिक्षक

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वर्ग- तृतीय वर्ष कला : सत्र पहिले (मराठी S3)

विषय- मध्ययुगीन मराठी वाङमयाचा स्थूल इतिहास: प्रारंभ ते इ. स. १६००

विषय शिक्षकाचे नाव- डॉ. संजय शिंदे

महिना	तासिका	घटक	उपघटक
ऑक्टोबर २०२१	१६	१वाङमयेतीहास संकल्पना आणि मराठी भाषा, वाङमयाचा उगम यादवकाळ आणि बहामनी काळातील वाङमयनिर्मिती	१ वाङमयेतीहास संकल्पना आणि स्वरूप २ कालखंड स्वरूप चर्चा ३ वाङमयाचा उगम ४ या काळाची सामाजिक आणि सांस्कृतिक पार्श्वभूमी
नोव्हेंबर २०२१	१६	२ महानुभाव वाङमय ३ वारकरी वाङमय	१ गद्य ग्रंथ २ पद्य ग्रंथ ३ वारकरी वाङमय: प्रेरणा, प्रवृत्ती व स्वरूप
डिसेंबर २०२१	१६	४ मुकुंदराज, नृसिंहसरस्वती... वाङमयनिर्मितीचे स्वरूप	मुकुंदराज, नृसिंहसरस्वती... वाङमयनिर्मितीचे स्वरूप
जानेवारी २०२२	१६	संशोधनपर प्रकल्प	घटक १, २ आणि ३

वर्ग- तृतीय वर्ष कला : सत्र दुसरे (मराठी S3)

विषय- मध्ययुगीन मराठी वाङमयाचा स्थूल इतिहास: इ. स. १६०० ते इ. स. १८१७

महिना	तासिका	घटक	उपघटक
फेब्रुवारी २०२२	१६	१ शिवकाल आणि पेशवेकाळातील वाङमयनिर्मिती	१ सामाजिक, सांस्कृतिक पार्श्वभूमी २ संत तुकाराम: वाङमयनिर्मितीचे स्वरूप ३ संत रामदास: वाङमयनिर्मितीचे स्वरूप
मार्च २०२२	१६	२ पंडित आणि शाहिरांची वाङमयनिर्मिती	१ पंडिती वाङमय: स्वरूप, प्रेरणा, प्रवृत्ती, वैशिष्ट्ये २ शाहिरी वाङमय: स्वरूप, प्रेरणा, प्रवृत्ती, वैशिष्ट्ये
एप्रिल २०२२	१६	३ बखर आणि गद्य वाङमयनिर्मिती	१ बखर स्वरूपवाङमय: प्रेरणा, प्रवृत्ती, वैशिष्ट्ये २ आज्ञापत्र
मे २०२२	१६	४ संशोधनपर प्रकल्प	घटक १, २ आणि ३

डॉ. संजय शिंदे
मराठी विभाग प्रमुख
हुतात्मा राजगुरु महाविद्यालय
राजगुरुनगर,ता.खेड,जि.पुणे.

मराठी विभाग प्रमुख
हुतात्मा राजगुरु महाविद्यालय
राजगुरुनगर,ता.खेड,जि.पुणे.

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वर्ग- तृतीय वर्ष कला : सत्र पहिले(मराठी S4)

विषय- वर्णनात्मक भाषाविज्ञान १

विषय शिक्षकाचे नाव- डॉ. बाळासाहेब अनुसे

महिना	तासिका	घटक	उपघटक
ऑक्टोबर २०२१	१६	१भाषा: स्वरूप व संकल्पना	१ भाषा- स्वरूप, कार्ये २ संदेशन- मानव व मानवेतर संदेशन ३ भाषाभ्यासाच्या शाखा ४ भाषेच्या अभ्यासाचे महत्व व भाषाभ्यासाच्या पद्धती
नोव्हेंबर २०२१	१६	२ स्वन विचार	१ स्वनविज्ञान २ वागीनद्रीय ३ स्वनाचे वर्गीकरण व वर्गीकरणाची तत्वे
डिसेंबर २०२१	१६	३ स्वनिमविचार	१ स्वन-स्वनिम-स्वनांतर २ स्वनिमनिश्चितीची तत्वे ३ विनियोग संकल्पना
जानेवारी २०२२	१६	४ संशोधन प्रकल्प	घटक १, २ आणि ३

वर्ग- तृतीय वर्ष कला : सत्र दुसरे (मराठी S4)

विषय- वर्णनात्मक भाषाविज्ञान २

महिना	तासिका	घटक	उपघटक
फेब्रुवारी २०२२	१६	१ रुपिमविचार	१ रूपविन्यास २ रुपिका- रुपिम- रुपिकांतर ३ विनियोग संकल्पना ४ प्रकृती, प्रत्यय
मार्च २०२२	१६	२ वाक्याविचार	१ वाक्यविन्यास२ घटक आणि रचना ३ वाक्याचे घटक ४ वाक्याचे प्रकार
एप्रिल २०२२	१६	३ अर्थविचार	१ स्वरूप आणि संकल्पना २ अर्थाचे वर्गीकरण ३ अर्थविन्यासाची संकल्पना
मे २०२२	१६	४ संशोधनपर प्रकल्प	घटक १, २ आणि ३

मराठी विभाग प्रमुख
हुतात्मा राजगुरु महाविद्यालय
राजगुरुनगर,ता.खेड,जि.पुणे.

डॉ. बाळासाहेब अनुसे
विषय शिक्षक

Scanned with CamScanner

वर्ग- तृतीय वर्ष कला : सत्र पहिले (SEC)

विषय- कार्यक्रम संयोजनातील भाषिक कौशल्ये १

विषय शिक्षकाचे नाव- प्रा. साईनाथ पाचारणे

महिना	तासिका	घटक	उपघटक
ऑक्टोबर २०२१	०४	१कार्यक्रमाचे स्वरूप आणि प्रकार	१ कार्यक्रमाचे स्वरूप आणि प्रकार
नोव्हेंबर २०२१	०४	१कार्यक्रमाचे स्वरूप आणि प्रकार	२ कार्यक्रम संयोजनातील विविध घटक
डिसेंबर २०२१	०४	२ कार्यक्रम संयोजनातील भाषिक कौशल्ये	१ पूर्वतयारी २ कार्यक्रम संयोजनातील भाषेचे महत्व
जानेवारी २०२२	०४		३ कार्यक्रमाची योजना, आखणी आणि रूपरेषा ४ कार्यक्रम पश्चात कामे

वर्ग- तृतीय वर्ष कला : सत्र दुसरे

विषय- - कार्यक्रम संयोजनातील भाषिक कौशल्ये २

महिना	तासिका	घटक	उपघटक
फेब्रुवारी २०२२	१६	१ कार्यक्रम संयोजनातील लेखन कौशल्ये	१ निमंत्रण व निमंत्रणपत्रिका लेखन २ कार्यक्रमपत्रिका ३ मानपत्र लेखन
मार्च २०२२	१६		४ बातमी लेखन ५ कार्यक्रम अहवाल लेखन
एप्रिल २०२२	१६	२कार्यक्रम संयोजन	१ कविसंमेलन २ वाचन प्रेरणा दिन ३ मराठी भाषा पंधरवडा ४ मराठी भाषा दिन ५ व्याख्यानमाला ६ पुस्तक प्रदर्शन
मे २०२२	१६	आभासी कार्यक्रम संयोजन	१ झुम, गुगल मिट वरील व्याख्यान २ फेसबुक, यु ट्यूब वरील कार्यक्रम

प्रा. साईनाथ पाचारणे
विषय शिक्षक

मराठी विभाग प्रमुख
हुतात्मा राजगुरु महाविद्यालय
राजगुरुनगर,ता.खेड,जि.पुणे.

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