

Prof. V.D.Kulkarni,
Dept of Physics
HutatmaRajguruMahavidyalaya,
Rajgurunagar (Pune)

Syllabus Completion Report (2016-17)

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

PH 333 Classical Mechanics

Sr. No.	Completed Topics	Dates
01	1. Mechanics of system of particles Introduction –Newton's laws	05/07/2016
02	Applications of Newton's laws of motionProjectile motion in various medium,	07/07/2016,08/07/2016
03	Rocket motion,	11/07/2016
04	Motion of a charged particle in constant electric, magnetic and electromagnetic field.	12/07/2016
05	General features of motion, equation of orbit, Deduction of Kepler's laws of planetary motion, Orbits of artificial satellite, Problems.	13/07/2016
06	System of particles, Centre of mass, Conservation of linear momentum, angular momentum,	14/07/2016
07	Energy of system of particles (statements only) Problems	15/07/2016,16/07/2016

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

PH335: Computational Physics

Sr. No.	Completed Topics	Dates
01	1. Concepts of programming: Definition and Properties of algorithms, Algorithm development,	19/07/2016
02	Algorithm development, Flow charts- symbols and simple flowcharts	20/07/2016
03	Flow charts and Algorithms for Kinematic equations, Free fall, Equation of state, Factorial of a number.	21/07/2016, 22/07/2016
04	Types of programming language: Lower, middle and higher level languages.	23/07/2016
05	C Programming Structure of C program, Character set, key words,	26/07/2016
06	Constants and variables, Variable names,	27/07/2016
07	Data types and their declarations, Symbolic Constants.	29/07/2016
08	Input/output functions: scanf (), printf (), getchar (), putchar (), getch (), gets (), puts ().	30/07/2016, 03/08/2016, 04/08/2016
09	Operators and Expressions: Arithmetic Operators, Relational Operators, Logical Operators,	05/08/2016
10	Assignment Operators, Conditional Operator. Formatted input/output	08/08/2016
11	Control statements: If, if else, while, do while for loop, nested control structures	10/08/2016, 11/08/2016, 12/08/2016, 13/08/2016
12	(nested if, nested loops), break, continue, switch- case statement, goto statement.	19/08/2016, 20/08/2016

13	Use of Library functions: e.g. mathematical, trigonometric, graphics.	24/08/2016,
14	3. Arrays and Pointers in C Arrays: 1-D, 2-D and String	25/08/2016, 26/08/2016
15	Examples: Arranging numbers in descending and ascending order,	27/08/2016
16	Sum of matrices, multiplication of matrices.	31/08/2016, 01/09/2016
17	Concept of Pointers	02/09/2016
18	4. User Defined Function in C User defined functions: Definitions and declaration of function, function prototype.	03/09/2016, 07/09/2016
19	Passing arguments (Call by value, Call by reference).	08/09/2016
20	Storage Classes: Auto, External, Static, Register variables.	09/09/2016, 10/09/2016
21	5. Graphics in C: Some simple graphic commands	14/09/2016, 16/09/2016
	- Line, Circle, Arc, Ellipse, Bar., Problems	17/09/2016
22	6. Computational Physics: Errors in Computation: Inherent errors in storing numbers due to finite bit representation to use in Computer, Truncation error, round off errors	21/09/2016, 22/09/2016, 23/09/2016,
23	Iterative methods: Discussion of algorithm and flowcharts and writing C programs for finding	24/09/2016, 27/09/2016
24	single root of equation using Bi-section method, Newton Raphson method.	29/09/2016, 30/09/2016, 01/10/2016
25	Discussion of algorithm and flowcharts and writing C program for Trapezoidal rule and Simpson's 1/3rd rule	04/10/2016, 06/10/2016,
26	Problems and Paper solutions	07/10/2016, 08/10/2016

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

Thermodynamics and Statistical Physics (PH-343)

Sr. No.	Completed Topics	Dates
01	Ch-1 - Kinetic Theory of gases Assumptions of Kinetic Theory of gases, Mean free path	1/12/2016 2/12/2016
02	Transport Phenomena, Viscosity	3/12/16,6/12/16
03	Thermal conductivity and diffusion	7/12/16,8/12/16
04	Problems	9/12/16,10/12/16
05	Ch-2- Maxwell's relations and applications Thermodynamic functions	13/12/16,14/12/16
06	Enthalpy, Entropy, Internal Energy, Helmholtz Functions	15/12/16,16/12/16
07	Maxwell's relations	17/12/16,21/12/16
08	First and Second TdS equations	22/12/16,28/12/16
09	Joule – Thomson's effect, Problems	30/12/16,31/12/16
10	Ch-3- Elementary Concepts of Statistics Probability distributions, functions	4/1/17,5/1/17 6/1/17
11	Random Walk Problem and Binomial distribution	7/1/17,11/1/17
12	Simple Random Problem	12/1/17,13/1/17
13	Probability distribution for large N	14/1/17,18/1/17
14	Gaussian Probability distribution and Problems	20/1/17,25/1/17
15	Ch-4- Statistical distribution of system of particles State of Systems, Ensembles	27/1/17,28/1/17
16	Basic Postulates, Probability Calculations	29/1/17,8/2/17
17	Behavior of density of states	9/2/17,13/2/17
18	Thermal. Mechanical Interactions, Problems	14/2/17,15/2/17

Sr. No.	Completed Topics	Dates
19	Ch-5- Statistical Ensembles Micro canonical Ensembles, Canonical Ensembles	17/2/17,18/2/17
20	Applications of Canonical Ensembles	18/2/17
21	Molecules in ideal gas, Mean Values in Canonical Ensembles, Problems	19/2/17,21/2/17
22	Ch-6-Quantum States Quantum distribution function	23/2/17
23	Maxwell – Boltzman Statistics, Bose – Einstein Statistics	23/2/17,25/2/17
24	Fermi – Dirac Statistics, Comparisons, Problems	28/2/17

- 1) T.Y.B.Sc.:- Sixteen (16) Practical of **Three** batches completed in Academic Year 2016-2017.
- 2) Projects of T.Y.B.Sc Students.:- Projects of Five(5) Students of T.Y.B.Sc. completed in Academic Year 2016-2017.

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