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Syllabus Completion Report (Sem-V)

(2022-23)

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

Sr. No.	Online Completed Topics	Dates
01	**1.Concepts of programming and Introduction to C Programming** Definition and Properties of algorithms, Algorithm development,	12/10/2022 13/10/2022 14/10/2022 15/10/2022
02	Algorithm development, Flow charts- symbols and simple flowcharts	17/10/2022 19/10/2022
03	Flow charts and Algorithms for Kinematic equations, Free fall, Equation of state, Factorial of a number.	20/10/2022 27/10/2022 28/10/2022 29/10/2022
04	Types of programming language: Lower, middle and higher level languages.	31/10/2022 1/11/2022
05	Structure of C program, Character set, key words,	2/11/2022 3/11/2022
06	Constants andvariables, Variable names,	5/11/2022
07	Data types and their declarations, Symbolic Constants.	7/11/2022 9/11/2011
08	Input/output functions: scanf ( ), printf ( ), getchar ( ), putchar ( ), getch ( ), gets ( ), puts ( ).	10/11/2022 11/11/2022 12/11/2022 13/11/2022
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	**2. Arrays, Pointers and user defined functions** Arrays: 1-D, 2-D and String	14/11/2022 15/11/2022 16/11/2022 17/11/2022
15	Examples: Arranging numbers in descending and ascending order,	
16	Sum of matrices, multiplication of matrices.	
17	Concept of Pointers	
18	User defined functions: Definitions and declaration of function, function prototype.	
19	Passing arguments (Call by value, Call by reference).	
20	Storage Classes: Auto, External, Static, Register variables.	
21	**4. Computational Physics:**	18/11/2022 19/11/2022 21/11/2022 22/11/2022
	Iterative methods: Discussion of algorithm and flowcharts and writing C programs for finding	
22	single root of equation using bi-section method, NewtonRaphson method.	23/11/2022 24/11/2022
23	Discussion of algorithm and flowcharts and writing C program for trapezoidal rule and Simpson's 1/3rd rule	
24	**3. Graphics in C**: Some simple graphic commands	
25	- Line, Circle, Arc, Ellipse, Bar.,Problems	

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PH 333 Classical Mechanics

Sr. No.	Completed Topics	Dates
01	**1. Motion of system of a particles** Introduction –Newton's laws	12/09/2022 13/09/2022
02	Motion of a charged particle in constant electric, magnetic and electromagnetic field	14/09/2022 16/09/2022
03	General features of motion, equation of orbit, Deduction of Kepler's laws of planetary motion, Orbits of artificial satellite, Problems	17/09/2022 19/09/2022 20/09/2022 22/09/2022
04	System of particles, Centre of mass, Conservation of linear momentum, angular momentum, Energy of system of particles (statements only) Problems	23/09/2022
09	**2. Motion in Central Force Field** Central force, equivalent one body problem	24/09/2022 26/09/2022 27/09/2022
10	Motion in central force field	29/09/2022 30/09/2022
11	General features of motion, equation of orbit	1/10/2022 3/10/2022
12	Deduction of Kepler's laws of planetary motion Orbits of artificial satellite and Problems	4/10/2022 6/10/2022 7/10/2022 11/10/2022

1) T.Y.B.Sc.:-08 Practicals of one batch completed in Academic Year 2022-2023.

2) Projects of T.Y.B.Sc Students.:- Projects of one batch completed in academic Year 2022-2023.

3) F.Y.B.Sc.:-04 Practicals of one batch completed in Academic Year 2022-2023.

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