



Course Code: B401

Course Name: B.Sc. (Hons.) - Physics

Course Structure under Choice Based Credit System (2016-17)

Details of Course: B.Sc. (Hons.) - Physics

Course Structure		Credits	
		Theory + Practical	Theory + Tutorial
I	Core Courses (14 Papers)	14 x 04 = 56	14 x 05 = 70
	Core Course Practicals/ Tutorials	14 x 02 = 28	14 x 01 = 14
II	Elective Courses (08 Papers)		
	a. Discipline Specific Electives DSE (04 Papers)	04 x 04 = 16	05 x 04 = 20
	Discipline Specific Elective Practicals/ Tutorials	04 x 02 = 08	04 x 01 = 04
	b. Generic Electives/ Interdisciplinary (04 Papers)	04 x 04 = 16	05 x 04 = 20
	Generic Electives/ Interdisciplinary Practicals/ Tutorials	04 x 02 = 08	04 x 01 = 04
III	Ability Enhancement Courses		
	Ability Enhancement Courses Compulsory AECC (02 Papers of 02 credits each)	02 x 02 = 04	02 x 02 = 04
	Ability Enhancement Courses Electives AECE (Skill based) (02 Papers of 02 credits each)	02 x 02 = 04	02 x 02 = 04
Total Credits		= 140	140

PDM UNIVERSITY
FACULTY OF PHYSICAL SCIENCES
COURSE: B.Sc (Hons.) Physics
Scheme of course as per choice based credit system

SEMESTER	MODULE TYPE	MODULE NAME	CREDITS
I	AEC-I	ENGLISH COMMUNICATIONS	2
	CORE-I	MATHEMATICAL PHYSICS-I	4
	CORE-I PRACTICAL	CORE-I LAB	2
	CORE-II	MECHANICS	4
	CORE-II PRACTICAL	CORE-II LAB	2
	GE-I	GENERAL ELECTIVE-I	4
	GE-I PRACTICAL/TUTORIAL	GENERAL ELECTIVE-I PRACTICAL OR TUTORIAL	2
II	AEC-II	ENVIRONMENTAL SCIENCES	2
	CORE-III	ELECTRICITY & MAGNETISM	4
	CORE-III PRACTICAL	CORE-III LAB	2
	CORE-IV	WAVES AND OPTICS	4
	CORE-IV PRACTICAL	CORE-IV LAB	2
	GE-II	GENERAL ELECTIVE-II	4
	GE-II PRACTICAL/TUTORIAL	GENERAL ELECTIVE-II PRACTICAL OR TUTORIAL	2
III	CORE-V	MATHEMATICAL PHYSICS-II	4
	CORE-V PRACTICAL	CORE-V LAB	2
	CORE-VI	THERMAL PHYSICS	4
	CORE-VI PRACTICAL	CORE-VI LAB	2
	CORE-VII	DIGITAL SYSTEMS AND APPLICATIONS	4
	CORE-VII PRACTICAL	CORE-VII LAB	2
	SEC-I	SKILL ENHANCEMENT COURSE-I	2
	GE-III	GENERAL ELECTIVE-III	4
	GE-III PRACTICAL/TUTORIAL	GENERAL ELECTIVE-III PRACTICAL OR TUTORIAL	2
IV	CORE-VIII	MATHEMATICAL PHYSICS III	4
	CORE-VIII PRACTICAL	CORE-VIII LAB	2
	CORE-IX	ELEMENTS OF MODERN PHYSICS	4
	CORE-IX PRACTICAL	CORE-IX LAB	2
	CORE-X	ANALOG SYSTEMS AND APPLICATIONS	4
	CORE-X PRACTICAL	CORE-X LAB	2
	SEC-II	SKILL ENHANCEMENT COURSE-II	2
	GE-IV	GENERAL ELECTIVE-IV	4
	GE-IV PRACTICAL/TUTORIAL	GENERAL ELECTIVE-IV PRACTICAL OR TUTORIAL	2
V	CORE-XI	QUANTUM MECHANICS & APPLICATIONS	4
	CORE-XI PRACTICAL	CORE-XI LAB	2
	CORE-XII	SOLID STATE PHYSICS	4
	CORE-XII PRACTICAL	CORE-XII LAB	2
	DSE-I	DISCIPLINE SPECIFIC ELECTIVE-I	4
	DSE-I PRACTICAL	DISCIPLINE SPECIFIC ELECTIVE-I LAB	2
	DSE-II	DISCIPLINE SPECIFIC ELECTIVE-II	4
DSE-II PRACTICAL	DISCIPLINE SPECIFIC ELECTIVE-II LAB	2	
VI	CORE-XIII	ELECTRO MAGNETIC THEROY	4
	CORE-XIII PRACTICAL	CORE-XIII LAB	2
	CORE-XIV	STATISTICAL MECHANICS	4
	CORE-XIV PRACTICAL	CORE-XIV LAB	2
	DSE-III	DISCIPLINE SPECIFIC ELECTIVE-III	4
	DSE-III PRACTICAL	DISCIPLINE SPECIFIC ELECTIVE-III LAB	2
	DSE-IV	DISCIPLINE SPECIFIC ELECTIVE-IV	4
DSE-IV PRACTICAL	DISCIPLINE SPECIFIC ELECTIVE-IV LAB	2	
Total Credits			140

List of Core modules (Each module consists 6 credits, Theory + Lab)

PHYS4001 & PHYS4002: Mathematical Physics-I & Lab
PHYS4003 & PHYS4004: Mechanics & Lab
PHYS4005 & PHYS4006: Electricity and Magnetism & Lab
PHYS4007 & PHYS4008: Waves and Optics & Lab
PHYS4009 & PHYS4010: Mathematical Physics-II & Lab
PHYS4011 & PHYS4012: Thermal Physics & Lab
PHYS4013 & PHYS4014: Digital Systems and Applications & Lab
PHYS4015 & PHYS4016: Mathematical Physics III & Lab
PHYS4017 & PHYS4018: Elements of Modern Physics & Lab
PHYS4019 & PHYS4020: Analog Systems and Applications & Lab
PHYS4021 & PHYS4022: Quantum Mechanics and Applications & Lab
PHYS4023 & PHYS4024: Solid State Physics & Lab
PHYS4025 & PHYS4026: Electromagnetic Theory & Lab
PHYS4027 & PHYS4028: Statistical Mechanics & Lab

List of Discipline Specific Elective modules (Each module consists of 6 credits, Theory + Lab)**Choose any four (DSE-I to DSE-IV)**

PHYS4101 & PHYS4102: Embedded systems- Introduction to Microcontroller & Lab
PHYS4103 & PHYS4104: Physics of Devices and Communication & Lab
PHYS4105 & PHYS4106: Classical Dynamics & Lab
PHYS4107 & PHYS4108: Communication System & Lab
PHYS4109 & PHYS4110: Nuclear and Particle Physics & Lab
PHYS4111 & PHYS4112: Digital Signal Processing & Lab

List of General Elective modules (The student has to take 04 papers of any one discipline, each module consists of 6 credits, Theory + Lab or Tutorial) GE-I to GE-IV**Mathematics & Tutorial**

MATH4201 & MATH4202: Finite Element Methods & Tutorial
MATH4203 & MATH4204: Mathematical Finance & Tutorial
MATH4205 & MATH4206: Applications of Algebra & Tutorial
MATH4207 & MATH4208: Combinatorial Mathematics & Tutorial
MATH4209 & MATH4210: Econometrics & Tutorial
MATH4211 & MATH4212: Information Security & Tutorial

Chemistry & Lab

CHEM4201 & CHEM4202: Atomic Structure, Bonding & General Organic Chemistry & Lab
CHEM4203 & CHEM4204: Chemical Energetics & Lab
CHEM4205 & CHEM4206: Transition Metal Chemistry & Lab
CHEM4207 & CHEM4208: Organometallic Chemistry & Bioinorganic Chemistry & Lab
CHEM4209 & CHEM4210: Molecules of Life & Lab
CHEM4211 & CHEM4212: Chemistry of Main Group Elements & Lab

Computer Science & Lab

COMP4201 & COMP4202: Computer Fundamentals & Lab
COMP4203 & COMP4204: Introduction to Database & Lab
COMP4205 & COMP4206: Introduction to Programming & Lab
COMP4207 & COMP4208: Computer Network & Internet & Lab
COMP4209 & COMP4210: Multimedia & Lab

List of Skill Enhancement Modules (SEC-I & SEC-II) Choose any 2

- SKIL1001: Basics of Information Technology
- SKIL1002: Competitive Examination Preparedness
- SKIL1003: Business Communication & Creative Writing
- SKIL1004: Finance & Accounting Skills
- SKIL1005: New Venture Planning (Entrepreneurship)
- SKIL1006: Personality Development
- SKIL1007: Basic Workshop
- SKIL1008: Electrical Circuits & Network
- SKIL1009: Mobile Application Development
- SKIL1010: E-Commerce (Principles & Practices)
- SKIL1011: Leadership Strategy & Organizational Behavior