Program Name: **B.Sc. (Hons) Physics**

Program Code: **PHY3303**

Offered by Department of Physics, School of Basic and Applied Sciences, Adamas University

Duration: 3 Years

Academic Year: 2024-25

Distribution of Courses Semester-wise:

1st Year

Semester – I					
Type of Course	**Paper Name**	**Paper Code**	**No of Papers**	**Credit**	**L-T-P**
Core (Theory) Course	MATHEMATICAL PHYSICS I	PHY11001	1	4	4-0-0
	MECHANICS	PHY11002	1	4	4-0-0
Core (Lab) Course	MATHEMATICAL PHYSICS LAB I	PHY12003	1	2	0-0-2
	MECHANICS LAB	PHY12004	1	2	0-0-2
Generic Elective (Theory) Course	ELECTIVE MATHEMATICS I*/ ELECTIVE CHEMISTRY I/ ELECTIVE COMPUTER SCIENCE I/ ELECTIVE ZOOLOGY I/ ELECTIVE STATISTICS I*/ ELECTIVE BOTANY I	MTH11508/ CHM11151/ CSE11641/ ZOL11001/ SDS11506/ BOT11001	1	6*/4	5-1-0
Generic Elective (Lab) Course	ELECTIVE CHEMISTRY LAB I// ELECTIVE COMPUTER SCIENCE LAB I/ ELECTIVE ZOOLOGY LAB I/ ELECTIVE BOTANY LAB I	CHM12152/ CSE12642/ ZOL12002/ BOT12002	1	2	0-0-2
Foundation (Ability Enhancement Compulsory Course)	ENGLISH LANGUAGE AND LITERATURE	ENG11057	1	2	2-0-0
Value Added Foundation Course	DESIGN THINKING	DGS11001	1	2	2-0-0
	Total		7/8	**22**	

* Elective Mathematics/Statistics is a Non-Lab based course, hence the distribution of credits are 5-1-0 (L-T-P)

Semester – II					
Type of Course	**Paper Name**	**Paper Code**	**No of Papers**	**Credit**	**L-T-P**
Core (Theory) Course	MATHEMATICAL PHYSICS II	PHY11005	1	4	4-0-0
	WAVE AND OPTICS	PHY11006	1	4	4-0-0
Core (Lab) Course	MATHEMATICAL PHYSICS LAB II	PHY12007	1	2	0-0-2
	WAVE AND OPTICS LAB	PHY12008	1	2	0-0-2
Generic Elective (Theory) Course	ELECTIVE MATHEMATICS II*/ ELECTIVE CHEMISTRY II/ ELECTIVE COMPUTER SCIENCE II/ ELECTIVE ZOOLOGY II/ ELECTIVE STATISTICS II*/ ELECTIVE BOTANY II	MTH11509/ CHM11153/ CSE11643/ ZOL11003/ SDS11507/ BOT11003	1	6*/4	5-1-0
Generic Elective (Lab) Course	ELECTIVE CHEMISTRY LAB II// ELECTIVE COMPUTER SCIENCE LAB II/ ELECTIVE ZOOLOGY LAB II/ ELECTIVE BOTANY LAB II	CHM12154/ CSE12644/ ZOL12003/ BOT12003	1	2	0-0-2
Foundation (Ability Enhancement Compulsory Course)	ENVIRONMENTAL SCIENCE	EVS11112	1	2	2-0-0
Value Added Foundation Course	VENTURE IDEATION	EIC11001	1	2	

Total		7 /8	**22**	

* Elective Mathematics/Statistics is a Non-Lab based course, hence the distribution of credits are 5-1-0 (L-T-P)

2nd Year

Semester – III					
Type of Course	**Paper Name**	**Paper Code**	**No of Papers**	**Credit**	**L-T-P**
Core (Theory)	ELECTRICITY AND MAGNETISM I	PHY11009	1	4	4-0-0
	THERMAL PHYSICS	PHY11010	1	4	4-0-0
	ELECTRONICS I	PHY11011	1	4	4-0-0
Core (Lab)	ELECTRICITY AND MAGNETISM LAB I	PHY12012	1	2	0-0-2
	THERMAL PHYSICS LAB	PHY12013	1	2	0-0-2
	ELECTRONICS LAB I	PHY12014	1	2	0-0-2
Generic Elective (Theory)	ELECTIVE CHEMISTRY I/ ELECTIVE COMPUTER SCIENCE I/ ELECTIVE ZOOLOGY I/ ELECTIVE STATISTICS I*/ ELECTIVE BOTANY I	CHM11151/ CSE11641/ ZOL11001/ SDS11506/ BOT11001	1	4	4-0-0
Generic Elective (Lab)	ELECTIVE CHEMISTRY LAB I// ELECTIVE COMPUTER SCIENCE LAB I/ ELECTIVE ZOOLOGY LAB I/ ELECTIVE BOTANY LAB I	CHM12152/ CSE12642/ ZOL12002/ BOT12002	1	2	0-0-2
Foundation (Skill Enhancement Compulsory Course)	COMPUTATIONAL SKILLS / BASIC INSTRUMENTATION SKILLS / WEATHER FORECASTING / RADIATION SAFETY TECHNIQUES	PHY11061/PHY11026/ GEO11019/ MEE12320/PHY11055	1	2	2-0-0
Value Added Course	INTER DISCIPLINARY PROJECT	IDP14001	1	3	2-0-0
Value Added Course	COMMUNITY SERVICE	SOC14100	1	1	
Total			11	**30**	

Semester – IV					
Type of Course	**Paper Name**	**Paper Name**	**No of Papers**	**Credit**	**L-T-P**
Core (Theory)	ELECTRICITY AND MAGNETISM II	PHY11018	1	4	4-0-0
	ELEMENTS OF MODERN PHYSICS	PHY11019	1	4	4-0-0
	ELECTRONICS II	PHY11020	1	4	4-0-0
Core (Lab)	ELECTRICITY AND MAGNETISM LAB II	PHY12021	1	2	0-0-2
	MODERN PHYSICS LAB	PHY12022	1	2	0-0-2
	ELECTRONICS LAB II	PHY12023	1	2	0-0-2
Generic Elective (Theory)	ELECTIVE CHEMISTRY II/ ELECTIVE COMPUTER SCIENCE II/ ELECTIVE ZOOLOGY II/ ELECTIVE STATISTICS II*/ ELECTIVE BOTANY II	CHM11153/ CSE11643/ ZOL11003/ SDS11507/ BOT11003	1	6*/ 4	5-1-0*/ 4-0-0
Generic Elective (Lab)	ELECTIVE CHEMISTRY LAB II// ELECTIVE COMPUTER SCIENCE LAB II/ ELECTIVE ZOOLOGY LAB II/ ELECTIVE BOTANY LAB II	CHM12154/ CSE12644/ ZOL12003/ BOT12003	1	2	0-0-2
Foundation (Skill Enhancement Compulsory Course)	COMPUTATIONAL SKILLS / BASIC INSTRUMENTATION SKILLS / WEATHER FORECASTING / RADIATION SAFETY TECHNIQUES	PHY11061/PHY11026/ GEO11019/ MEE12320/PHY11055	1	2	2-0-0

Value Added Course	HUMAN VALUES AND PROFESSIONAL ETHICS	PSG11021	1	**2**	2-0-0
	Total			10	**28**	

3rd Year

Semester – V					
Type of Course	**Paper Name**	**Paper Name**	**No of Papers**	**Credit**	**L-T-P**
Core (Theory)	QUANTUM MECHANICS AND APPLICATIONS	PHY11027	1	4	4-0-0
	STATISTICAL MECHANICS	PHY11028	1	4	4-0-0
Core (Lab)	QUANTUM MECHANICS LAB	PHY12029	1	2	0-0-2
	STATISTICAL MECHANICS LAB	PHY12030	1	2	0-0-2
Discipline Specific Elective	EXPERIMENTAL TECHNIQUES/ EMBEDDED SYSTEMS- INTRODUCTION TO MICROCONTROLLER/ PHYSICS OF DEVICES AND INSTRUMENTATION/MEDICAL ELECTRONICS	PHY11031/ PHY11032/ PHY11033/PHY11056	1	4	4-0-0
	EXPERIMENTAL TECHNIQUES LAB/ MICROCONTROLLER LAB/DEVICES AND INSTRUMENTATION LAB//MEDICAL ELECTRONICS LAB	PHY12034/ PHY12035/ PHY12036/PHY12057	1	2	0-0-2
Discipline Specific Elective	ADVANCED MATHEMATICAL PHYSICS/ MACHINE LEARNING AND DATA ANALYTICS/ APPLIED DYNAMICS	PHY11037/ PHY11058/ PHY11039	1	4	5-1-0/ 4-0-0
	ADVANCED MATHEMATICAL PHYSICS LAB/ MACHINE LEARNING AND DATA ANALYTICS LAB/ APPLIED DYNAMICS LAB	PHY12040/ PHY12059/PHY12041	1	2	0-0-2
	INDUSTRY INTERNSHIP	PHY14042	1	2	
	Total		9	**26**	

Semester – VI					
Type of Course	**Paper Name**	**Paper Name**	**No of Papers**	**Credit**	**L-T-P**
Core (Theory)	ANALYTICAL MECHANICS AND SPECIAL THEORY OF RELATIVITY*	PHY11060	1	6	5-1-0
	SOLID STATE PHYSICS	PHY11044	1	4	4-0-0
	SOLID STATE PHYSICS LAB	PHY12046	1	2	0-0-2
Discipline Specific Elective	NUCLEAR AND PARTICLE PHYSICS*/ ASTROPHYSICS*/ ATMOSPHERIC PHYSICS/ NANO-MATERIALS AND APPLICATIONS	PHY11047/ PHY11048/ PHY11049/ PHY11050	1	6*/ 4	5-1-0/ 4-0-0
	ATMOSPHERIC PHYSICS LAB/ NANO MATERIALS AND APPLICATIONS LAB	PHY12051/PHY12052	1	2	0-0-2
Compulsory	DISSERTATION	PHY15053	1	8	
	Total		6	**26**	

*Purely Theoretical papers with 6 credits

Total Credit: 22 + 22 + 30 + 28 + 26 + 26 = 154