

### Course Structure for the Program M.Sc. Physics

Semester – I				
Paper Name	Paper Code	No of Papers	Credit	L-T-P
MATHEMATICAL METHODS	PHY21401	1	4	4-0-0
CLASSICAL MECHANICS	PHY21402	1	4	4-0-0
QUANTUM MECHANICS I	PHY21403	1	4	4-0-0
ELECTRONICS	PHY21404	1	4	4-0-0
PHYSICS LAB I	PHY22405	1	3	0-0-6
PHYSICS LAB II	PHY22406	1	3	0-0-6
ENVIRONMENTAL SCIENCE AND ENERGY RESOURCES	EVS21101	1	2	2-0-0
Total		<b>4 + 2 + 1 = 7</b>	<b>24</b>	

Semester II				
Paper Name	Paper Code	No of Papers	Credit	L-T-P
CLASSICAL ELECTRODYNAMICS	PHY21407	1	4	4-0-0
QUANTUM MECHANICS II	PHY21408	1	4	4-0-0
STATISTICAL MECHANICS	PHY21409	1	4	4-0-0
ATOMIC & MOLECULAR SPECTROSCOPY	PHY21410	1	4	4-0-0
PHYSICS LAB III	PHY22411	1	3	0-0-6
PHYSICS LAB IV	PHY22412	1	3	0-0-6
NUMERICAL MODELING FOR PHYSICISTS AND ENGINEERS	PHY22413	1	3	0-0-6
Total		<b>4 + 2 + 1 = 7</b>	<b>25</b>	

Semester III				
Paper Name	Paper Code	No of Papers	Credit	L-T-P
SOLID STATE PHYSICS	PHY21414	1	4	4-0-0
NUCLEAR PHYSICS	PHY21415	1	4	4-0-0
(ADVANCED ELECTIVE I)  MANY BODY THEORY/ ANATOMY AND PHYSIOLOGY/ QUANTUM FIELD THEORY I/ MOLECULAR BIOPHYSICS/ NANOSCIENCE AND ITS APPLICATIONS	PHY21416/PHY21417/ PHY21418/PHY21419/ PHY21420	1	4	4-0-0
(ADVANCED ELECTIVE II)  MATERIAL SCIENCE/ BIO INSTRUMENTATION AND MEDICAL PHYSICS/ PARTICLE PHYSICS I/ CELLULAR BIOPHYSICS/ INTRODUCTION TO NANOMATERIALS AND FABRICATION TECHNOLOGIES	PHY21421/ PHY21422/ PHY21423/ PHY21424/ PHY21425	1	4	4-0-0
PHYSICS LAB V	PHY22426	1	3	0-0-6
(ADVANCED ELECTIVE LAB I)  MATERIAL SCIENCE LAB/ SENSOR AND MEDICAL INSTRUMENTS LAB/ HIGH ENERGY PHYSICS LAB I/	PHY22427/ PHY22428/ PHY22429	1	2	0-0-4
TERM PAPER LEADING TO DISSERTATION	PHY25430	1	3	
INTERNSHIP	PHY24431	1	2	
Total		4 + 2 + 1+1 = 8	26	

Semester IV				
Paper Name	Paper Code	No of Papers	Credit	L-T-P
(ADVANCED ELECTIVE III) COLLECTIVE PHENOMENA OF SOLIDS/ BIOMEDICAL SPECTROSCOPY AND MEDICAL IMAGING TECHNIQUE/ QUANTUM FIELD THEORY II/ PHYSIOLOGY AND BIOPHYSICS/ NANOSCALE TRANSPORT PHENOMENA	PHY21432/ PHY21433/ PHY21434/ PHY21435/ PHY21436	1	4	4-0-0
(ADVANCED ELECTIVE IV) DIELECTRIC OPTICAL AND TRANSPORT PROPERTIES OF SOLIDS/ BIOSENSORS AND LASER IN MEDICAL APPLICATION/ PARTICLE PHYSICS II/ BRAIN COMPUTER INTERFACE/ NANOELECTRONICS AND NANOPHOTONICS	PHY21437/ PHY21438/ PHY21439/ PHY21440/ PHY21441	1	4	4-0-0
(ADVANCED ELECTIVE LAB II) CONDENSED MATTER PHYSICS LAB/ MICROPROCESSOR AND IMAGE PROCESSING LAB / HIGH ENERGY PHYSICS LAB II/ NUMERICAL METHODS AND PROGRAMMING LAB/ COMPUTATIONAL NANOSCIENCE LAB	PHY22442/ PHY22443/ PHY22444/ PHY22445/ PHY22446	1	3	0-0-6
SEMINAR ON CONTEMPORARY RESEARCH IN PHYSICS & APPLIED PHYSICS	PHY25447	1	2	
DISSERTATION	PHY25448	1	12	
<b>Total</b>		<b>2 + 1 + 1 + 1 = 5</b>	<b>25</b>	

**TOTAL CREDIT: (24 + 25 + 26 + 25) = 100**

<i>Options for Advanced Elective Papers</i>	
Sl. No	Name
1.	CONDENSED MATTER PHYSICS
2.	BIO-MEDICAL INSTRUMENTATION
3.	HIGH ENERGY PHYSICS
4.	BIOPHYSICS
5.	NANOSCIENCE AND NANOMATERIALS