Scheme of Teaching and Examination for M. Sc. (Physics)

DEPARTMENT OF PHYSICS (AUTONOMOUS)

As per NEP 2020 Structure and Credit Distribution of PG Degree Program

for Two Year Choice Based Credit System (Semester Pattern)

Effective from 2023-2024

Semester I

S N	Course Category	Name of Course	Course Code	Teaching Scheme (hrs.)			Total (Hrs)	Total Credit	Examination Scheme						
				(Th)	TU	P			Theory				Practical		
									Exam Hrs.	SEE	CIE	Min.	SEE	CIE	Min.
1	DSC	Mathematical Physics	MPH1T01	4	-	-	4	4	3	60	40	50	-	-	-
2	DSC	Electronics	MPH1T02	4	-	-	4	4	3	60	40	50	-	-	-
3	DSE	Elective 1 (Choose any One) 1 Nonlinear Dynamics 2. Experimental Techniques in Physics 3. Digital Electronics & Microprocessor	MPH1T03	4	-	-	4	4	3	60	40	50	-	-	-
4	RM	Research Methodology	MPH1T04	4	-	-	4	4	2	60	40	50	-	-	-
5	LAB 1	General	MPH1P01	-	-	6	6	3	2-6*				50	50	50
6	LAB 2	Electronics	MPH1P02	-	-	6	6	3	2-6*				50	50	50
Total				16	-	12	**28**	**22**	**-**	**240**	**160**	**200**	**100**	**100**	**100**

Marks of Theory Component= 400 Marks of Practical Component= 200 TOTAL =600 Min.Passing: 200+100=300

Semester II

SN	Course Category	Name of Course	Course Code	Teaching Scheme (hrs.)			Total (Hrs.)	Total Credit	Examination Scheme						
				(Th)	TU	P			Theory				Practical		
									Exam Hrs.	SEE	CIE	Min	SEE	CIE	Min.
1	DSC	Complex Analysis & Numerical Methods	MPH2T05	4	-	-	4	4	3	60	40	50	-	-	-
2	DSC	Statistical Physics	MPH2T06	4	-	-	4	4	3	60	40	50	-	-	-
3	DSE	Elective 2 (Choose any one) 1. Spectroscopy 2.Communication Electronics 3. Energy devices 4. Luminescence	MPH2T07	4	-	-	4	4	3	60	40	50	-	-	-
4	OJT	OJT	MOJ2P01	-	-	8	8	4	3-8*	-	-	-	50	50	50
5	LAB 1	Computational	MPH2P03	-	-	6	6	3	2-6*	-	-	-	50	50	50
6	LAB 2	General	MPH2P04	-	-	6	6	3	2-6*	-	-	-	50	50	50
Total				12	-	20	**32**	**22**		**180**	**120**	**150**	**150**	**150**	**150**

Marks of Theory Component= 300 Marks of Practical Component= 300 TOTAL =600 Min.Passing: 150+150=300

Semester III

SN	Course Category	Name of Course	Course Code	Teaching Scheme (hrs.)			Total (Hrs.)	Total Credit	Examination Scheme						
				(Th)	TU	P			Theory				Practical		
									Exam Hrs.	SEE	CIE	Min.	SEE	CIE	Min.
1	DSC	Classical Mechanics	MPH3T08	4	-	-	4	4	3	60	40	50	-	-	-
2	DSC	Quantum Mechanics - I	MPH3T09	4	-	-	4	4	3	60	40	50	-	-	-
3	DSC	Electrodynamics	MPH3T10	4	-	-	4	4	3	60	40	50	-	-	-
4	DSE	Elective 3 (Choose any one) 1. X-Ray Spectroscopy 2. Materials Science 3. Basic Nanoscience & Nanotechnology 4. Computational Modelling & Simulation	MPH3T11	4	-	-	4	4	3	60	40	50	-	-	-
5	LAB	On electives	MPH3P05	-	-	4	4	2	-	-	-	-	50	50	50
6	RP	Research Project/ Dissertation	MRP3P01	-	-	8	8	4	-	-	-	-	50	50	50
Total				16	-	12	**28**	**22**		**240**	**160**	**200**	**100**	**100**	**100**

Marks of Theory Component= 400 Marks of Practical Component= 200 TOTAL =600 Min.Passing: 200+100=300

Semester IV

SN	Course Category	Name of Course	Course Code	Teaching Scheme (hrs.)			Total (Hrs)	Total Credit	Examination Scheme						
				(Th)	TU	P			Theory				Practical		
									Exam Hrs.	SEE	CIE	Min	SEE	CIE	Min
1	DSC	Nuclear & Particle Physics	MPH4T12	4	-	-	4	4	3	60	40	50	-	-	-
2	DSC	Quantum Mechanics II	MPH4T13	4	-	-	4	4	3	60	40	50	-	-	-
3	DSC	Solid State Physics	MPH4T14	4	-	-	4	4	3	60	40	50	-	-	-
4	DSE	Elective 4 (Choose any one) 1.X-Ray Diffraction 2. Properties of Materials 3. Applied Nanoscience & Nanotechnology 4. Acoustics and Ultrasonics 5. Electrochemical energy storage 6. Quantum Computing	MPH4T15	4	-	-	4	4	3	60	40	50	-	-	-
5	RP	Research Project / Dissertation	MRP4P02	-	-	12	12	6	-	-	-	-	100	100	100
Total				16	-	12	**28**	**22**		**240**	**160**	**200**	**100**	**100**	**100**
Marks of Theory Component= 400 Marks of Project Component= 200 TOTAL =600 Min.Passing: 200+100=300															

2 Years-4 Sem. PG Degree (88 credits) after Three Year UG Degree or
1 Year-2 Sem PG Degree (44 credits) after Four Year UG Degree

Total Credits for Four Semesters (Two Year Course): 4 * 22 = 88

Total Marks for Four Semesters (Two Year Course): 4 * 600 = 2400

Basket for ELECTIVE (DSE) Category Courses (Physics)

Semester	Course Category	Name of Course	Course Code
I	Elective 1	A. Nonlinear Dynamics	MPH1T03
		B. Experimental Technique in Physics	
		C. Digital Electronics & Microprocessor	
II	Elective 2	A. Spectroscopy	MPH2T07
		B. Communication Electronics	
		C. Energy devices	
		D. Luminescence	
III	Elective 3	A. X-Ray Spectroscopy	MPH3T11
		B. Materials Science I	
		C. Basic Nanoscience & Nanotechnology	
		D. Computational Modelling & Simulation	
IV Elective 4		A. X-Ray Diffraction	MPH4T15
		B. Properties of Materials	
		C. Applied Nanoscience & Nanotechnology	
		D. Acoustics and Ultrasonics	
		E.Electrochemical energy storage	
		F. Quantum Computing	

Abbreviations: DSC: Discipline Specific Course, **DSE**: Discipline Specific Elective **SEE:** Semester End Examination**, CIE:** Continuous Internal Evaluation, **OJT:** On the Job Training (Internship/Apprenticeship), **FP:** Field Project, **RM:** Research Methodology, **RP**: Research Project.