

Revised Syllabus for M.Sc. IInd to M.Sc. Vth year
Applied Physic Department

M.Sc. Year I (Semester-I)										
Sr. No.	Course Code	Course	Teaching Scheme (Hours)			Credits	Examination Scheme			Total Marks
			L	T	P		Theory	Tutorial	Practical	
1	MA 101 S1	Mathematics – I	3	1	0	4	100	25	00	125
2	PH 102 S1/S2	Mechanics, Lasers and Fiber Optics	3	0	2	4	100	0	50	150
3	CY 104 S1/S2	Chemistry-I	3	0	2	4	100	00	50	150
4	CEME 105 S1	Engineering Drawing	2	0	4	4	00	00	100	100
5	CEME 105 S1/S2	Energy & Environmental Engineering	3	0	2	4	100	00	50	150
6	PHPH 101 S1	Branch Specific Course I	3	1	2	5	100	25	50	175
7	HU 107 S1/S2	Holistic Empowerment and Human Values	3	0	0	3	100	0	0	100
Total			20	2	12	28	600	50	300	950
Total Lecture Hours										34
Total Credits										28

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M.Sc. Year I (Semester-II)										
Sr. No.	Course Code	Course	Teaching Scheme			Credits	Examination Scheme			Total Marks
			L	T	P		Theory	Tutorial	Practical	
1	MA 114 S2	Mathematics – II	3	1	0	4	100	25	0	125
2	PH 113 S2/S1	Physics of Materials and Nuclei	4	0	0	4	100	0	0	100
3	AM 108 S2/S1	Engineering Mechanics	3	0	2	4	100	0	50	150
4	CS 109 S2/S1	Fundamentals of Computers and Programming	3	0	2	4	100	0	50	150
5	HU 110 S2/S1	English & Professional Communication	3	0	0	3	100	0	0	100
6	PHPH 102 S2	Branch Specific Course II	3	1	2	5	100	25	50	175
7	ME 111 S2/S1	Workshop Practice	0	0	4	2	0	0	50	50
Total			19	2	10	26	600	50	200	850
Total Lecture Hours										31
Total Credits										26

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M.Sc. Year II (Semester-III)										
Sr. No.	Course Code	Course	Teaching Scheme (Hours)			Credits	Examination Scheme			Total Marks
			L	T	P		Theory	Tutorial	Practical	
1	PH 201	Basic Electronics	3	1	0	4	100	25	00	125
2	PH 203	Classical Mechanics	3	1	0	4	100	25	00	125
3	MA211	(Interdisciplinary I): Mathematics-III	3	1	0	4	100	25	00	125
4	CY 209	(Interdisciplinary – II): Solid State Chemistry and Spectroscopy	3	1	0	4	100	25	00	125
5	HU 201	English & Professional Communication - II	3	0	0	3	100	00	00	100
6	PH 205	Experimental Techniques I	0	0	6	3	00	00	150	150
Total			14	5	6	22	500	100	150	750
Total Lecture Hours										25
Total Credits										22

M.Sc. Year II (Semester-IV)										
Sr. No.	Course Code	Course	Teaching Scheme (Hours)			Credits	Examination Scheme			Total Marks
			L	T	P		Theory	Tutorial	Practical	
1	PH 202	Electromagnetics-I	3	1	0	4	100	25	00	125
2	PH 204	Quantum Mechanics-I	3	1	0	4	100	25	00	125
3	PH 206	Solid State Physics	3	1	0	4	100	25	00	125
4	MA 212/ CY 214	Interdisciplinary Elective – I*	3	1	2	5	100	25	50	175
5	CY 202	Introduction to Life Sciences	3	0	0	3	100	00	00	100
6	PH 208	Experimental Techniques II	0	0	6	3	00	00	150	150
Total			15	4	8	23	500	100	200	800
Total Lecture Hours										27
Total Credits										23

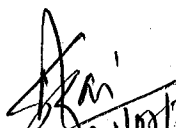
***Interdisciplinary Elective – I**

- MA 212: Computational Methods
- CY 214: ORGANIC CHEMISTRY – I

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M.Sc. Year III (Semester-V)

Sr. No.	Course Code	Course	Teaching Scheme (Hours)				Examination Scheme				
			L	T	P	Credits	Theory	Tutorial	Practical	Total Marks	
1	PH 301	Electromagnetics-II	3	1	0	4	100	25	0	125	
2	PH 303	Semiconductor Devices	3	1	0	4	100	25	0	125	
3	PH 305	Atomic & Molecular Physics	3	1	0	4	100	25	0	125	
4	PH 307	Plasma Physics	3	1	0	4	100	25	0	125	
5	PH 3XX	Institute Elective- I	3	0	0	3	100	0	0	100	
6	PH 309	Experimental Techniques-III	0	0	8	4	0	0	200	200	
7	PH 311	Mini Project-I	0	0	4	2	0	0	100	100	
Total			15	4	12	25	500	100	300	900	
									Total Lecture Hours		31
									Total Credits		25
Institute Elective-I											
Sr. No.	Course Code	Course Name	Teaching Scheme (Hours)				Examination Scheme				
			L	T	P	Credits	Theory	Tutorial	Practical	Total Marks	
1	PH 361	Basics of Astronomy and Astrophysics	3	0	0	3	100	0	0	100	
2	PH 363	Solar Cell Technologies	3	0	0	3	100	0	0	100	


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M.Sc. Year III (Semester-VI)										
Sr. No.	Course Code	Course Name	Teaching Scheme (Hours)				Examination Scheme			Total Marks
			L	T	P	Credits	Theory	Tutorial	Practical	
1	PH 302	Astrophysics and Space Science	3	1	0	4	100	25	0	125
2	PH 304	Mathematical Methods in Physics	3	1	0	4	100	25	0	125
3	PH 306	Digital Electronics	3	1	0	4	100	25	0	125
4	PH 308	Nuclear Physics	3	1	0	4	100	25	0	125
5	PH 3YY	Institute Elective II	3	0	0	3	100	0	0	100
6	PH 312	Experimental Techniques-IV	0	0	8	4	0	0	200	200
7	PH 314	Mini Project-II	0	0	4	2	0	0	100	100
Total			15	4	12	25	500	100	300	900
Total Lecture Hours										31
Total Credits										25
Institute Elective-II										
Sr. No.	Course Code	Course Name	Teaching Scheme (Hours)				Examination Scheme			Total Marks
			L	T	P	Credits	Theory	Tutorial	Practical	
1	PH 362	Basics Course on Relativity	3	0	0	3	100	0	0	100

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M.Sc. Year IV (Semester-VII)

Sr. No.	Course Code	Course Name	Teaching Scheme (Hours)				Examination Scheme			Total Marks
			L	T	P	Credits	Theory	Tutorial	Practical	
1	PH 401	Computational Physics	3	1	0	4	100	25	0	125
2	PH 403	Particle Physics	3	1	0	4	100	25	0	125
3	PH 405	Quantum Mechanics-II	3	1	0	4	100	25	0	125
4	PH 4AA	Core Elective – I	3	0	0	3	100	0	0	100
5	PH 4BB	Core Elective – II	3	0	0	3	100	0	0	100
6	PH 407	Experimental Techniques-V	0	0	8	4	0	0	200	200
7	PH 409	Mini Project-III	0	0	4	2	0	0	100	100
Total			15	3	12	24	500	75	300	875
Total Lecture Hours									30	
Total Credits									24	
Core Electives-I										
Sr. No.	Course Code	Course Name	Teaching Scheme (Hours)				Examination Scheme			Total Marks
			L	T	P	Credits	Theory	Tutorial	Practical	
1	PH 421	Green's Function and Partial Differential Equations	3	0	0	3	100	0	0	100
2	PH 423	Remote Sensing	3	0	0	3	100	0	0	100
3	PH 425	Nanoscience and Nanotechnology	3	0	0	3	100	0	0	100
Core Electives-II										
Sr. No.	Course Code	Course Name	Teaching Scheme (Hours)				Examination Scheme			Total Marks
			L	T	P	Credits	Theory	Tutorial	Practical	
1	PH 427	Materials Science	3	0	0	3	100	0	0	100
2	PH 429	Density Functional Theory	3	0	0	3	100	0	0	100

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M.Sc. Year IV (Semester-VIII)

Sr. No.	Course Code	Course Name	Teaching Scheme (Hours)				Examination Scheme			
			L	T	P	Credits	Theory	Tutorial	Practical	Total Marks
1	PH 402	Statistical Mechanics	3	1	0	4	100	25	0	125
2	PH 404	Condensed Matter Physics	3	1	0	4	100	25	0	125
3	PH 406	Electronics and Optical Communication	3	1	0	4	100	25	0	125
4	PH 4CC	Core Elective – III	3	0	0	3	100	0	0	100
5	PH 4DD	Core Elective – IV	3	0	0	3	100	0	0	100
6	PH 408	Experimental Techniques-VI	0	0	8	4	0	0	200	200
7	PH 412	Dissertation Preliminaries	0	0	4	2	0	0	100	100
Total			15	3	12	24	500	75	300	875
									Total Lecture Hours	30
									Total Credits	24
Core Electives-IV										
Sr. No.	Course Code	Course Name	Teaching Scheme (Hours)				Examination Scheme			
			L	T	P	Credits	Theory	Tutorial	Practical	Total Marks
1	PH 428	Many-Body Physics and Relativistic Quantum Mechanics	3	0	0	3	100	0	0	100
2	PH 432	Microprocessor	3	0	0	3	100	0	0	100
3	PH 434	Advanced Crystallography	3	0	0	3	100	0	0	100


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Option-A

M.Sc. Year V (Semester-IX)										
			Teaching Scheme (Hours)				Examination Scheme			
Sr. No.	Course Code	Course Name	L	T	P	Credits	Theory	Tutorial	Practical	Total Marks
1	PH 501	Dissertation – I Dissertation Part A	0	0	20	10	0	0	400	400
Total			0	0	20	10	0	0	400	400
Total Lecture Hours										20
Total Credits										10

OR

Option-B

M.Sc. Year V (Semester-IX)										
			Teaching Scheme (Hours)				Examination Scheme			
Sr. No.	Course Code	Course Name	L	T	P	Credits	Theory	Tutorial	Practical	Total Marks
1	PH 503	Elementary Excitations in Solids	3	0	0	3	100	0	0	100
2	PH 5AA	Core Elective – V	3	0	0	3	100	0	0	100
3	PH 505	Dissertation – I Dissertation Part A	0	0	8	4	0	0	200	200
Total			6	0	8	10	200	0	200	400
Total Lecture Hours										14
Total Credits										10

Core Electives-V

Core Electives-V										
			Teaching Scheme (Hours)				Examination Scheme			
Sr. No.	Course Code	Course Name	L	T	P	Credits	Theory	Tutorial	Practical	Total Marks
1	PH 521	Microcontrollers	3	0	0	3	100	0	0	100
2	PH 523	Research Methodology and Data Analysis	3	0	0	3	100	0	0	100
3	PH 525	Non Destructive Testing	3	0	0	3	100	0	0	100
3	PH 527	Electromagnetic Communication	3	0	0	3	100	0	0	100

M.Sc. Year V (Semester-X)

M.Sc. Year V (Semester-X)										
			Teaching Scheme (Hours)				Examination Scheme			
Sr. No.	Course Code	Course Name	L	T	P	Credits	Theory	Tutorial	Practical	Total Marks
1	PH 502	Dissertation – II Dissertation Part B	0	0	24	12	0	0	500	500
Total			0	0	24	12	0	0	500	500
Total Lecture Hours										24
Total Credits										12

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