

B.Sc. (HONORS) PHYSICS SCHEME EFFECTIVE FROM 2016-17						
SEMESTER I						
Course Code	University Course Type	Course Name	Teaching Scheme			
			L	T	P	C
PHY 139	Core Theory	Mathematics for Physicists - I	4	0	0	4
PHY 140	Core Theory	Mechanics and Applications	4	0	0	4
PHY 141	Core Practical	Mathematics for Physicists Lab - I	0	0	4	2
PHY 142	Core Practical	Mechanics and Applications Lab	0	0	4	2
CHY 103	Ability Enhancement Course	Environmental Science	2	0	0	2
CHY 108	Generic Elective-1 (Any One)	Fundamental Chemistry	4	0	0	4
CHY 109		Fundamental Chemistry Lab	0	0	4	2
MAT 111		Differential Calculus	5	1	0	6
PHY 167	Skill Enhancement Course (SEC)	Physics Workshop Skills	0	0	2	1
PHY 168		Computational Physics Skills				
PHY 169		Electrical Circuits and Network Skills				
PHY 170		Basic Instrumentation Skills				
PHY 171		Renewable Energy and Energy Harvesting				
<b>Total</b>			<b>14/15</b>	<b>0/1</b>	<b>14/10</b>	<b>21</b>
B.Sc. (HONORS) PHYSICS SCHEME EFFECTIVE FROM 2016-17						
SEMESTER II						
Course Code	University Course Type	Course Name	Teaching Scheme			
			L	T	P	C
PHY 143	Core Theory	Electromagnetism	4	0	0	4
PHY 144	Core Theory	Quantum Mechanics & Spectroscopy	4	0	0	4
PHY 145	Core Practical	Electromagnetism Lab	0	0	4	2
PHY 146	Core Practical	Quantum Mechanics Lab	0	0	4	2
ENG 105	Ability Enhancement Course	Professional Communication	2	0	0	2
CHY 111	Generic	Physical and Organic Chemistry	4	0	0	4

CHY 112	Elective - 2 (Any One)	Physical and Organic Chemistry Lab	0	0	4	2
MAT 112		Differential Equation	5	1	0	6
PHY 172	Skill Enhancement Course	Technical Drawing	0	0	2	1
PHY 173		Radiation Safety				
PHY 174		Applied Optics				
PHY 175		Weather Forecasting				
SEP 200	Skill Enhancement Practical	Extra-Curricular Activity (NSS/ NCC/ Scouting/ Club Activity)	0	0	2	1
<b>Total</b>			<b>14/15</b>	<b>0/1</b>	<b>16/12</b>	<b>22</b>

B.SC. (HONORS) PHYSICS SCHEME EFFECTIVE FROM 2016-17

### SEMESTER III

Course Code	University Course Type	Course Name	Teaching Scheme			
			L	T	P	C
PHY 147	Core Theory	Mathematics for Physicists - II	4	0	0	4
PHY 148	Core Theory	Thermodynamics and Applications	4	0	0	4
PHY 149	Core Theory	Digital Systems and Applications	4	0	0	4
PHY 150	Core Practical	Mathematics for Physicists Lab - II	0	0	4	2
PHY 151	Core Practical	Thermodynamics and Applications Lab	0	0	4	2
PHY 152	Core Practical	Digital Systems and Applications Lab	0	0	4	2
CHY 114	Generic Elective -3 (Any One)	Electrochemistry & Organic Chemistry	4	0	0	4
CHY 115		Electrochemistry & Organic Chemistry Lab	0	0	4	2
MAT 113		Real Analysis	5	1	0	6
<b>Total</b>			<b>16/17</b>	<b>0/1</b>	<b>16/12</b>	<b>24</b>

B.SC. (HONORS) PHYSICS SCHEME EFFECTIVE FROM 2016-17

### SEMESTER IV

Course Code	University Course Type	Course Name	Teaching Scheme			
			L	T	P	C
PHY 153	Core Theory	Mathematics for Physicists - III	4	0	0	4
PHY 154	Core Theory	Wave Optics	4	0	0	4

PHY 155	Core Theory	Analog Systems and Applications	4	0	0	4
PHY 156	Core Practical	Mathematics for Physicists -III Lab	0	0	4	2
PHY 157	Core Practical	Wave Optics Lab	0	0	4	2
PHY 158	Core Practical	Analog Systems & Applications Lab	0	0	4	2
CHY 117	Generic Elective - 4 (Any One)	Kinetics and Inorganic Chemistry	4	0	0	4
CHY 118		Physical & Inorganic Chemistry Lab	0	0	4	2
MAT 114		Algebra	5	1	0	6
<b>Total</b>			<b>16/17</b>	<b>0/1</b>	<b>14/10</b>	<b>24</b>

B.SC. (HONORS) PHYSICS SCHEME EFFECTIVE FROM 2016-17

### SEMESTER V

Course Code	University Course Type	Course Name	Teaching Scheme			
			L	T	P	C
PHY 159	Core Theory	Modern Physics	4	0	0	4
PHY 160	Core Theory	Statistical Mechanics	4	0	0	4
PHY 161	Core Practical	Modern Physics Lab	0	0	4	2
PHY 162	Core Practical	Statistical Mechanics Lab	0	0	4	2
PHY 176	Discipline Specific Elective -1	Experimental Techniques	4	0	0	4
PHY 177		Microcontroller and Microprocessor				
PHY 178		Physics of Devices and Communication				
PHY 179	Discipline Specific Elective -1 Practical	Experimental Techniques Lab	0	0	4	2
PHY 180		Microcontroller and Microprocessor Lab				
PHY 181		Physics of Devices and Communication Lab				
PHY 182	Discipline Specific Elective -2	Advanced Mathematical Physics	4	0	0	4
PHY 183		Applied Dynamics				
PHY 184		Communication System				
PHY 185	Discipline Specific	Advanced Mathematical Physics Lab	0	0	4	2

PHY 186	Elective -2 Practical	Applied Dynamics Lab				
PHY 187		Communication System Lab				
<b>Total</b>			<b>16</b>	<b>0</b>	<b>16</b>	<b>24</b>
B.SC. (HONORS) PHYSICS SCHEME EFFECTIVE FROM 2016-17						
<b>SEMESTER VI</b>						
Course Code	University Course Type	Course Name	Teaching Scheme			
			L	T	P	C
PHY 163	Core Theory	Electro-magnetic Theory	4	0	0	4
PHY 164	Core Theory	Physics of Solids	4	0	0	4
PHY 165	Core Practical	Electro-magnetic Lab	0	0	4	2
PHY 166	Core Practical	Physics of Solids Lab	0	0	4	2
PHY 188	Discipline Specific Elective -3	Nuclear and Particle Physics	4	0	0	4
PHY 189		Atmospheric Physics				
PHY 190		Nano Materials and Applications				
PHY 191	Discipline Specific Elective -3 Practical	Nuclear and Particle Physics Lab	0	0	4	2
PHY 192		Atmospheric Physics Lab				
PHY 193		Nano Materials and Application Lab				
PHY 194	Discipline Specific Elective-4	Digital Signal Processing	4	0	0	4
PHY 195		Biophysics				
PHY 196	Discipline Specific Elective - 4 Practical	Digital Signal Processing Lab	0	0	4	2
PHY 197		Biophysics Lab				
<b>Total</b>			<b>16</b>	<b>0</b>	<b>16</b>	<b>24</b>

### LIST OF SKILL ENHANCEMENT COURSES

Course Code	Course name
PHY 167	Physics Workshop Skills
PHY 168	Computational Physics Skills
PHY 169	Electrical Circuits and Network Skills
PHY 170	Basic Instrumentation Skills
PHY 171	Renewable Energy and Energy Harvesting
PHY 172	Technical Drawing
PHY 173	Radiation Safety
PHY 174	Applied Optics
PHY 175	Weather Forecasting
SEP 200	Extra-Curricular Activity (NSS/NCC/Scouting/ Club Activity)

### LIST OF GENERIC ELECTIVE COURSES (TO BE OFFERED AS MINOR SUBJECTS)

Course Code	Generic Elective Courses
<b>DEPARTMENT OF CHEMISTRY</b>	
<b>I Semester</b>	
CHY 108	Fundamentals of Chemistry
CHY 109	Fundamentals of Chemistry Lab
<b>II Semester</b>	
CHY 111	Physical & Organic Chemistry
CHY 112	Physical & Organic Chemistry lab
<b>III Semester</b>	
CHY 114	Electrochemistry & Organic Chemistry
CHY115	Electrochemistry & Organic Chemistry Lab
<b>IV Semester</b>	
CHY 117	Kinetics & Inorganic Chemistry
CHY 118	Kinetics & Inorganic Chemistry Lab
<b>DEPARTMENT OF PHYSICS</b>	
<b>I Semester</b>	
PHY 109	Mechanics

PHY 110	Mechanics Lab
<b>II Semester</b>	
PHY 111	Electricity & Magnetism
PHY 112	Electricity & Magnetism Lab
<b>III Semester</b>	
PHY 113	Thermal Physics & Statistical Mechanics
PHY 114	Thermal Physics & Statistical Mechanics Lab
<b>IV Semester</b>	
PHY 115	Waves & Optics (4)
PHY 116	Waves & Optics Lab (4)
<b>DEPARTMENT OF MATHEMATICS</b>	
<b>I Semester</b>	
MAT 111	Differential Calculus
<b>II Semester</b>	
MAT 112	Differential Equation
<b>III Semester</b>	
MAT 113	Real Analysis
<b>IV Semester</b>	
MAT 114	Algebra

### Discipline/Department Specific Elective Courses

Course Code	Discipline Specific Elective Courses
PHY 176	Experimental Techniques
PHY 177	Microcontroller and Microprocessor
PHY 178	Physics of Devices and Communication
PHY 179	Experimental techniques Lab
PHY 180	Microcontroller and Microprocessor Lab
PHY 181	Physics of Devices and Communication Lab
PHY 182	Advanced Mathematical Physics
PHY 183	Applied Dynamics
PHY 184	Communication System
PHY 185	Advanced Mathematical Physics Lab
PHY 186	Applied Dynamics Lab
PHY 187	Communication System Lab
PHY 188	Nuclear and Particle Physics
PHY 189	Atmospheric Physics
PHY 190	Nanomaterial and Application
PHY 191	Nuclear and Particle Physics Lab
PHY 192	Atmospheric Physics Lab
PHY 193	Nanomaterial and Application Lab
PHY 194	Digital Signal Processing
PHY 195	Biophysics
PHY 196	Digital Signal Processing Lab
PHY 197	Biophysics Lab

S. No.	Category of Courses	Category Codes	Number of Courses	Credit
1	Professional Core Credits	PC	26	80
2	Professional Elective Core Credit	PE	22	66
3	Project Credit	PR	-	-
4	Seminar & Training Credit	ST	2	4
5	Open Elective Credit	OE	12	48
6	Basic Science Credit	BS	-	-
7	Engineering Science Credit	ES	-	-
8	HU/SS/MAN	HSM	-	-
11	Skill Enhancement Course	-	10	10
17	Ability Enhancement Course	-	2	4
	Total		74	212

Category Codes	Number of Courses	Credit
Theory	35	144
Practical	39	68



**B.Sc. (HONORS) PHYSICS SCHEME EFFECTIVE FROM 2017-18**

**SEMESTER I**

Course Code	University Course Type	Course Name	Teaching Scheme			
			L	T	P	C
PHY 139	Core Theory	Mathematics for Physicists - I	4	0	0	4
PHY 140	Core Theory	Mechanics and Applications	4	0	0	4
PHY 141	Core Practical	Mathematics for Physicists Lab - I	0	0	4	2
PHY 142	Core Practical	Mechanics and Applications Lab	0	0	4	2
CHY 103	Ability Enhancement Course	Environmental Science	2	0	0	2
CHY 108	Generic Elective-1 (Any One)	Fundamental Chemistry	4	0	0	4
CHY 109		Fundamental Chemistry Lab	0	0	4	2
MAT 111		Differential Calculus	5	1	0	6
PHY 167	Skill Enhancement Course (SEC)	Physics Workshop Skills	0	0	2	1
PHY 168		Computational Physics Skills				
PHY 169		Electrical Circuits and Network Skills				
PHY 170		Basic Instrumentation Skills				
PHY 171		Renewable Energy and Energy Harvesting				
<b>Total</b>			<b>14/15</b>	<b>0/1</b>	<b>14/10</b>	<b>21</b>

**B.Sc. (HONORS) PHYSICS SCHEME EFFECTIVE FROM 2017-18**

**SEMESTER II**

Course Code	University Course Type	Course Name	Teaching Scheme			
			L	T	P	C
PHY 143	Core Theory	Electromagnetism	4	0	0	4
PHY 144	Core Theory	Quantum Mechanics & Spectroscopy	4	0	0	4
PHY 145	Core Practical	Electromagnetism Lab	0	0	4	2
PHY 146	Core Practical	Quantum Mechanics Lab	0	0	4	2
ENG 105	Ability Enhancement Course	Professional Communication	2	0	0	2
CHY 111	Generic Elective - 2	Physical and Organic Chemistry	4	0	0	4
CHY 112		Physical and Organic Chemistry	0	0	4	2

	(Any One)	Lab				
MAT 112		Differential Equation	5	1	0	6
PHY 172	Skill Enhancement Course	Technical Drawing	0	0	2	1
PHY 173		Radiation Safety				
PHY 174		Applied Optics				
PHY 175		Weather Forecasting				
SEP 200	Skill Enhancement Practical	Extra-Curricular Activity (NSS/ NCC/ Scouting/ Club Activity)	0	0	2	1
Total			<b>14/15</b>	<b>0/1</b>	<b>16/12</b>	<b>22</b>
B.SC. (HONORS) PHYSICS SCHEME EFFECTIVE FROM 2017-18						
<b>SEMESTER III</b>						
Course Code	University Course Type	Course Name	Teaching Scheme			
			L	T	P	C
PHY 147	Core Theory	Mathematics for Physicists - II	4	0	0	4
PHY 148	Core Theory	Thermodynamics and Applications	4	0	0	4
PHY 149	Core Theory	Digital Systems and Applications	4	0	0	4
PHY 150	Core Practical	Mathematics for Physicists Lab - II	0	0	4	2
PHY 151	Core Practical	Thermodynamics and Applications Lab	0	0	4	2
PHY 152	Core Practical	Digital Systems and Applications Lab	0	0	4	2
CHY 114	Generic Elective -3 (Any One)	Electrochemistry & Organic Chemistry	4	0	0	4
CHY 115		Electrochemistry & Organic Chemistry Lab	0	0	4	2
MAT 113		Real Analysis	5	1	0	6
Total			<b>16/17</b>	<b>0/1</b>	<b>16/12</b>	<b>24</b>
B.SC. (HONORS) PHYSICS SCHEME EFFECTIVE FROM 2017-18						
<b>SEMESTER IV</b>						
Course Code	University Course Type	Course Name	Teaching Scheme			
			L	T	P	C
PHY 153	Core Theory	Mathematics for Physicists - III	4	0	0	4
PHY 154	Core Theory	Wave Optics	4	0	0	4
PHY 155	Core Theory	Analog Systems and Applications	4	0	0	4

PHY 156	Core Practical	Mathematics for Physicists -III Lab	0	0	4	2
PHY 157	Core Practical	Wave Optics Lab	0	0	4	2
PHY 158	Core Practical	Analog Systems & Applications Lab	0	0	4	2
CHY 117	Generic Elective - 4 (Any One)	Kinetics and Inorganic Chemistry	4	0	0	4
CHY 118		Physical & Inorganic Chemistry Lab	0	0	4	2
MAT 114		Algebra	5	1	0	6
<b>Total</b>			<b>16/17</b>	<b>0/1</b>	<b>14/10</b>	<b>24</b>
B.SC. (HONORS) PHYSICS SCHEME EFFECTIVE FROM 2017-18						
<b>SEMESTER V</b>						
Course Code	University Course Type	Course Name	Teaching Scheme			
			L	T	P	C
PHY 159	Core Theory	Modern Physics	4	0	0	4
PHY 160	Core Theory	Statistical Mechanics	4	0	0	4
PHY 161	Core Practical	Modern Physics Lab	0	0	4	2
PHY 162	Core Practical	Statistical Mechanics Lab	0	0	4	2
PHY 176	Discipline Specific Elective -1	Experimental Techniques	4	0	0	4
PHY 177		Microcontroller and Microprocessor				
PHY 178		Physics of Devices and Communication				
PHY 179	Discipline Specific Elective -1 Practical	Experimental Techniques Lab	0	0	4	2
PHY 180		Microcontroller and Microprocessor Lab				
PHY 181		Physics of Devices and Communication Lab				
PHY 182	Discipline Specific Elective -2	Advanced Mathematical Physics	4	0	0	4
PHY 183		Applied Dynamics				
PHY 184		Communication System				
PHY 185	Discipline Specific Elective -2	Advanced Mathematical Physics Lab	0	0	4	2
PHY 186		Applied Dynamics Lab				

PHY 187	Practical	Communication System Lab				
<b>Total</b>			<b>16</b>	<b>0</b>	<b>16</b>	<b>24</b>
B.S.C. (HONORS) PHYSICS SCHEME EFFECTIVE FROM 2017-18						
<b>SEMESTER VI</b>						
Course Code	University Course Type	Course Name	Teaching Scheme			
			L	T	P	C
PHY 163	Core Theory	Electro-magnetic Theory	4	0	0	4
PHY 164	Core Theory	Physics of Solids	4	0	0	4
PHY 165	Core Practical	Electro-magnetic Lab	0	0	4	2
PHY 166	Core Practical	Physics of Solids Lab	0	0	4	2
PHY 188	Discipline Specific Elective -3	Nuclear and Particle Physics	4	0	0	4
PHY 189		Atmospheric Physics				
PHY 190		Nano Materials and Applications				
PHY 191	Discipline Specific Elective -3 Practical	Nuclear and Particle Physics Lab	0	0	4	2
PHY 192		Atmospheric Physics Lab				
PHY 193		Nano Materials and Application Lab				
PHY 194	Discipline Specific Elective-4	Digital Signal Processing	4	0	0	4
PHY 195		Biophysics				
PHY 196	Discipline Specific Elective - 4 Practical	Digital Signal Processing Lab	0	0	4	2
PHY 197		Biophysics Lab				
<b>Total</b>			<b>16</b>	<b>0</b>	<b>16</b>	<b>24</b>

**LIST OF SKILL ENHANCEMENT COURSES**

<b>Course Code</b>	<b>Course name</b>
PHY 167	Physics Workshop Skills
PHY 168	Computational Physics Skills
PHY 169	Electrical Circuits and Network Skills
PHY 170	Basic Instrumentation Skills
PHY 171	Renewable Energy and Energy Harvesting
PHY 172	Technical Drawing
PHY 173	Radiation Safety
PHY 174	Applied Optics
PHY 175	Weather Forecasting
SEP 200	Extra-Curricular Activity (NSS/NCC/Scouting/ Club Activity)

**LIST OF GENERIC ELECTIVE COURSES  
(TO BE OFFERED AS MINOR SUBJECTS)**

<b>Course Code</b>	<b>Generic Elective Courses</b>
<b>DEPARTMENT OF CHEMISTRY</b>	
<b>I Semester</b>	
CHY 108	Fundamentals of Chemistry
CHY 109	Fundamentals of Chemistry Lab
<b>II Semester</b>	
CHY 111	Physical & Organic Chemistry
CHY 112	Physical & Organic Chemistry lab
<b>III Semester</b>	
CHY 114	Electrochemistry & Organic Chemistry
CHY115	Electrochemistry & Organic Chemistry Lab
<b>IV Semester</b>	
CHY 117	Kinetics & Inorganic Chemistry
CHY 118	Kinetics & Inorganic Chemistry Lab
<b>DEPARTMENT OF PHYSICS</b>	
<b>I Semester</b>	
PHY 109	Mechanics

PHY 110	Mechanics Lab
<b>II Semester</b>	
PHY 111	Electricity & Magnetism
PHY 112	Electricity & Magnetism Lab
<b>III Semester</b>	
PHY 113	Thermal Physics & Statistical Mechanics
PHY 114	Thermal Physics & Statistical Mechanics Lab
<b>IV Semester</b>	
PHY 115	Waves & Optics (4)
PHY 116	Waves & Optics Lab (4)
<b>DEPARTMENT OF MATHEMATICS</b>	
<b>I Semester</b>	
MAT 111	Differential Calculus
<b>II Semester</b>	
MAT 112	Differential Equation
<b>III Semester</b>	
MAT 113	Real Analysis
<b>IV Semester</b>	
MAT 114	Algebra

### Discipline/Department Specific Elective Courses

Course Code	Discipline Specific Elective Courses
PHY 176	Experimental Techniques
PHY 177	Microcontroller and Microprocessor
PHY 178	Physics of Devices and Communication
PHY 179	Experimental Techniques Lab
PHY 180	Microcontroller and Microprocessor Lab
PHY 181	Physics of Devices and Communication Lab
PHY 182	Advanced Mathematical Physics
PHY 183	Applied Dynamics
PHY 184	Communication System
PHY 185	Advanced Mathematical Physics Lab
PHY 186	Applied Dynamics Lab
PHY 187	Communication System Lab
PHY 188	Nuclear and Particle Physics
PHY 189	Atmospheric Physics
PHY 190	Nanomaterial and Application
PHY 191	Nuclear and Particle Physics Lab
PHY 192	Atmospheric Physics Lab
PHY 193	Nanomaterial and Application Lab
PHY 194	Digital Signal Processing
PHY 195	Biophysics
PHY 196	Digital Signal Processing Lab
PHY 197	Biophysics Lab

S. No.	Category of Courses	Category Codes	Number of Courses	Credit
1	Professional Core Credits	PC	26	80
2	Professional Elective Core Credit	PE	22	66
3	Project Credit	PR	-	-
4	Seminar & Training Credit	ST	2	4
5	Open Elective Credit	OE	12	48
6	Basic Science Credit	BS	-	-
7	Engineering Science Credit	ES	-	-
8	HU/SS/MAN	HSM	-	-
11	Skill Enhancement Course	-	10	10
17	Ability Enhancement Course	-	2	4
	Total		74	212

Category Codes	Number of Courses	Credit
Theory	35	144
Practical	39	68



B.Sc. (HONORS) PHYSICS SCHEME EFFECTIVE FROM 2018-19						
SEMESTER I						
Course Code	University Course Type	Course Name	Teaching Scheme			
			L	T	P	C
PHY 139	Core Theory	Mathematics for Physicists - I	4	0	0	4
PHY 140	Core Theory	Mechanics and Applications	4	0	0	4
PHY 141	Core Practical	Mathematics for Physicists Lab - I	0	0	4	2
PHY 142	Core Practical	Mechanics and Applications Lab	0	0	4	2
CHY 103	Ability Enhancement Course	Environmental Science	2	0	0	2
CHY 108	Generic Elective-1 (Any One)	Fundamental Chemistry	4	0	0	4
CHY 109		Fundamental Chemistry Lab	0	0	4	2
MAT 111		Differential Calculus	5	1	0	6
PHY 167	Skill Enhancement Course (SEC)	Physics Workshop Skills	0	0	2	1
PHY 168		Computational Physics Skills				
PHY 169		Electrical Circuits and Network Skills				
PHY 170		Basic Instrumentation Skills				
PHY 171		Renewable Energy and Energy Harvesting				
<b>Total</b>			<b>14/15</b>	<b>0/1</b>	<b>14/10</b>	<b>21</b>
B.Sc. (HONORS) PHYSICS SCHEME EFFECTIVE FROM 2018-19						
SEMESTER II						
Course Code	University Course Type	Course Name	Teaching Scheme			
			L	T	P	C
PHY 143	Core Theory	Electromagnetism	4	0	0	4
PHY 144	Core Theory	Quantum Mechanics & Spectroscopy	4	0	0	4
PHY 145	Core Practical	Electromagnetism Lab	0	0	4	2
PHY 146	Core Practical	Quantum Mechanics Lab	0	0	4	2
ENG 106	Ability Enhancement Course	Professional Communication	2	0	0	2
ENG 107		Communication Technique Lab	0	0	2	1
CHY 111	Generic	Physical and Organic Chemistry	4	0	0	4

CHY 112	Elective - 2 (Any One)	Physical and Organic Chemistry Lab	0	0	4	2
MAT 112		Differential Equation	5	1	0	6
PHY 172	Skill Enhancement Course	Technical drawing	0	0	2	1
PHY 173		Radiation Safety				
PHY 174		Applied Optics				
PHY 175		Weather Forecasting				
SEP 200	Skill Enhancement Practical	Extra-Curricular Activity (NSS/ NCC/ Scouting/ Club Activity)	0	0	2	1
Total			<b>14/15</b>	<b>0/1</b>	<b>18/14</b>	<b>23</b>

B.SC. (HONORS) PHYSICS SCHEME EFFECTIVE FROM 2018-19

### SEMESTER III

Course Code	University Course Type	Course Name	Teaching Scheme			
			L	T	P	C
PHY 147	Core Theory	Mathematics for Physicists - II	4	0	0	4
PHY 148	Core Theory	Thermodynamics and Applications	4	0	0	4
PHY 149	Core Theory	Digital Systems and Applications	4	0	0	4
PHY 150	Core Practical	Mathematics for Physicists Lab - II	0	0	4	2
PHY 151	Core Practical	Thermodynamics and Applications Lab	0	0	4	2
PHY 152	Core Practical	Digital Systems and Applications Lab	0	0	4	2
CHY 114	Generic Elective -3 (Any One)	Electrochemistry & Organic Chemistry	4	0	0	4
CHY 115		Electrochemistry & Organic Chemistry Lab	0	0	4	2
MAT 113		Real Analysis	5	1	0	6
<b>Total</b>			<b>16/17</b>	<b>0/1</b>	<b>16/12</b>	<b>24</b>

B.SC. (HONORS) PHYSICS SCHEME EFFECTIVE FROM 2018-19

### SEMESTER IV

Course Code	University Course Type	Course Name	Teaching Scheme			
			L	T	P	C
PHY 153	Core Theory	Mathematics for Physicists - III	4	0	0	4
PHY 154	Core Theory	Wave Optics	4	0	0	4

PHY 155	Core Theory	Analog Systems and Applications	4	0	0	4
PHY 156	Core Practical	Mathematics for Physicists -III Lab	0	0	4	2
PHY 157	Core Practical	Wave Optics Lab	0	0	4	2
PHY 158	Core Practical	Analog Systems & Applications Lab	0	0	4	2
CHY 117	Generic Elective -4 (Any One)	Kinetics and Inorganic Chemistry	4	0	0	4
CHY 118		Physical & Inorganic Chemistry Lab	0	0	4	2
MAT 114		Algebra	5	1	0	6
<b>Total</b>			<b>16/17</b>	<b>0/1</b>	<b>18/14</b>	<b>24</b>

**B.SC. (HONORS) PHYSICS SCHEME EFFECTIVE FROM 2018-19**

**SEMESTER V**

Course Code	University Course Type	Course Name	Teaching Scheme			
			L	T	P	C
PHY 159	Core Theory	Modern Physics	4	0	0	4
PHY 160	Core Theory	Statistical Mechanics	4	0	0	4
PHY 161	Core Practical	Modern Physics Lab	0	0	4	2
PHY 162	Core Practical	Statistical Mechanics Lab	0	0	4	2
PHY 176	Discipline Specific Elective -1	Experimental Techniques	4	0	0	4
PHY 177		Microcontroller and Microprocessor				
PHY 178		Physics of Devices and Communication				
PHY 179	Discipline Specific Elective -1 Practical	Experimental Techniques Lab	0	0	4	2
PHY 180		Microcontroller and Microprocessor Lab				
PHY 181		Physics of Devices and Communication Lab				
PHY 182	Discipline Specific Elective -2	Advanced Mathematical Physics	4	0	0	4
PHY 183		Applied Dynamics				
PHY 184		Communication System				
PHY 185	Discipline Specific	Advanced Mathematical Physics Lab	0	0	4	2

PHY 186	Elective - 2 Practical	Applied Dynamics Lab				
PHY 187		Communication System Lab				
<b>Total</b>			<b>16</b>	<b>0</b>	<b>16</b>	<b>24</b>
B.SC. (HONORS) PHYSICS SCHEME EFFECTIVE FROM 2018-19						
<b>SEMESTER VI</b>						
Course Code	University Course Type	Course Name	Teaching Scheme			
			L	T	P	C
PHY 163	Core Theory	Electro-magnetic Theory	4	0	0	4
PHY 164	Core Theory	Physics of Solids	4	0	0	4
PHY 165	Core Practical	Electro-magnetic Lab	0	0	4	2
PHY 166	Core Practical	Physics of Solids Lab	0	0	4	2
PHY 188	Discipline Specific Elective -3	Nuclear and Particle Physics	4	0	0	4
PHY 189		Atmospheric Physics				
PHY 190		Nano Materials and Applications				
PHY 191	Discipline Specific Elective -3 Practical	Nuclear and Particle Physics Lab	0	0	4	2
PHY 192		Atmospheric Physics Lab				
PHY 193		Nano Materials and Application Lab				
PHY 194	Discipline Specific Elective-4	Digital Signal Processing	4	0	0	4
PHY 195		Biophysics				
PHY 196	Discipline Specific Elective - 4 Practical	Digital Signal Processing Lab	0	0	4	2
PHY 197		Biophysics Lab				
<b>Total</b>			<b>16</b>	<b>0</b>	<b>20</b>	<b>26</b>

### LIST OF SKILL ENHANCEMENT COURSES

Course Code	Course name
PHY 167	Physics Workshop Skills
PHY 168	Computational Physics Skills
PHY 169	Electrical Circuits and Network Skills
PHY 170	Basic Instrumentation Skills
PHY 171	Renewable Energy and Energy Harvesting
PHY 172	Technical Drawing
PHY 173	Radiation Safety
PHY 174	Applied Optics
PHY 175	Weather Forecasting
SEP 200	Extra-Curricular Activity (NSS/NCC/Scouting/ Club Activity)

### LIST OF GENERIC ELECTIVE COURSES (TO BE OFFERED AS MINOR SUBJECTS)

Course Code	Generic Elective Courses
<b>DEPARTMENT OF CHEMISTRY</b>	
<b>I Semester</b>	
CHY 108	Fundamentals of Chemistry
CHY 109	Fundamentals of Chemistry Lab
<b>II Semester</b>	
CHY 111	Physical & Organic Chemistry
CHY 112	Physical & Organic Chemistry Lab
<b>III Semester</b>	
CHY 114	Electrochemistry & Organic Chemistry
CHY115	Electrochemistry & Organic Chemistry Lab
<b>IV Semester</b>	
CHY 117	Kinetics & Inorganic Chemistry
CHY 118	Kinetics & Inorganic Chemistry Lab
<b>DEPARTMENT OF PHYSICS</b>	
<b>I Semester</b>	
PHY 109	Mechanics

PHY 110	Mechanics Lab
<b>II Semester</b>	
PHY 111	Electricity & Magnetism
PHY 112	Electricity & Magnetism Lab
<b>III Semester</b>	
PHY 113	Thermal Physics & Statistical Mechanics
PHY 114	Thermal Physics & Statistical Mechanics Lab
<b>IV Semester</b>	
PHY 115	Waves & Optics (4)
PHY 116	Waves & Optics Lab (4)
<b>DEPARTMENT OF MATHEMATICS</b>	
<b>I Semester</b>	
MAT 111	Differential Calculus
<b>II Semester</b>	
MAT 112	Differential Equation
<b>III Semester</b>	
MAT 113	Real Analysis
<b>IV Semester</b>	
MAT 114	Algebra

### Discipline/Department Specific Elective Courses

Course Code	Discipline Specific Elective Courses
PHY 176	Experimental Techniques
PHY 177	Microcontroller and Microprocessor
PHY 178	Physics of Devices and Communication
PHY 179	Experimental Techniques Lab
PHY 180	Microcontroller and Microprocessor Lab
PHY 181	Physics of Devices and Communication Lab
PHY 182	Advanced Mathematical Physics
PHY 183	Applied Dynamics
PHY 184	Communication System
PHY 185	Advanced Mathematical Physics Lab
PHY 186	Applied Dynamics Lab
PHY 187	Communication System Lab
PHY 188	Nuclear and Particle Physics
PHY 189	Atmospheric Physics
PHY 190	Nanomaterial and Application
PHY 191	Nuclear and Particle Physics Lab
PHY 192	Atmospheric Physics Lab
PHY 193	Nanomaterial and Application Lab
PHY 194	Digital Signal Processing
PHY 195	Biophysics
PHY 196	Digital Signal Processing Lab
PHY 197	Biophysics Lab

S. No.	Category of Courses	Category Codes	Number of Courses	Credit
1	Professional Core Credits	PC	26	80

2	Professional Elective Core Credit	PE	22	66
3	Project Credit	PR	-	-
4	Seminar & Training Credit	ST	2	4
5	Open Elective Credit	OE	12	48
6	Basic Science Credit	BS	-	-
7	Engineering Science Credit	ES	-	-
8	HU/SS/MAN	HSM	-	-
11	Skill Enhancement Course	-	10	10
17	Ability Enhancement Course	-	3	5
	Total		75	213

Category Codes	Number of Courses	Credit
Theory	35	144
Practical	40	69



B.Sc. (HONORS) PHYSICS SCHEME EFFECTIVE FROM 2019-20						
SEMESTER I						
Course Code	University Course Type	Course Name	Teaching Scheme			
			L	T	P	C
PHY 139	Core Theory	Mathematics for Physicists - I	4	0	0	4
PHY 140	Core Theory	Mechanics and Applications	4	0	0	4
PHY 141	Core Practical	Mathematics for Physicists Lab - I	0	0	4	2
PHY 142	Core Practical	Mechanics and Applications Lab	0	0	4	2
CHY 103	Ability Enhancement Course	Environmental Science	2	0	0	2
CHY 108	Generic Elective-1 (Any One)	Fundamental Chemistry	4	0	0	4
CHY 109		Fundamental Chemistry Lab	0	0	4	2
MAT 111		Differential Calculus	5	1	0	6
PHY 167	Skill Enhancement Course (SEC)	Physics Workshop Skills	0	0	2	1
PHY 168		Computational Physics Skills				
PHY 169		Electrical Circuits and Network Skills				
PHY 170		Basic Instrumentation Skills				
PHY 171		Renewable Energy and Energy Harvesting				
<b>Total</b>			<b>14/15</b>	<b>0/1</b>	<b>14/10</b>	<b>21</b>
B.Sc. (HONORS) PHYSICS SCHEME EFFECTIVE FROM 2019-20						
SEMESTER II						
Course Code	University Course Type	Course Name	Teaching Scheme			
			L	T	P	C
PHY 143	Core Theory	Electromagnetism	4	0	0	4
PHY 144	Core Theory	Quantum Mechanics & Spectroscopy	4	0	0	4
PHY 145	Core Practical	Electromagnetism Lab	0	0	4	2
PHY 146	Core Practical	Quantum Mechanics Lab	0	0	4	2
ENG 106	Ability Enhancement Course	Professional Communication	2	0	0	2
ENG 107		Communication Technique Lab	0	0	2	1
CHY 111	Generic	Physical and Organic Chemistry	4	0	0	4

CHY 112	Elective - 2 (Any One)	Physical and Organic Chemistry Lab	0	0	4	2
MAT 112		Differential Equation	5	1	0	6
PHY 172	Skill Enhancement Course	Technical drawing	0	0	2	1
PHY 173		Radiation Safety				
PHY 174		Applied Optics				
PHY 175		Weather Forecasting				
SEP 200	Skill Enhancement Practical	Extra-Curricular Activity (NSS/ NCC/ Scouting/ Club Activity)	0	0	2	1
<b>Total</b>			<b>14/15</b>	<b>0/1</b>	<b>18/14</b>	<b>23</b>

**B.SC. (HONORS) PHYSICS SCHEME EFFECTIVE FROM 2019-20**

**SEMESTER III**

Course Code	University Course Type	Course Name	Teaching Scheme			
			L	T	P	C
PHY 147	Core Theory	Mathematics for Physicists - II	4	0	0	4
PHY 148	Core Theory	Thermodynamics and Applications	4	0	0	4
PHY 149	Core Theory	Digital Systems and Applications	4	0	0	4
PHY 150	Core Practical	Mathematics for Physicists Lab - II	0	0	4	2
PHY 151	Core Practical	Thermodynamics and Applications Lab	0	0	4	2
PHY 152	Core Practical	Digital Systems and Applications Lab	0	0	4	2
CHY 114	Generic Elective -3 (Any One)	Electrochemistry & Organic Chemistry	4	0	0	4
CHY 115		Electrochemistry & Organic Chemistry Lab	0	0	4	2
MAT 113		Real Analysis	5	1	0	6
<b>Total</b>			<b>16/17</b>	<b>0/1</b>	<b>16/12</b>	<b>24</b>

**B.SC. (HONORS) PHYSICS SCHEME EFFECTIVE FROM 2019-20**

**SEMESTER IV**

Course Code	University Course Type	Course Name	Teaching Scheme			
			L	T	P	C
PHY 153	Core Theory	Mathematics for Physicists - III	4	0	0	4
PHY 154	Core Theory	Wave Optics	4	0	0	4

PHY 155	Core Theory	Analog Systems and Applications	4	0	0	4
PHY 156	Core Practical	Mathematics for Physicists -III Lab	0	0	4	2
PHY 157	Core Practical	Wave Optics Lab	0	0	4	2
PHY 158	Core Practical	Analog Systems & Applications Lab	0	0	4	2
CHY 117	Generic Elective -4 (Any One)	Kinetics and Inorganic Chemistry	4	0	0	4
CHY 118		Physical & Inorganic Chemistry Lab	0	0	4	2
MAT 114		Algebra	5	1	0	6
<b>Total</b>			<b>16/17</b>	<b>0/1</b>	<b>18/14</b>	<b>24</b>

**B.SC. (HONORS) PHYSICS SCHEME EFFECTIVE FROM 2019-20**

**SEMESTER V**

Course Code	University Course Type	Course Name	Teaching Scheme			
			L	T	P	C
PHY 159	Core Theory	Modern Physics	4	0	0	4
PHY 160	Core Theory	Statistical Mechanics	4	0	0	4
PHY 161	Core Practical	Modern Physics Lab	0	0	4	2
PHY 162	Core Practical	Statistical Mechanics Lab	0	0	4	2
PHY 176	Discipline Specific Elective -1	Experimental Techniques	4	0	0	4
PHY 177		Microcontroller and Microprocessor				
PHY 178		Physics of Devices and Communication				
PHY 179	Discipline Specific Elective -1 Practical	Experimental Techniques Lab	0	0	4	2
PHY 180		Microcontroller and Microprocessor Lab				
PHY 181		Physics of Devices and Communication Lab				
PHY 182	Discipline Specific Elective -2	Advanced Mathematical Physics	4	0	0	4
PHY 183		Applied Dynamics				
PHY 184		Communication System				
PHY 185	Discipline Specific	Advanced Mathematical Physics Lab	0	0	4	2

PHY 186	Elective - 2 Practical	Applied Dynamics Lab				
PHY 187		Communication System Lab				
<b>Total</b>			<b>16</b>	<b>0</b>	<b>16</b>	<b>24</b>
B.SC. (HONORS) PHYSICS SCHEME EFFECTIVE FROM 2019-20						
<b>SEMESTER VI</b>						
Course Code	University Course Type	Course Name	Teaching Scheme			
			L	T	P	C
PHY 163	Core Theory	Electro-magnetic Theory	4	0	0	4
PHY 164	Core Theory	Physics of Solids	4	0	0	4
PHY 165	Core Practical	Electro-magnetic Lab	0	0	4	2
PHY 166	Core Practical	Physics of Solids Lab	0	0	4	2
PHY 188	Discipline Specific Elective -3	Nuclear and Particle Physics	4	0	0	4
PHY 189		Atmospheric Physics				
PHY 190		Nano Materials and Applications				
PHY 191	Discipline Specific Elective -3 Practical	Nuclear and Particle Physics Lab	0	0	4	2
PHY 192		Atmospheric Physics Lab				
PHY 193		Nano Materials and Application Lab				
PHY 194	Discipline Specific Elective-4	Digital Signal Processing	4	0	0	4
PHY 195		Biophysics				
PHY 196	Discipline Specific Elective - 4 Practical	Digital Signal Processing Lab	0	0	4	2
PHY 197		Biophysics Lab				
<b>Total</b>			<b>16</b>	<b>0</b>	<b>20</b>	<b>26</b>

### LIST OF SKILL ENHANCEMENT COURSES

Course Code	Course name
PHY 167	Physics Workshop Skills
PHY 168	Computational Physics Skills
PHY 169	Electrical Circuits and Network Skills
PHY 170	Basic Instrumentation Skills
PHY 171	Renewable Energy and Energy Harvesting
PHY 172	Technical Drawing
PHY 173	Radiation Safety
PHY 174	Applied Optics
PHY 175	Weather Forecasting
SEP 200	Extra-Curricular Activity (NSS/NCC/Scouting/ Club Activity)

### LIST OF GENERIC ELECTIVE COURSES (TO BE OFFERED AS MINOR SUBJECTS)

Course Code	Generic Elective Courses
<b>DEPARTMENT OF CHEMISTRY</b>	
<b>I Semester</b>	
CHY 108	Fundamentals of Chemistry
CHY 109	Fundamentals of Chemistry Lab
<b>II Semester</b>	
CHY 111	Physical & Organic Chemistry
CHY 112	Physical & Organic Chemistry Lab
<b>III Semester</b>	
CHY 114	Electrochemistry & Organic Chemistry
CHY115	Electrochemistry & Organic Chemistry Lab
<b>IV Semester</b>	
CHY 117	Kinetics & Inorganic Chemistry
CHY 118	Kinetics & Inorganic Chemistry Lab
<b>DEPARTMENT OF PHYSICS</b>	
<b>I Semester</b>	
PHY 109	Mechanics

PHY 110	Mechanics Lab
<b>II Semester</b>	
PHY 111	Electricity & Magnetism
PHY 112	Electricity & Magnetism Lab
<b>III Semester</b>	
PHY 113	Thermal Physics & Statistical Mechanics
PHY 114	Thermal Physics & Statistical Mechanics Lab
<b>IV Semester</b>	
PHY 115	Waves & Optics (4)
PHY 116	Waves & Optics Lab (4)
<b>DEPARTMENT OF MATHEMATICS</b>	
<b>I Semester</b>	
MAT 111	Differential Calculus
<b>II Semester</b>	
MAT 112	Differential Equation
<b>III Semester</b>	
MAT 113	Real Analysis
<b>IV Semester</b>	
MAT 114	Algebra

### Discipline/Department Specific Elective Courses

Course Code	Discipline Specific Elective Courses
PHY 176	Experimental Techniques
PHY 177	Microcontroller and Microprocessor
PHY 178	Physics of Devices and Communication
PHY 179	Experimental Techniques Lab
PHY 180	Microcontroller and Microprocessor Lab
PHY 181	Physics of Devices and Communication Lab
PHY 182	Advanced Mathematical Physics
PHY 183	Applied Dynamics
PHY 184	Communication System
PHY 185	Advanced Mathematical Physics Lab
PHY 186	Applied Dynamics Lab
PHY 187	Communication System Lab
PHY 188	Nuclear and Particle Physics
PHY 189	Atmospheric Physics
PHY 190	Nanomaterial and Application
PHY 191	Nuclear and Particle Physics Lab
PHY 192	Atmospheric Physics Lab
PHY 193	Nanomaterial and Application Lab
PHY 194	Digital Signal Processing
PHY 195	Biophysics
PHY 196	Digital Signal Processing Lab
PHY 197	Biophysics Lab

S. No.	Category of Courses	Category Codes	Number of Courses	Credit
1	Professional Core Credits	PC	26	80
2	Professional Elective Core Credit	PE	22	66
3	Project Credit	PR	-	-
4	Seminar & Training Credit	ST	2	4
5	Open Elective Credit	OE	12	48
6	Basic Science Credit	BS	-	-
7	Engineering Science Credit	ES	-	-
8	HU/SS/MAN	HSM	-	-
11	Skill Enhancement Course	-	10	10
17	Ability Enhancement Course	-	3	5
	Total		75	213

Category Codes	Number of Courses	Credit
Theory	35	144
Practical	40	69



B.Sc. (HONORS) PHYSICS SCHEME EFFECTIVE FROM 2020-21						
SEMESTER I						
Course Code	University Course Type	Course Name	Teaching Scheme			
			L	T	P	C
PHY 139	Core Theory	Mathematics for Physicists - I	4	0	0	4
PHY 140	Core Theory	Mechanics and Applications	4	0	0	4
PHY 141	Core Practical	Mathematics for Physicists Lab - I	0	0	4	2
PHY 142	Core Practical	Mechanics and Applications Lab	0	0	4	2
CHY 103	Ability Enhancement Course	Environmental Science	2	0	0	2
CHY 108	Generic Elective-1 (Any One)	Fundamental Chemistry	4	0	0	4
CHY 109		Fundamental Chemistry Lab	0	0	4	2
MAT 111		Differential Calculus	5	1	0	6
PHY 167	Skill Enhancement Course (SEC)	Physics Workshop Skills	0	0	2	1
PHY 168		Computational Physics Skills				
PHY 169		Electrical Circuits and Network Skills				
PHY 170		Basic Instrumentation Skills				
PHY 171		Renewable Energy and Energy Harvesting				
<b>Total</b>			<b>14/15</b>	<b>0/1</b>	<b>14/10</b>	<b>21</b>
B.Sc. (HONORS) PHYSICS SCHEME EFFECTIVE FROM 2020-21						
SEMESTER II						
Course Code	University Course Type	Course Name	Teaching Scheme			
			L	T	P	C
PHY 143	Core Theory	Electromagnetism	4	0	0	4
PHY 144	Core Theory	Quantum Mechanics & Spectroscopy	4	0	0	4
PHY 145	Core Practical	Electromagnetism Lab	0	0	4	2
PHY 146	Core Practical	Quantum Mechanics Lab	0	0	4	2
ENG 106	Ability Enhancement Course	Professional Communication	2	0	0	2
ENG 107		Communication Technique Lab	0	0	2	1
CHY 111	Generic	Physical and Organic Chemistry	4	0	0	4

CHY 112	Elective - 2 (Any One)	Physical and Organic Chemistry Lab	0	0	4	2
MAT 112		Differential Equation	5	1	0	6
PHY 172	Skill Enhancement Course	Technical Drawing	0	0	2	1
PHY 173		Radiation Safety				
PHY 174		Applied Optics				
PHY 175		Weather Forecasting				
SEP 200	Skill Enhancement Practical	Extra-Curricular Activity (NSS/ NCC/ Scouting/ Club Activity)	0	0	2	1
Total			<b>14/15</b>	<b>0/1</b>	<b>18/14</b>	<b>23</b>

B.SC. (HONORS) PHYSICS SCHEME EFFECTIVE FROM 2020-21

### SEMESTER III

Course Code	University Course Type	Course Name	Teaching Scheme			
			L	T	P	C
PHY 147	Core Theory	Mathematics for Physicists - II	4	0	0	4
PHY 148	Core Theory	Thermodynamics and Applications	4	0	0	4
PHY 149	Core Theory	Digital Systems and Applications	4	0	0	4
PHY 150	Core Practical	Mathematics for Physicists Lab - II	0	0	4	2
PHY 151	Core Practical	Thermodynamics and Applications Lab	0	0	4	2
PHY 152	Core Practical	Digital Systems and Applications Lab	0	0	4	2
CHY 114	Generic	Electrochemistry & Organic Chemistry	4	0	0	4
CHY 115	Elective -3 (Any One)	Electrochemistry & Organic Chemistry Lab	0	0	4	2
MAT 113		Real Analysis	5	1	0	6
<b>Total</b>			<b>16/17</b>	<b>0/1</b>	<b>16/12</b>	<b>24</b>

B.SC. (HONORS) PHYSICS SCHEME EFFECTIVE FROM 2020-21

### SEMESTER IV

Course Code	University Course Type	Course Name	Teaching Scheme			
			L	T	P	C
PHY 153	Core Theory	Mathematics for Physicists - III	4	0	0	4
PHY 154	Core Theory	Wave Optics	4	0	0	4

PHY 155	Core Theory	Analog Systems and Applications	4	0	0	4
PHY 156	Core Practical	Mathematics for Physicists -III Lab	0	0	4	2
PHY 157	Core Practical	Wave Optics Lab	0	0	4	2
PHY 158	Core Practical	Analog Systems & Applications Lab	0	0	4	2
CHY 117	Generic Elective - 4 (Any One)	Kinetics and Inorganic Chemistry	4	0	0	4
CHY 118		Physical & Inorganic Chemistry Lab	0	0	4	2
MAT 114		Algebra	5	1	0	6
PHY304	Core Practical	Seminar	0	0	4	2
<b>Total</b>			<b>16/17</b>	<b>0/1</b>	<b>18/14</b>	<b>26</b>
B.SC. (HONORS) PHYSICS SCHEME EFFECTIVE FROM 2020-21						
<b>SEMESTER V</b>						
Course Code	University Course Type	Course Name	Teaching Scheme			
			L	T	P	C
PHY 159	Core Theory	Modern Physics	4	0	0	4
PHY 160	Core Theory	Statistical Mechanics	4	0	0	4
PHY 161	Core Practical	Modern Physics Lab	0	0	4	2
PHY 162	Core Practical	Statistical Mechanics Lab	0	0	4	2
PHY 176	Discipline Specific Elective -1	Experimental Techniques	4	0	0	4
PHY 177		Microcontroller and Microprocessor				
PHY 178		Physics of Devices and Communication				
PHY 261		General Theory of Relativity				
PHY 179	Discipline Specific Elective -1 Practical	Experimental Techniques Lab	0	0	4	2
PHY 180		Microcontroller and Microprocessor Lab				
PHY 181		Physics of Devices and Communication Lab				
PHY 182	Discipline Specific	Advanced Mathematical Physics	4	0	0	4
PHY 183		Applied Dynamics				

PHY 184	Elective -2	Communication System				
PHY 262		Basics of Astronomy & Astrophysics				
PHY 185	Discipline Specific Elective -2 Practical	Advanced Mathematical Physics Lab	0	0	4	2
PHY 186		Applied Dynamics Lab				
PHY 187		Communication System Lab				
<b>Total</b>			<b>16</b>	<b>0</b>	<b>16</b>	<b>24</b>
B.S.C. (HONORS) PHYSICS SCHEME EFFECTIVE FROM 2020-21						
<b>SEMESTER VI</b>						
Course Code	University Course Type	Course Name	Teaching Scheme			
			L	T	P	C
PHY 163	Core Theory	Electro-magnetic Theory	4	0	0	4
PHY 164	Core Theory	Physics of Solids	4	0	0	4
PHY 165	Core Practical	Electro-magnetic Lab	0	0	4	2
PHY 166	Core Practical	Physics of Solids Lab	0	0	4	2
PHY 188	Discipline Specific Elective -3	Nuclear and Particle Physics	4	0	0	4
PHY 189		Atmospheric Physics				
PHY 190		Nano Materials and Applications				
PHY 263		Nanotechnology for Energy Applications				
PHY 191	Discipline Specific Elective -3 Practical	Nuclear and Particle Physics Lab	0	0	4	2
PHY 192		Atmospheric Physics Lab				
PHY 193		Nano Materials and Applications Lab				
PHY 194	Discipline Specific Elective-4	Digital Signal Processing	4	0	0	4
PHY 195		Biophysics				
PHY 264		Atmospheric and Space Physics				
PHY 265		Atomic and Molecular Physics				
PHY 196	Discipline Specific Elective - 4 Practical	Digital Signal Processing Lab	0	0	4	2
PHY 197		Biophysics Lab				
PHY 266		Atomic and Molecular Physics Lab				
PHY 306	Core	Seminar	0	0	4	2

	Practical				
<b>Total</b>			<b>16</b>	<b>0</b>	<b>20</b>
			<b>26</b>		

### LIST OF SKILL ENHANCEMENT COURSES

Course Code	Course name
PHY 167	Physics Workshop Skills
PHY 168	Computational Physics Skills
PHY 169	Electrical Circuits and Network Skills
PHY 170	Basic Instrumentation Skills
PHY 171	Renewable Energy and Energy Harvesting
PHY 172	Technical Drawing
PHY 173	Radiation Safety
PHY 174	Applied Optics
PHY 175	Weather Forecasting
SEP 200	Extra-Curricular Activity (NSS/NCC/Scouting/ Club Activity)

### LIST OF GENERIC ELECTIVE COURSES (TO BE OFFERED AS MINOR SUBJECTS)

Course Code	Generic Elective Courses
<b>DEPARTMENT OF CHEMISTRY</b>	
<b>I Semester</b>	
CHY 108	Fundamentals of Chemistry
CHY 109	Fundamentals of Chemistry Lab
<b>II Semester</b>	
CHY 111	Physical & Organic Chemistry
CHY 112	Physical & Organic Chemistry lab
<b>III Semester</b>	
CHY 114	Electrochemistry & Organic Chemistry
CHY115	Electrochemistry & Organic Chemistry Lab
<b>IV Semester</b>	
CHY 117	Kinetics & Inorganic Chemistry
CHY 118	Kinetics & Inorganic Chemistry Lab

<b>DEPARTMENT OF PHYSICS</b>	
<b>I Semester</b>	
PHY 109	Mechanics
PHY 110	Mechanics Lab
<b>II Semester</b>	
PHY 111	Electricity & Magnetism
PHY 112	Electricity & Magnetism Lab
<b>III Semester</b>	
PHY 113	Thermal Physics & Statistical Mechanics
PHY 114	Thermal Physics & Statistical Mechanics Lab
<b>IV Semester</b>	
PHY 115	Waves & Optics (4)
PHY 116	Waves & Optics Lab (4)
<b>DEPARTMENT OF MATHEMATICS</b>	
<b>I Semester</b>	
MAT 111	Differential Calculus
<b>II Semester</b>	
MAT 112	Differential Equation
<b>III Semester</b>	
MAT 113	Real Analysis
<b>IV Semester</b>	
MAT 114	Algebra

### Discipline/Department Specific Elective Courses

Course Code	Discipline Specific Elective Courses
PHY 176	Experimental Techniques
PHY 177	Microcontroller and Microprocessor
PHY 178	Physics of Devices and Communication
PHY 179	Experimental Techniques Lab
PHY 180	Microcontroller and Microprocessor Lab
PHY 181	Physics of Devices and Communication Lab
PHY 182	Advanced Mathematical Physics
PHY 183	Applied Dynamics
PHY 184	Communication System
PHY 185	Advanced Mathematical Physics Lab
PHY 186	Applied Dynamics Lab
PHY 187	Communication System Lab
PHY 188	Nuclear and Particle Physics
PHY 189	Atmospheric Physics
PHY 190	Nano Materials and Applications
PHY 191	Nuclear and Particle Physics Lab
PHY 192	Atmospheric Physics Lab
PHY 193	Nano Materials and Applications Lab
PHY 194	Digital Signal Processing
PHY 195	Biophysics
PHY 196	Digital Signal Processing Lab
PHY 197	Biophysics Lab
PHY 261	General Theory of Relativity
PHY 262	Basics of Astronomy & Astrophysics
PHY 263	Nanotechnology for Energy Applications
PHY 264	Atmospheric and Space Physics
PHY 265	Atomic and Molecular Physics
PHY 266	Atomic and Molecular Physics Lab

S. No.	Category of Courses	Category Codes	Number of Courses	Credit
1	Professional Core Credits	PC	28	84
2	Professional Elective Core Credit	PE	28	88
3	Project Credit	PR	-	-
4	Seminar & Training Credit	ST	2	4
5	Open Elective Credit	OE	12	48
6	Basic Science Credit	BS	-	-
7	Engineering Science Credit	ES	-	-
8	HU/SS/MAN	HSM	-	-
11	Skill Enhancement Course	-	10	10
17	Ability Enhancement Course	-	3	5
	Total		83	228

Category Codes	Number of Courses	Credit
Theory	44	161
Practical	39	67