



Integral University, Lucknow

Faculty of Science

Department of Physics

Study and Evaluation Scheme B.Sc. (Physics, Mathematics, Electronics)

w.e.f. 2020 – 21

SEMESTER I

SL. No	COURSE CODE	COURSE TITLE	Type of Paper	L	T	P	Evaluation Scheme (CA)			ESE	Subject Total	Credit	Total Credit
							CT	TA	Total				
1	LN104	Essential Professional Communication	Foundation	3	1	0	40	20	60	40	100	3:1:0	4
2	PY106	Mechanics and Wave Motion	Core	3	1	0	40	20	60	40	100	3:1:0	4
3	EC121	Fundamentals of Electronics	Core	2	1	0	40	20	60	40	100	2:1:0	3
4	MT121	Algebra and Trigonometry	Core	3	1	0	40	20	60	40	100	3:1:0	4
5	MT122	Calculus	Core	3	1	0	40	20	60	40	100	3:1:0	4
6	PY107	Mechanics Lab	Practical	0	0	6	40	20	60	40	100	0:0:3	3
7	EC122	Fundamentals of Electronics Lab	Practical	0	0	4	40	20	60	40	100	0:0:2	2
Total				14	5	10	280	140	420	280	700	24	24

SEMESTER II

SL. No	COURSE CODE	COURSE TITLE	Type of Paper	L	T	P	Evaluation Scheme (CA)			ESE	Subject Total	Credit	Total Credit
							CT	TA	Total				
1	ES115	Fundamentals of Environmental Science	Foundation	3	1	0	40	20	60	40	100	3:1:0	4
2	PY108	Physical Optics and Lasers	Core	3	1	0	40	20	60	40	100	3:1:0	4
3	EC123	Digital Design	Core	3	1	0	40	20	60	40	100	3:1:0	4
4	MT123	Vector Analysis and Geometry	Core	3	1	0	40	20	60	40	100	3:1:0	4
5	MT124	Differential Equations	Core	3	1	0	40	20	60	40	100	3:1:0	4
6	PY109	Optics Lab	Practical	0	0	4	40	20	60	40	100	0:0:2	2
7	EC124	Digital Design Lab	Practical	0	0	4	40	20	60	40	100	0:0:2	2
Total				15	5	8	280	140	420	280	700	24	24



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SEMESTER III

SL. No	COURSE CODE	COURSE TITLE	Type of Paper	L	T	P	Evaluation Scheme (CA)			ESE	Subject Total	Credit	Total Credit
							CT	TA	Total				
1	PY201	Circuit Fundamentals and Basic Electronics	Core	3	1	0	40	20	60	40	100	3:1:0	4
2	PY202	Kinetic Theory and Thermodynamics	Core	3	1	0	40	20	60	40	100	3:1:0	4
3	EC221	Logic Development and Programming	Core	2	1	0	40	20	60	40	100	2:1:0	3
4	EC222	Electronics Circuits	Core	3	1	0	40	20	60	40	100	3:1:0	4
5	MT211	Numerical Computing	Core	3	1	0	40	20	60	40	100	3:1:0	4
6	PY203	Electronics and Thermal Physics Lab	Practical	0	0	4	40	20	60	40	100	0:0:2	2
7	EC223	Logic Development and Programming Lab	Practical	0	0	4	40	20	60	40	100	0:0:2	2
8	MT212	Numerical Computing Lab	Practical	0	0	4	40	20	60	40	100	0:0:2	2
Total				14	5	12	320	160	480	320	800	25	25

SEMESTER IV

SL. No	COURSE CODE	COURSE TITLE	Type of Paper	L	T	P	Evaluation Scheme (CA)			ESE	Subject Total	Credit	Total Credit
							CT	TA	Total				
1	PY204	Electricity and Magnetism	Core	3	1	0	40	20	60	40	100	3:1:0	4
2	EC224	Signal Processing	Core	3	1	0	40	20	60	40	100	3:1:0	4
3	EC225	Analog and Digital Communication	Core	3	1	0	40	20	60	40	100	3:1:0	4
4	MT213	Tensor Analysis	Core	3	1	0	40	20	60	40	100	3:1:0	4
5	MT214	Abstract Algebra	Core	3	1	0	40	20	60	40	100	3:1:0	4
6	PY205	Electricity and Magnetism Lab	Practical	0	0	6	40	20	60	40	100	0:0:3	3
7	EC226	Analog and Digital Communication Lab	Practical	0	0	4	40	20	60	40	100	0:0:2	2
Total				15	5	10	280	140	420	280	700	25	25



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SEMESTER V (Physics, Mathematics)

SL. No	COURSE CODE	COURSE TITLE	Type of Paper	L	T	P	Evaluation Scheme (CA)			ESE	Subject Total	Credit	Total Credit
							CT	TA	Total				
1	PY301	Elements of Quantum Mechanics, Atomic and Molecular Spectra	Core	3	1	0	40	20	60	40	100	3:1:0	4
2	PY302	Classical Mechanics, Relativity and Statistical Physics	Core	3	1	0	40	20	60	40	100	3:1:0	4
3	PY303	Solid State, Nuclear and Particle Physics	Core	2	1	0	40	20	60	40	100	2:1:0	3
4	MT301	Advanced Calculus	Core	3	1	0	40	20	60	40	100	3:1:0	4
5	MT302	Mathematical Statistics	Core	3	1	0	40	20	60	40	100	3:1:0	4
6	MT303	Number Theory	Core	2	1	0	40	20	60	40	100	2:1:0	3
7	PY304	Advance Electricity and Magnetism Lab	Practical	0	0	2	40	20	60	40	100	0:0:2	1
8	MT304	Statistical Techniques Lab	Practical	0	0	2	40	20	60	40	100	0:0:2	1
Total				16	6	8	320	160	480	320	800	24	24

SEMESTER VI (Physics, Mathematics)

SL. No	COURSE CODE	COURSE TITLE	Type of Paper	L	T	P	Evaluation Scheme (CA)			ESE	Subject Total	Credit	Total Credit
							CT	TA	Total				
1	PY305	Applied Electronics	Core	3	1	0	40	20	60	40	100	3:1:0	4
2	Elective	Physics	Core	3	1	0	40	20	60	40	100	3:1:0	4
3	Elective	Mathematics	Core	3	1	0	40	20	60	40	100	3:1:0	4
4	MT305	Statics and Dynamics	Core	3	1	0	40	20	60	40	100	3:1:0	4
5	MT306	Analysis	Core	3	1	0	40	20	60	40	100	3:1:0	4
6	PY309	UG Physics Project	Core	0	0	8	0	0	0	200	200	0:0:4	4
Total				15	5	8	200	100	300	400	700	24	24



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SEMESTER V (Electronics, Mathematics)

SL. No	COURSE CODE	COURSE TITLE	Type of Paper	L	T	P	Evaluation Scheme (CA)			ESE	Subject Total	Credit	Total Credit
							CT	TA	Total				
1	EC321	Network Circuit And Analysis	Core	3	1	0	40	20	60	40	100	3:1:0	4
2	EC322	Consumer Electronics and Devices	Core	2	1	0	40	20	60	40	100	2:1:0	3
3	EC323	Microprocessor and Microcontroller	Core	3	1	0	40	20	60	40	100	3:1:0	4
4	MT301	Advanced Calculus	Core	3	1	0	40	20	60	40	100	3:1:0	4
5	MT302	Mathematical Statistics	Core	3	1	0	40	20	60	40	100	3:1:0	4
6	MT303	Number Theory	Core	2	1	0	40	20	60	40	100	2:1:0	3
7	EC324	Microprocessor and Microcontroller Lab	Practical	0	0	2	40	20	60	40	100	0:0:2	1
8	MT304	Statistical Techniques Lab	Practical	0	0	2	40	20	60	40	100	0:0:2	1
Total				16	6	8	320	160	480	320	800	24	24

SEMESTER VI (Electronics, Mathematics)

SL. No	COURSE CODE	COURSE TITLE	Type of Paper	L	T	P	Evaluation Scheme (CA)			ESE	Subject Total	Credit	Total Credit
							CT	TA	Total				
1	EC325	Electronics Instrumentation and Transducers	Core	3	1	0	40	20	60	40	100	3:1:0	4
2	Elective	Electronics	Core	3	1	0	40	20	60	40	100	3:1:0	4
3	Elective	Mathematics	Core	3	1	0	40	20	60	40	100	3:1:0	4
4	MT305	Statics and Dynamics	Core	3	1	0	40	20	60	40	100	3:1:0	4
5	MT306	Analysis	Core	3	1	0	40	20	60	40	100	3:1:0	4
6	EC329	UG Electronics Project	Core	0	0	8	0	0	0	200	200	0:0:4	4
Total				15	5	8	200	100	300	400	700	24	24



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SL. No	COURSE CODE	COURSE TITLE	Type of Paper	L	T	P	Evaluation Scheme (CA)			ESE	Subject Total	Credit	Total Credit
							CT	TA	Total				
1	PY301	Elements of Quantum Mechanics, Atomic and Molecular Spectra	Core	3	1	0	40	20	60	40	100	3:1:0	4
2	PY302	Classical Mechanics, Relativity and Statistical Physics	Core	3	1	0	40	20	60	40	100	3:1:0	4
3	PY303	Solid State, Nuclear and Particle Physics	Core	2	1	0	40	20	60	40	100	2:1:0	3
4	EC321	Network Circuit and Analysis	Core	3	1	0	40	20	60	40	100	3:1:0	4
5	EC322	Consumer Electronics and Devices	Core	2	1	0	40	20	60	40	100	2:1:0	3
6	EC323	Microprocessor and Microcontroller	Core	3	1	0	40	20	60	40	100	3:1:0	4
7	PY304	Advance Electricity and Magnetism Lab	Practical	0	0	2	40	20	60	40	100	0:0:1	1
8	EC324	Microprocessor and Microcontroller Lab	Practical	0	0	2	40	20	60	40	100	0:0:1	1
Total				14	6	8	320	160	480	320	800	24	24

SEMESTER VI (Physics, Electronics)

SL. No	COURSE CODE	COURSE TITLE	Type of Paper	L	T	P	Evaluation Scheme (CA)			ESE	Subject Total	Credit	Total Credit
							CT	TA	Total				
1	PY305	Applied Electronics	Core	3	1	0	40	20	60	40	100	3:1:0	4
2	EC325	Electronics Instrumentation and Transducers	Core	3	1	0	40	20	60	40	100	3:1:0	4
3	Elective	Physics	Core	3	1	0	40	20	60	40	100	3:1:0	4
4	Elective	Electronics	Core	3	1	0	40	20	60	40	100	3:1:0	4
5	EC326/PY306	Integrated Circuits /Physics of Materials	Core	3	1	0	40	20	60	40	100	3:1:0	4
6	PY309/EC329	UG Physics Project/UG Electronics Project	Core	0	0	8	0	0	0	200	200	0:0:4	4
Total				15	5	8	200	100	300	400	700	24	24

List of Elective Papers

Elective Papers from Dept. of Electronics: (Elective-1), Image Processing and Its Applications (EC327), (Elective-2), Mobile Communication (EC328)

Elective Papers from Dept. of Physics: (Elective-1), Mathematical Methods in Physics (PY 307), (Elective-2) Advanced Solid State Physics (PY 308)

Elective Papers from Dept. of Mathematics: (Elective-1), Basic Mathematical Modeling (MT307), (Elective-2), Linear Programming (MT 308)

L: Lecture, T: Tutorial, P: Practical

CT: Class Test, TA: Teacher Assessment, ESE: End Semester Examination