

CURRICULUM
B.Sc. Physics
REGULATION 2023

SEMESTER – I

Part	Category	Code	COURSE NAME	L	T	P	SS	H	C
I	Language	XGT101/ XFT101	Tamil – 1/ Foundational Tamil – 1	3	0	0	0	3	3
II	Language	XGE102	English – I	3	0	0	0	3	3
III	CC 1	XPH103	Properties of Matter and Sound	3	1	0	0	4	4
	AT 1	XMG104	Allied Mathematics -I	4	1	0	0	5	4
	CC 2	XPH105	Physics Practical - I	0	0	3	0	3	2
IV	SEC-1(NME)	XPH106	Physics for Everyday Life	0	0	3	0	3	2
	UMAN–1	XUM001	Human Ethics, Values, Rights and Gender Equality	1	0	0	1	2	1
	FC	XPH107	Foundation Course	2	0	0	0	2	2
V	EA		Extension Activities NSS,NCC,NSO and RRC and YRC	0	0	0	0	2	0
			Library	0	0	0	0	2	0
			Mentoring	0	0	0	0	2	0
Total								30	21

SEMESTER – II

Part	Category	Code	COURSE NAME	L	T	P	SS	H	C
I	Language	XGT201/ XFT201	Tamil – II / Foundational Tamil – II	3	0	0	0	3	3
II	Language	XGE202	English – II	3	0	0	0	3	3
III	CC 3	XPH203	Heat, Thermodynamics and Statistical Physics	3	1	0	0	4	4
	AT 2	XMG204	Allied Mathematics -2	4	1	0	0	5	4
	CC 4	XPH205	Physics Practical – II	0	0	3	0	3	2
IV	SEC-2(NME)	XPH206	Home Electrical Installation	0	0	3	0	3	2
	SEC-3(SS)	XPH207	Numerical Methods and C Programming	2	1	0	0	3	2
	UMAN–2	XUM002	Environmental Studies	1	0	0	1	2	1
			Field Visit	0	0	0	0	0	2
V	EA		Extension Activities NSS,NCC,NSO and RRC	0	0	0	0	1	0
			Library	0	0	0	0	2	0
			Mentoring	0	0	0	0	2	0
			Total					30	23

SEMESTER – III

Part	Category	Code	COURSE NAME	L	T	P	SS	H	C
I	Language	XGT301	Tamil – III	3	0	0	0	3	3
II	Language	XGE302	English – III	3	0	0	0	3	3
III	CC 5	XPH303	Mechanics	3	1	0	0	4	4
	AT 1	XCH304	Allied Chemistry - I	3	0	0	0	3	3
	AP 1	XCH305	Allied Chemistry Practical - I	0	0	3	0	3	1
	CC 6	XPH306	Physics Practical - III	0	0	3	0	3	2
IV	SEC-4(EB)	XPH307	Physics Workshop Skill	0	0	2	1	3	2
	SEC-5(SS)	XPH308	Digital Photography	2	0	0	1	3	2
	UMAN-3	XUM003	Disaster Management	1	0	0	1	2	1
	GE – 1		*Open Elective – To be chosen by student	3	0	0	0	3	3
V	EA		Extension Activities NSS,NCC,NSO and RRC	0	0	0	0	1	0
			Library	0	0	0	1	1	0
			Mentoring	0	0	0	0	1	0
Total								30	24

SEMESTER – IV

Part	Category	Code	COURSE NAME	L	T	P	SS	H	C
I	Language	XGT401	Tamil – IV	3	0	0	0	3	3
II	Language	XGE402	English – IV	3	0	0	0	3	3
III	CC 7	XPH403	Optics and Laser Physics	3	1	0	0	4	4
	AT 2	XCH404	Allied Chemistry - II	3	0	0	0	3	3
	AP 2	XCH405	Allied Chemistry Practical - II	0	0	3	0	3	1
	CC 8	XPH406	Physics Practical – IV	0	0	3	0	3	2
IV	SEC-6(SS)	XPH407	Energy Physics	2	0	0	1	3	2
	SEC-7(SS)	XPH408	Nano Science and Nanotechnology	2	0	0	1	3	2
	UMAN-4	XUM004	Introduction to Entrepreneurship Development	1	0	0	1	2	1
	GE – 2		Open Elective- 2	3	0	0	0	3	3
V	EA		Extension Activities NSS, NCC, NSO, RRC and YRC	0	0	0	0	1	0
			Library	0	0	0	1	1	0
			Mentoring	0	0	0	0	1	0
			Total					30	24

SEMESTER – V

Part	Category	Code	COURSE NAME	L	T	P	SS	H	C
III	CC 9	XPH501	Electricity, Magnetism and Electromagnetism	3	1	0	0	4	4
	CC 10	XPH502	Atomic and Nuclear Physics	3	1	0	0	4	4
	CC 11	XPH503	Analog and Communication Electronics	3	1	0	0	4	4
	EC 1	XPH504A	Classical and Statistical Mechanics	3	1	0	0	4	3
		XPH504B	Material Science						
		XPH504C	Renewable Energy and Energy Harvesting						
	EC 2	XPH505A	Bio Physics	3	1	0	0	4	3
		XPH505B	Condensed Matter Physics						
		XPH505C	Opto Electronics						
	CC 12	XPH506	Physics Practical - V	0	0	3	0	3	2
EC 4	XPH507	Project Phase I	0	0	3	0	3	1	
IV	GE – 3		Open Elective – 3	3	0	0	0	3	3
			IPT /Field visit (30Hrs)	0	0	0	0	0	2
V	EA		Extension Activities NSS,NCC,NSO, RRC and YRC	0	0	0	0	1	0
			Library	0	0	0	1	1	0
			Mentoring	0	0	0	1	1	0
			Total					30	26

SEMESTER – VI

Part	Category	Code	COURSE NAME	L	T	P	SS	H	C
III	CC 13	XPH601	Quantum Mechanics and Relativity	3	1	0	0	4	4
	CC 14	XPH602	Solid State Physics	3	1	0	0	4	4
	CC 15	XPH603	Digital Electronics and Microprocessor 8085	3	1	0	0	4	4
	EC 3	XPH604A	Elements of Modern Physics	3	1	0	0	4	3
		XPH604B	Power Electronics						
		XPH604C	Astronomy and Astrophysics						
	CC 16	XPH605	Physics Practical – VI	0	0	3	0	3	2
EC 4	XPH606	Project Phase II	0	0	6	0	6	3	
IV	SEC-8(SS)	XPH607	Communication Physics	2	0	0	1	3	2
	UMAN-5	XUM005	Cyber Security	1	0	0	1	2	1
	EA		Extension Activities NSS,NCC,NSO and RRC	0	0	0	0	1	2
V			Library	0	0	0	1	1	0
			Mentoring	0	0	0	0	1	0
			Total					30	25

Total Credit: 21 + 23 + 24 + 24 + 26 + 25 = 143 Credits

Note:

L – Lecture
SS – Self Study

T – Tutorial
H – Hours

P – Practical

LIST OF ELECTIVE COURSES (EC)

Category	Code	Course Name	L	T	P	SS	H	C
EC 1	XPH504A	Classical and Statistical Mechanics	3	1	0	0	4	4
	XPH504B	Material Science						
	XPH504C	Renewable Energy and Energy Harvesting						
EC 2	XPH505A	Bio Physics	3	1	0	0	4	4
	XPH505B	Condensed Matter Physics						
	XPH505C	Opto Electronics						
EC 3	XPH604A	Elements of Modern Physics	3	1	0	0	4	4
	XPH604B	Power Electronics						
	XPH604C	Astronomy and Astrophysics						
EC 4	XPH507	Project Phase I	0	0	3	0	3	1
	XPH606	Project Phase II	0	0	6	0	6	3

LIST OF SKILL ENHANCEMENT COURSES

NON-MAJOR ELECTIVES (NME)

Category	Code	Course Name	L	T	P	SS	H	C
SEC-1(NME)	XPH106	Physics for Everyday Life	0	0	3	0	3	2
SEC-2(NME)	XPH206	Home Electrical Installation	0	0	3	0	3	2

DISCIPLINE/SUBJECT SPECIFIC (SS)

Category	Code	Course Name	L	T	P	SS	H	C
SEC-3(SS)	XPH207	Numerical Methods and C Programming	2	1	0	0	3	2
SEC-5(SS)	XPH308	Digital Photography	2	0	0	0	2	2
SEC-6(SS)	XPH407	Energy Physics	2	0	0	0	2	2
SEC-7(SS)	XPH408	Nano Science and Nanotechnology	2	0	0	0	2	2
SEC-8(SS)	XPH607	Communication Physics	2	0	0	0	2	2

ENTREPRENEURIAL BASED (EB)

Category	Code	Course Name	L	T	P	SS	H	C
SEC-4(EB)	XPH307	Physics Workshop Skill	0	0	2	0	2	2

Note:

L – Lecture
SS – Self Study

T – Tutorial
H – Hours

P – Practical

Total Credit and Mark Distribution

Parts	Category & Courses	No of Courses ×Credits	Semesters						Total Credits	TAN SCHE Credits	Deviation %
			I	II	III	IV	V	VI			
Part – I	Tamil – I / Foundational Tamil – I Tamil – II / Foundational Tamil – II Tamil – III and Tamil – IV	4 × 3 = 12	3	3	3	3	-	-	12	12	-
Part – II	English-I, English-II, English-III and English-IV	4 × 3 = 12	3	3	3	3	-	-	12	12	
Part – III	Core Theory	10 × 4 = 40	4	4	4	4	12	12	40	76	-1
	Core Lab	6 × 2 = 12	2	2	2	2	2	2	12		
	Allied Theory	4 × 3 = 12	4	4	3	3	-	-	8		
	Allied Lab	2 × 1 = 2	-	-	1	1	-	-	2		
	Elective Core	3 × 3 = 9	-	-	-	-	6	3	9		
	Project	1 × 4 = 4	-	-	-	-	1	3	4		
Part – IV	Foundation Course	1 × 2 = 2	2	-	-	-	-	-	2	39	-5
	SEC: Skill Enhancement Course (NME,EB)	3 × 2 = 6	2	2	2	-	-	-	6		
	SEC: Discipline/Subject Specific (SS)	5 × 2 = 10	-	2	2	4	-	2	10		
	GE: Open Elective	3 × 3 = 9	-	-	3	3	3	-	9		
	IPT: Internship Programme Training / Field Visit	2 × 2 = 4	-	2	-	-	2	-	4		
	UMAN001: Human Ethics, Values, Rights, and Gender Equality UMAN002: Environmental Studies UMAN003: Disaster Management UMAN004: Entrepreneurship Development UMAN005: Cyber Security	5 × 1 = 5	1	1	1	1	-	1	5		
Part – V	Extension Activity	1 × 2 = 2	-	-	-	-	-	2	2	1	+1
	Total		21	23	24	24	26	25	143	140	-5

