

Jaypee University of Engineering and Technology

B.Sc. (Hons/ Research) - Physics Scheme of Teaching (A.Y.: 2023-24)

SEMESTER - I					
S.No.	Course Code	Course	Course Title	Contact Hours	Credits
1		Core1	Mechanics & Relativity	5	5
2		Core2	Mathematical Physics	5	5
3		AECC1	English Communication	4	4
4		GE1	Any 1 Group to be Selected*	5	4
5			Physics Lab-I	2	2
			Total	21	20
SEMESTER - II					
S.No.	Course Code	Course	Course Title	Contact Hours	Credits
1		Core3	Thermodynamics	5	5
2		Core4	Electromagnetic Theory	5	5
3		AECC2	Environmental Studies	4	4
4		GE2	Any 1 group to be selected*	5	4
			Physics Lab-II	2	2
			Total	21	20
SEMESTER - III					
S.No.	Course Code	Course	Course Title	Contact Hours	Credits
1		Core5	Quantum Mechanics	5	5
2		Core6	Introduction to Spectroscopy	5	5
3		SEC1	SEC1	4	4
4		GE3	Any 1 group to be selected*	5	4
5			Physics Lab-III	2	2
			Total	21	20
SEMESTER - IV					
S.No.	Course Code	Course	Course Title	Contact Hours	Credits
1		Core7	Wave & Optics	5	5
2		Core8	Statistical Mechanics	5	5
3		GE4	Any 1 group to be selected*	5	4
4		SEC2	SEC2	4	4
5			Physics Lab-IV	2	2
			Total	21	20

SEMESTER - V

S.No.	Course Code	Course	Course Title	Contact Hours	Credits
1		Core9	Solid state physics	5	5
2		DSE-1	DSE-1	4	4
3		SEC3	SEC3	4	4
4			Field Project/ Internship/ Apprenticeship	--	6
5			Physics Lab-V	1	1
			Total		20

SEMESTER - VI

S.No.	Course Code	Course	Course Title	Contact Hours	Credits
1		Core10	Nuclear Physics	6	5
2		DSE-2	DSE-2	4	4
3		DSE-3	DSE-3	4	4
4			Field Project/ Internship/ Apprenticeship	--	6
5			Physics Lab-VI		1
			Total		20

SEMESTER - VII

S.No.	Course Code	Course	Course Title	Contact Hours	Credits
1		Core11	Digital and Analogue Electronics	5	5
2		Core12	Research Methodology	4	4
3		DSE-4	DSE-4	4	4
4			Field Project/ Internship/ Apprenticeship	--	6
5			Physics Lab-VII		1
			Total		20

SEMESTER - VIII

S.No.	Course Code	Course	Course Title	Contact Hours	Credits
1		Core13	Laser physics and Applications	6	5
2		Core14	Literature Survey and seminar	4	4
3			Research Project	--	10
4			Comprehensive Viva		1
			Total		20

After completing the requirements of a three-year Bachelor's degree, candidates who meet a minimum CGPA of 7.5 shall be allowed to continue studies in the fourth year of the undergraduate programme to pursue and complete the Bachelor's (Hons./ Research) degree.

*	Group A	Group B	Group C
I sem	1. Algebra	Organic Chemistry/ Physical Chemistry	Computer Programming
	2. Calculus	Organic Chemistry Lab/ Physical Chemistry Lab	Computer Programming Lab
II sem	3. Multivariate Calculus	Industrial Chemistry/ Inorganic Chemistry	Discrete Mathematics
	4. Ordinary Differential Equations	Industrial Chemistry Lab/ Inorganic Chemistry Lab	Multimedia Development Lab
III sem	5. Real Analysis	Industrial Organic Synthesis/ Analytical Chemistry	Database Systems
	6. Partial Differential Equations	Industrial Organic Synthesis Lab/ Analytical Chemistry Lab	Database Systems Lab
IV sem	7. Linear Algebra	Polymer Chemistry/ Forensic Science	Fundamental of Algorithms
	8. Numerical Analysis	Polymer Chemistry Lab/ Forensic Science Lab	Algorithms Lab

Discipline specific elective list: (More courses to be added)

1. Characterization techniques
2. Energy generation & storage devices
3. Quantum computing
4. Nuclear reactor and safety
5. Electronic communications
6. Electronic Instrumentations
7. Medical Physics
8. Biological Physics
9. Digital signal processing
10. Elementary particle physics

Skill Enhancement Courses (More courses to be added)

1. Life Skills and Effective Communications
2. Logical and Quantitative Techniques
3. Introduction to Python
4. Fundamentals of IT
5. Object Oriented programming
6. Data Structures
7. Data Science
8. Programming with Matlab and Mathematica
9. Workshop and Engineering Drawing Lab