

Persue Analysis

Top 10 Most Repeated Physics Concepts in JENPAS (UG) – 2022 to 2024

Rank	Subtopic / Concept	Chapter (NCERT)	Frequency	Years Appeared
1	Semiconductors – Diodes, Logic Gates	Semiconductor Electronics (Class 12)	6 Qs	2022, 2023, 2024
2	Thermodynamics – Heat Transfer, Laws	Thermodynamics (Class 11)	3 Qs	Every Year
3	Wave Properties – Frequency, Speed Relation	Waves (Class 11)	3 Qs	Every Year
4	Ray Optics – Mirror/Lens Sign Convention, Images	Ray Optics (Class 12)	3 Qs	Every Year
5	Modern Physics – Dual Nature, de Broglie, Nucleus	Dual Nature / Atoms / Nuclei	5 Qs	Every Year
6	Current Electricity – Circuits, Ohm's Law, EMF	Current Electricity (Class 12)	3 Qs	Every Year
7	Electrostatics – Electric Field, Potential, Capacitors	Electrostatics (Class 12)	3 Qs	Every Year
8	Magnetism – Lorentz Force, Magnetic Field	Magnetism & Moving Charges (Class 12)	3 Qs	Every Year
9	Mechanical Properties – Stress/Strain Graphs	Mechanical Properties of Solids	3 Qs	Every Year
10	Rotational Motion / Torque & Moment of Inertia	Laws of Motion / System of Particles	2 Qs	2022, 2024

Why These Matter

Key Observations:

- **Semiconductor Electronics** is the **most guaranteed** topic – always has 2 questions.
- **Thermodynamics**, **Current**, and **Optics** yield both **numerical and conceptual MCQs**.
- **Modern Physics** topics like **de Broglie wavelength**, energy levels, and nuclear binding are recurring.
- Even though chapters like **Kinematics** or **Gravitation** are NCERT-heavy, they contribute fewer MCQs compared to the top 10 above.

Exam Strategy Based on This Data:

Strategy	Action Item
Daily Practice on Semiconductors	Truth tables, diode biasing, I-V graphs
Visual Review of Optics + Circuits	Redraw and label ray diagrams & EMF loops
Conceptual Mastery in Thermodynamics	Understand 1st law, PV graphs, Q vs T
Solve Modern Physics numericals	Especially de Broglie, decay, nuclear energy
Use NCERT Examples and Exercises	At least 80% of MCQs are NCERT-aligned