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UNIT-1 → Mechanics

1) Moment of Inertia Theorem → parallel
                              → perpendicular

2) Moment of Inertia of → Continuous Bodies
                        → Diatomic Molecules

3) Gyroscope

4) Torsional pendulum & Double pendulum
   → Theory & Derivations

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UNIT - 2 → Electromagnetic waves

1) Maxwell's Equation

2) Electromagnetic waves (EMW) → Definition, Properties, Sources, Laws & Theorem

3) EMW → Energy
Intensity
Momentum &
Radiation pressure

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UNIT-3 → Oscillation, optics & laser

1) Nd - YAG laser, CO_2 laser & Semiconductor laser (Including Application of laser)

2) Differential Equation of SHM

3) Michelson Interferometer

4) Einstein's co-efficient

5) Standing & Travelling waves.

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Unit-4 → Basic Quantum Mechanics

1) Compton Effect → Experiment, principle, working & constructions

2) Schrodinger Wave Equation (SWE)

3) particle in 1D, 2D & 3D

4) Electron Theory of metals

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Unit-5 → Applied Quantum Mechanics

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Unit - 5 → Applied Quantum Mechanics

1) Harmonic Oscillator
2) Scanning Tunneling Microscope (STM)
3) Reasonant Tunneling Diode (RTD)
4) Kroning Penny Model
5) Energy Band theory → 4 steps

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