



Physics by fiziks

Now at your home

"Discipline is the Bridge between Goal and Success"

Study Plan of Modern Physics for Pre-recorded Batches

(For IIT-JAM, JEST, TIFR and M.Sc Entrance and B.Sc Students)

| Days | Enter Your Dates | Topics |
|---------------------------|------------------|---|
| | | PART-A: Nuclear Physics |
| Day: 1 | | Lecture 1: General Properties of Nuclei Part-1 |
| | | Lecture 2: General Properties of Nuclei Part-2 |
| Day: 2 | | Lecture 3: General Properties of Nuclei Part-3 |
| | | Lecture 4: General Properties of Nuclei Part-4 |
| | | Solve Assignment No. 1: Basic Properties of Nuclei (Lect-1 to Lect-4) |
| Day: 3 | | Lecture 5: Radioactivity Part-1 |
| | | Lecture 6: Radioactivity Part-2 |
| Day: 4 | | Lecture 7: Radioactivity Part-3 |
| | | Lecture 8: Radioactivity Part-4 |
| | | Lecture 9: Nuclear Reaction Part-1 |
| | | Solve Assignment No. 2: Radioactivity (Lect-5 to Lect-8) |
| Day: 5 | | Lecture 10: Nuclear Reaction Part-2 |
| | | Lecture 11: Nuclear Reaction Part-3 |
| | | Lecture 12: Nuclear Forces |
| Day: 6 | | Solve Assignment No. 3: Nuclear Reaction (Lect-9 to Lect-12) |
| Day: 7 | | Class Test 1: Basic Properties of Nuclei (Lect-1 to Lect-4) |
| | | Class Test 2: Radioactivity and Nuclear Reaction (Lect-5 to Lect-12) |
| PART-B: Modern Physics | | |
| Day: 8 | | Lecture 13: Photoelectric Effect Theory |
| | | Lecture 14: Photoelectric Effect Problem |
| Day: 9 | | Lecture 15: Compton Effect Theory |
| | | Lecture 16: Compton Effect Problem |
| | | Lecture 17: Black Body Radiation Part-1 |
| Day: 10 | | Lecture 18: Black Body Radiation Part-2 |
| | | Lecture 19: Bohr's Sommerfeld & Hydrogen Atom |
| | | Lecture 20: Hydrogen Atom Problem |
| Day: 11 | | Lecture 21: X-rays |
| | | Lecture 22: De Broglie Hypothesis and Wave-Particle Duality |
| Day: 12 | | Lecture 23: Uncertainty Principle |
| | | Lecture 24: Miscellaneous Example on Modern Physics |
| Day: 13 | | Solve Assignment No. 4: Lect-13 to Lect-24 |
| Day: 14 | | Class Test No. 3: Lect-13 to Lect-24 |
| PART-C: Quantum Mechanics | | |
| Day: 15 | | Lecture 25: Pre-requisite of Quantum Mechanics Part-1 |
| | | Lecture 26: Pre-requisite of Quantum Mechanics Part-2 |
| | | Lecture 27: Introduction of Quantum Mechanics |
| Day: 16 | | Lecture 28: Hilbert Space Part-1 |
| | | Lecture 29: Hilbert Space Part-2 |
| Day: 17 | | Lecture 30: Operators and Matrices |
| | | Lecture 31: Operators and Commutator |
| Day: 18 | | Lecture 32: Postulates of Quantum Mechanics Part-1 |
| | | Lecture 33: Postulates of quantum mechanics Part-2 |

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| Day: 19 | | Lecture 34: Postulates of Quantum Mechanics Part-3 |
| | | Lecture 35: Postulates of quantum mechanics Part-4 |
| Day: 20 | | Solve Assignment No. 5 & 6: Tools of QM (Lect 25 to Lect 35) |
| Day: 21 | | Class Test No. 4: Lect-25 to Lect-35 |
| Day: 22 | | Lecture 36: Free Particles |
| | | Lecture 37: Step Potential |
| Day: 23 | | Lecture 38: Particle in Box |
| | | Solve Assignment No. 7: Particle in a box (Lect 36 to Lect 38) |
| Day: 24 | | Lecture 39: Finite Potential |
| | | Lecture 40: Problems based on Free Particles and Particles in Box |
| | | Solve Assignment No. 8: Finite Potential (Lect-39) |
| Day: 25 | | Lecture 41: Harmonic Oscillator |
| | | Lecture 42: Problem on Harmonic Oscillator Part-1 |
| Day: 26 | | Lecture 43: Problems on Harmonic Oscillator Part-2 |
| | | Lecture 44: 2D and 3D system |
| | | Solve Assignment No. 8 Harmonic Oscillator (Lect-41 to Lect-44) |
| Day: 27 | | Class Test No. 5: Lect-36 to Lect-38 |
| Day: 28 | | Class Test No. 6: Lect-39 to Lect-44 |
| PART-D: Special Theory of Relativity | | |
| Day: 29 | | Lecture 45: Galilean Transformation |
| | | Lecture 46: Lorentz Transformation |
| Day: 30 | | Lecture 47: Relative Velocity Theory and Basic |
| | | Lecture 48: Problem on Relative Speed |
| Day: 31 | | Lecture 49: Length Contraction |
| | | Lecture 50: Time Dialation |
| | | Solve Assignment No. 8: Special Theory of Relativity (Lect-45 to Lect-50) |
| Day: 32 | | Lecture 51: Loss of Simulataneity |
| | | Lecture 52: Relativistic Mass Part-1 |
| Day: 33 | | Lecture 53: Relativistic Mass Part-2 |
| | | Lecture 54: Special Four Vectors |
| Day: 34 | | Solve Assignment No. 9: Special Theory of Relativity (Lect-51 to Lect-54) |
| Day: 35 | | Class Test 7: Special Thoery of Relativity (Lect-45 to Lect-54) |