

**Practice Set**  
**GATE Physics Previous Year Question**  
**(2010 To 2020)**

S.NO	Topic	Number of Question
Q1 To Q11	Vector Analysis	11
Q1 To Q8	Ordinary Differential Equations	8
Q1 To Q14	Linear Algebra Matrices	14
Q1 To Q4	Fourier Series	4
Q1 To Q15	Complex Numbers and Analysis	15
Q1	Laplace Transforms	01
Q1	Fourier Transforms	01
Q1	Dirac Delta	01
Q1 To Q7	Others	07
Total Number of Question		62

**Practice Set: Classical Mechanics**  
**Gate Physics Previous Year Question**  
**(2010 To 2020)**

S.NO	Topic	Number of Question
Q1	Generalised Co-ordinate	1
Q1 To Q8	Lagrangian Formulation	8
Q1 To Q7	Hamiltonian Formulation	7
Q1 To Q4	Poission Bracket	4
Q1 To Q5	Canonical Transformation	5
Q1 To Q4	Phase Space	4
Q1 To Q2	Stability Analysis	2
Q1 To Q7	Small Oscillation	7
Q1 To Q6	Central Force	6
Q1 To Q2	Rigid Body	2
Q1 To Q19	Special Theory of Relativity	19
Q1	Newton's Law One Dimensional	1
Q1	Pseduo Force	1
<b>Total Number of Question</b>		<b>67</b>

**Practice Set – Electromagnetic Theory**

**Gate Physics Previous Year Question**

(2010 To 2020)

S.NO	Topic	Number of Question
Q1 To Q5	Coulomb's Law, Gauss Law and Electrostatic Potential	5
Q1 To Q2	Electrostatic Energy, Conductors and Electric Dipole	2
Q1 To Q8	Polarisation and Boundary Condition	8
Q1 To Q7	Multipole Expansion and Image Problem	7
Q1	Motion of Charged Particle in Uniform E and B	1
Q1 To Q3	Biot Savart Law, Amperes Law and Magnetic Force	3
Q1 To Q11	Magnetic Vector Potential, Magnetic Dipole	11
Q1 To Q2	Magnetisation and Boundary Condition	2
Q1 To Q6	Maxwells Equations	6
Q1 To Q17	E.M. Waves in Free Space, in dielectrics and in conductors	17
Q1 To Q5	Reflection and Transmission at an Interface	5
Q1 To Q3	Waveguide and Potential Formulation	3
Q1 To Q3	Relativistic Electrodynamics	3
Q1 To Q7	Optics	7
<b>Total Number of Question</b>		<b>80</b>

**Practice Set – Quantum Mechanics**  
**Gate Physics Previous Year Question**  
**(2010 To 2020)**

<b>Q1</b>	<b>Particle Nature of Wave</b>	<b>1</b>
<b>Q1 To Q3</b>	<b>Wave Nature of Particle</b>	<b>3</b>
<b>Q1</b>	<b>Hydrogen Atom</b>	<b>1</b>
<b>Q1 To Q6</b>	<b>Tools of Quantum Mechanics</b>	<b>6</b>
<b>Q1 To Q7</b>	<b>Postulates of Quantum Mechanics</b>	<b>7</b>
<b>Q1 To Q5</b>	<b>Free Particle</b>	<b>5</b>
<b>Q1 To Q2</b>	<b>Particle in Box</b>	<b>2</b>
<b>Q1 To Q7</b>	<b>Harmonic Oscillator</b>	<b>7</b>
<b>Q1 To Q6</b>	<b>2D and 3D System</b>	<b>6</b>
<b>Q1 To Q9</b>	<b>Angular Momentum</b>	<b>9</b>
<b>Q1 To Q12</b>	<b>Spin</b>	<b>12</b>
<b>Q1 To Q5</b>	<b>Radial Wave Function</b>	<b>5</b>
<b>Q1 To Q10</b>	<b>Non-degenerate Perturbation</b>	<b>10</b>
<b>Q1 To Q2</b>	<b>Degenerate Perturbation</b>	<b>2</b>
<b>Q1 To Q2</b>	<b>Scattering</b>	<b>2</b>
<b>Q1 To Q4</b>	<b>Identical Particle</b>	<b>4</b>
<b>Total Number of Question</b>		<b>82</b>

**Practice Set – Thermodynamics and Statistical Mechanics**

**Gate Physics Previous Year Question**

**(2010 To 2020)**

S.NO	Topic	Number of Question
Q1 To Q2	Kinetic Theory of Gases	02
Q1 To Q10	Law of Thermodynamics	10
Q1 To Q3	Maxwell and Potential	03
Q1 To Q13	Micro Canonical	13
Q1 To 8	Canonical Transform	8
Q1 To Q19	Identical Particle	19
Q1 To Q3	Phase Transition	03
Total Number of Question		57

**Practice Set – Electronics and Experimental Method**

**Gate Physics Previous Year Question**

(2010 To 2020)

Q1 To Q2	Network Analysis	2
Q1 To Q7	Semiconductor Physics	7
Q1 To Q2	Basics of pn junction diode and DC Analysis	2
Q1 To Q2	Rectifier and Clipper Circuit, Clamper	2
Q1	Zener Diode, other diode	1
Q1 To Q7	Basics of Transistors and DC Biasing	7
Q1	AC Analysis of Transistors	1
Q1 To Q7	Basics of Operational Amplifier	7
Q1 To Q2	Op-Amp Integrator, Differentiator, Rectifier	2
Q1 To Q5	Op-Amp Comparator, Filter, Oscillator	5
Q1 To Q11	Digital Electronics Basics and Combinational Circuit	11
Q1 To Q2	Flip-Flop and their applications	2
Q1 To Q5	Digital to Analog Converter	5
<b>Total Number of Question</b>		<b>54</b>

**Practice Set – Atomic and Molecular Physics**

**Gate Physics Previous Year Question**

(2010 To 2020)

Q1 To Q5	Bohr Theory	5
Q1 To Q4	Fine Structure Splitting	4
Q1 To Q5	LS Coupling and JJ Coupling	5
Q1 To Q11	Zeeman Effect	11
Q1	Hyperfine Structure	1
Q1 To Q6	Rotational Spectra	6
Q1 To Q6	Vibrational Electronic Spectra	6
Q1 To Q5	Raman_NMR_ESR	5
Q1 To Q3	Laser Physics	3
Q1 To Q4	Selection Rule for Radiative Transition	4
Q1 To Q2	Others	2
Total Number of Questions		52

**Practice Set – Solid State Physics**  
**Gate Physics Previous Year Question**  
**(2010 To 2020)**

S.NO	Topic	Number of Question
Q1 To Q7	Crystallography	07
Q1 To Q6	X-ray Diffraction and Reciprocal lattice	06
Q1 To Q4	Crystal Bonding	04
Q1 To Q7	Lattice Vibration	07
Q1 To Q4	Lattice Specific Heat	04
Q1 To Q13	Free Electron Theory	13
Q1 To Q10	Band Theory	10
Q1 To Q8	Superconductor	08
Q1 To Q6	Magnetism	06
Q1	Dielectric Materials	01
Total Number of Questions		66



**Practice Set – Nuclear and Particle Physics**

**Gate Physics Previous Year Question**

(2010 To 2020)

Q1 To Q3	<b>Basic Properties of Nuclei</b>	<b>03</b>
Q1	<b>Liquid Drop Model</b>	<b>01</b>
Q1 To Q9	<b>Nuclear Shell Model</b>	<b>09</b>
Q1 To Q3	<b>Nuclear Forces and Deuteron Problem</b>	<b>03</b>
Q1	<b>Radioactivity Basics</b>	<b>01</b>
Q1 To Q7	<b>Alpha, Beta and Gamma Decay</b>	<b>07</b>
Q1	<b>Nuclear Fission and Fusion</b>	<b>01</b>
Q1 To Q20	<b>Particle Physics</b>	<b>20</b>
Q1 To Q3	<b>CPT Invariance</b>	<b>03</b>
Q1 To Q2	<b>Nuclear Others</b>	<b>02</b>
Q1 To Q3	<b>Kinematics</b>	<b>03</b>
<b>Total Number of Question</b>		<b>53</b>

**Practice Set – Part - A**  
**Gate Physics Previous Year Question**  
**(2010 To 2020)**

S.NO	Topic	Number of Question
Q1 To Q20	Fill in the blanks	20
Q1 To Q5	Synonyms and Antonym	5
Q1 To Q7	Inference	7
Q1 To Q4	Sentence Correction	4
Q1 To Q2	Percentage	2
Q1 To Q2	Time and Distance	2
Q1 To Q2	Time and Work	2
Q1	Profit and Loss	1
Q1	Mixture	1
Q1 To Q10	Algebra	10
Q1 To Q4	Permutation and Combination	4
Q1	Probability	1
Q1 To Q6	Calculus	6
Q1 To Q4	Geometry (P)	4
Q1 To Q2	Geometry (S)	2
Q1 To Q15	Reasoning	15
Q1 To Q7	Statistics	7
Q1 To Q2	Graph	2
Q1 To Q2	Miscellaneous	2
<b>Total Number of Question</b>		<b>97</b>