

### TEST PATTERN

1. **Topic Wise Test (TWT):-** There are 70 topic wise test and time duration of each test is 1:00 Hour.
2. **Full Length Test (FLT):-** These full length tests are as per CSIR-NET Exam pattern. There are 75 questions in each. Out of 75 questions, students have to attempt 55 questions. Total time duration is 03:00 Hour. Total number of test is **five**.
3. Student can attempt more than **1700** number of questions during this test series.

#### Topic Wise Test (TWT) Schedule

01 Mathematical Physics		
Status	Name of Test	Topics
Released	TWT-01	Vector Analysis
	TWT-02	Dirac Delta Function
	TWT-03	Ordinary Differential Equation
	TWT-04	Linear Algebra and Matrices
	TWT-05	Fourier Series
	TWT-06	Complex Number and Functions
	TWT-07	Complex Integration / Contour Integration
	TWT-08	Fourier Transform and Laplace Transform
	TWT-09	Special functions-Hermite, Bessel, Laguerre and Legendre functions

02 Classical Mechanics		
Status	Name of Test	Topics
Released	TWT-01	Lagrangian Formalism
	TWT-02	Small Oscillation, Phase Curve and Stability Analysis
	TWT-03	Central Force
	TWT-04	Hamiltonian Formalism
	TWT-05	Poisson Bracket, generating function and canonical transformation
	TWT-06	Rotational Dynamics
	TWT-07	Special Theory of Relativity

03 Electromagnetic Theory		
Status	Name of Test	Topics
Released	TWT-01	Coulomb's Law, Gauss Law, Electrostatic Potential, Poisson's & Laplace Equations, Electrostatic Energy and Properties of Conductor
	TWT-02	Electric Dipole, Polarisation, Electrostatic Boundary Conditions, Multipole Expansion and Image Problem
	TWT-03	Motion of Charged Particles in Electric and Magnetic Fields, Magnetic Force Experienced by Current Elements, Biot Savart Law and Amperes Law
	TWT-04	Magnetic Vector Potential, Magnetic Dipole, Magnetisation, Magnetostatic Boundary Conditions
	TWT-05	Electromagnetic Induction, Maxwell Equations

	TWT-06	E.M. Wave in Free Space, Dielectrics, Conductors, Reflection and Transmission
	TWT-07	Rectangular Wave Guide, Potential Formulation for Time Varying Fields, and Radiation from Moving Charges

#### 04 Quantum Mechanics

Status	Name of Test	Topics
Released	TWT-01	Wave Particle Duality & Uncertainty Principle
	TWT-02	Tools of Quantum Mechanics Part - 1
	TWT-03	Tools of Quantum Mechanics Part -2
	TWT-04	Postulates of Quantum Mechanics
	TWT-05	Free Particle, Potential barriers and Potential Well
	TWT-06	1D Harmonic Oscillator, Dirac Function and 2D, 3D in Cartesian Coordinate
	TWT-07	Angular Momentum, Hydrogen Atom and Spin
	TWT-08	Approximation Method
	TWT-09	Scattering, Identical particles and Relativistic Quantum Mechanics

#### 05 Thermodynamic and Statistical Physics

Status	Name of Test	Topics
Released	TWT-01	Kinetic Theory of Gases and Maxwell Boltzmann Distribution Law
	TWT-02	Transport Phenomenon, Real Gases, First and Second Law
	TWT-03	Entropy, Thermodynamic Potentials, Maxwell Relations
	TWT-04	Blackbody Radiation and Elementary Statistical Mechanics
	TWT-05	Random Walk Problem and Micro Canonical Ensemble
	TWT-06	Canonical Ensemble
	TWT-07	Quantum Statistics
	TWT-08	Phase Transition and Grand Canonical Ensemble

#### 06 Electronics and Experimental Methods

Status	Name of Test	Topics
Released	TWT-01	Network Analysis
	TWT-02	Semiconductor Physics
	TWT-03	PN Junction Diode and their Applications
	TWT-04	Bipolar Junction Transistors, DC and AC Analysis
	TWT-05	Operational Amplifier
	TWT-06	Digital Electronics Part-1
	TWT-07	Digital Electronics Part-2

#### 07 Atomic & Molecular Physics

Status	Name of Test	Topics
Released	TWT-01	Bohr's Theory and Sommerfeld Model
	TWT-02	Fine Structure
	TWT-03	L-S & J-J Coupling
	TWT-04	Zeeman Effect
	TWT-05	Paschen Back Effect & Hyperfine Structure
	TWT-06	Rotational Spectroscopy
	TWT-07	Vibrational and Raman Spectra
	TWT-08	Laser

**08 Solid State Physics**

Status	Name of Test	Topics
Released	TWT-01	Crystal Structure
	TWT-02	XRD and Reciprocal Lattices
	TWT-03	Lattice Vibrations
	TWT-04	Specific Heat of Solid
	TWT-05	Free Electron Theory
	TWT-06	Band Theory of Solid
	TWT-07	Superconductor

**09 Nuclear and Particle Physics**

Status	Name of Test	Topics
Released	TWT-01	General properties of nuclei
	TWT-02	Liquid Drop Model
	TWT-03	Shell Models and Collective Models
	TWT-04	Nuclear Forces
	TWT-05	Radioactivity
	TWT-06	Alpha beta and gamma decay
	TWT-07	Nuclear Reactions, Fission and Fusion
	TWT-08	Particle Physics

**Full Length Test (FLT) Pattern And Schedule**

Total Number of Questions: **75 Questions**

Part A Questions (2.0 Marks): **20 Questions**

Part B Questions (3.5 Marks): **25 Questions**

Part C Questions (5.0 Marks): **30 Questions**

Status	Name of Test	Syllabus
Released	FLT – 01	Complete Syllabus of NET-JRF
	FLT – 02	Complete Syllabus of NET-JRF
	FLT – 03	Complete Syllabus of NET-JRF
	FLT – 04	Complete Syllabus of NET-JRF
	FLT – 05	Complete Syllabus of NET-JRF

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