

■ NPCIL Stipendiary Trainee Cat-II (Plant Operator) - Mathematics

Important Chapters

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1. Algebra:

- ♦ Linear Equations
- ♦ **Quadratic Equations (1 & 2 question)**

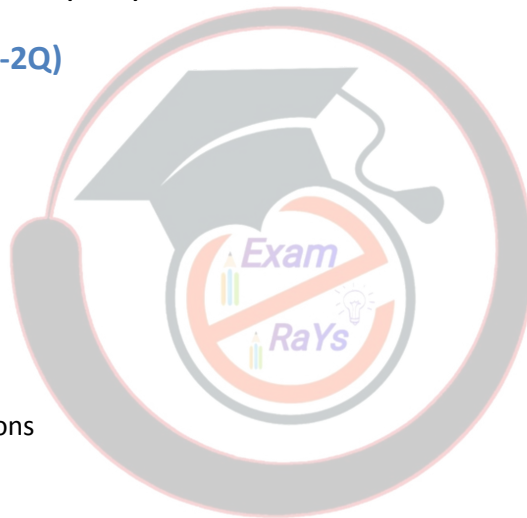
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2. Trigonometry:

- ♦ **Angles and Triangles**
- ♦ Trigonometric Functions
- ♦ **Identities and Equations (1-2Q)**

3. Number System: - (1-2Q)

- ♦ Real Numbers
- ♦ **Complex Numbers**
- ♦ **Number Theory**
- ♦ Whole numbers
- ♦ Decimals
- ♦ Fractions



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4. Percentages (1Q)

- ♦ Ratios and Proportions
- ♦ **Ages**

5. Most important topics :-

- ♦ Simplification
- ♦ **Average (1Question)**
- ♦ Percentage
- ♦ Ratio and Proportion
- ♦ **train questions (1questions)**
- ♦ mixture and allegations
- ♦ **time distance speed (1Question)**
- ♦ **Statistics (sometimes 1Question asked)**
- ♦ **mensuration (2-3Q)**
- ♦ Basic SI AND CI
- ♦ Basic Profit and loss
- ♦ **Probability (1Q)**
- ♦ **series (AP & GP) confirm (1&2Q)**
- ♦ **circles and triangles based questions (2Q)**

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(11th + 12th) Important Mathematics Topics

- ♦ Limits (formula based Questions sometime 1 asked)
- ♦ Derivatives and application (1-2Q)
- ♦ Integrals & Application (1-2Q)
- ♦ Differential Equations (e.g. Degree and Power) (1Q many time asked)
- ♦ parabola, hyperbola, ellipse (formula based Questions sometime 1 asked)
- ♦ linear equation & straight lines (Most important 2-3Q)
- ♦ vector properties questions (Find angle type 1Q)
- ♦ geometric & parallel series (1Q)
- ♦ Simple Data Interpation (1Q)
- ♦ Statics (1Q)

📌 One shot video या marathon video से आप इन Topics को आसानी से कवर कर सकते हैं।

📌 Most Important: @ExamRays Model Papers जरूर solve करें और topics identify करें।

NPCIL Stipendiary Trainee Cat-II (Plant Operator) - Physics Important Chapters

1. Mechanics:

- ♦ Kinematics (1Q numerical)
- ♦ Dynamics
- ♦ Statics
- ♦ Fluid Mechanics

- Newton law

2. Thermodynamics:

- ♦ Laws of Thermodynamics (1Q)
- ♦ Thermal Properties of Matter (1Q)
- ♦ Heat Transfer (1Q)

3. Electromagnetism:

- ♦ Electric Charges and Fields
- ♦ Electric Circuits + numerical question (1-2Q)
- ♦ Magnetism
- ♦ Electromagnetic Induction

4. Optics:

- ♦ Reflection and Refraction (1Q)

- ♦ Lenses and Mirrors + numerical question (2Q)**
- ♦ Wave Optics

5. Modern Physics:

- ♦ Atomic Structure*** + numerical question (1-2Q)
- ♦ Nuclear Physics
- ♦ Radioactivity**** (1 question fixed)
- ♦ Solid State Physics

6. Gravitation:

- ♦ Law of Gravitation
- ♦ Gravitational Potential**
- ♦ Gravitational Field

7. Electrostatics:

- ♦ Electric Charges
- ♦ Electric Field*
- ♦ Electric Potential

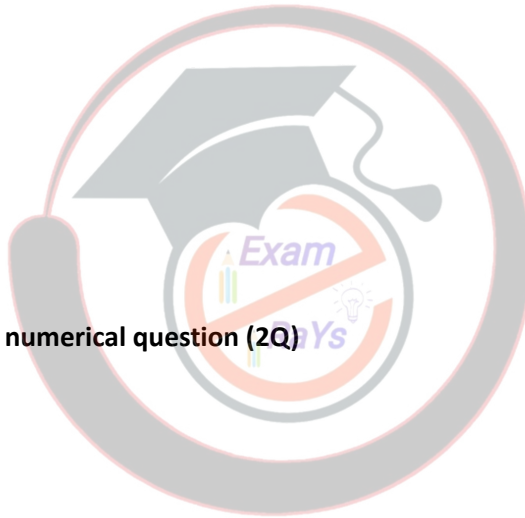
8. Current Electricity:

- ♦ Electric Current
- ♦ Resistance***** + numerical question (2Q)
- ♦ Capacitance

9. Magnetic Induction:

- ♦ Magnetic Field
- ♦ Magnetic Induction
- ♦ Electromagnetic Induction*
- Work , Energy,Power (1-2Q)
- Semiconductor (1Q)
- (Different Apparatus use (1Q)

10. Units and Dimensions : (1-3 Questions asked every exam) ***



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 **NPCIL Stipendiary Trainee Cat-II (Plant Operator) - Chemistry**
Important Chapters

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1. Atomic Structure: - (1Q fixed) **

- ♦ Atomic Number
- ♦ Atomic Mass
- ♦ Electron Configuration

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2. Chemical Bonding:

- ♦ **Types of Bonds (1-2 fixed question) ****
- ♦ Bonding Theories

3. Thermodynamics:

- ♦ Laws of Thermodynamics
- ♦ Thermodynamic Processes

4. Physical Chemistry:

- ♦ States of Matter
- ♦ Phase Equilibrium
- ♦ Chemical Equilibrium

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5. Inorganic Chemistry:

- ♦ **Periodic Table (1-2 fixed question)****
- ♦ Chemical Families
- ♦ **Coordination Compounds (oxidation number type 1Q asked)****

6. Organic Chemistry:

- ♦ Hydrocarbons
- ♦ **Functional Groups** (1Q fixed)****

7. Nuclear Chemistry:

- ♦ **Radioactivity (1-2 fixed question)****
- ♦ Nuclear Energy

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8. Environmental Chemistry:

- ♦ **Pollution (1-2 fixed question)****
- ♦ Sustainable Development

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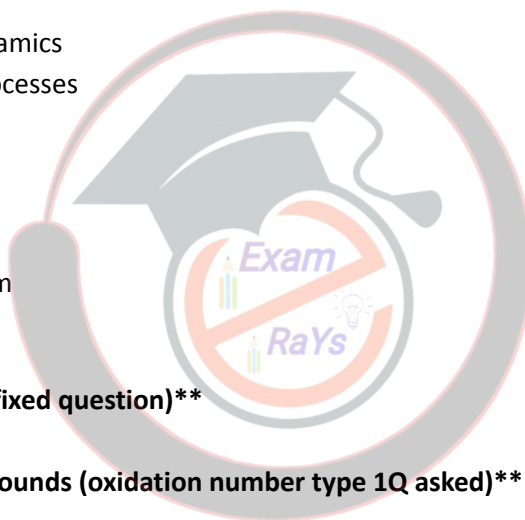
9. Biochemistry:

- ♦ **Biomolecules (1-2 fixed question) ****
- ♦ **Enzymes and Hormones and Vitamins (Sometimes 1 or 2Q)****

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10. Acid and Based : (1-2 Questions)

- ◆ Litmus (1-2 fixed question)**
- ◆ Redox reaction (1-question)***

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11. Catalyst and reaction and oxidation type questions (1 or 2Q)

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