# CLASS 10th SCIENCE IMPORTANT GUESS QUESTIONS

## PHYSICS

### Light, Reflection & Refraction

• Ray Diagrams (Mirrors & Lenses)
• Numericals on mirror formula, lens formula, magnification & power of lens
• Snell's Law
• Uses & sign conventions for spherical mirrors/lenses

### The Human Eye & The Colourful World

• Draw labelled diagram of Human Eye
• Defects of vision & their correction (Myopia, Hypermetropia & Presbyopia)
• Explain why the planets do not twinkle but stars twinkle
• Dispersion of light & refraction through glass prism

### Electricity

• Numericals on (a) Heating effect of electric current (b) Resistance in series & parallel (c) Electric power & Energy
• Define resistance & its dependence
• Ohm's Law & its experimental verification
• Define electric current & potential difference with SI units

### Magnetic Effects of Current

• Properties of Magnetic Field Lines
• Fleming's Left-Hand Rule
• Magnetic field due to current-carrying circular loop & solenoid
• Draw a labelled diagram to show domestic electric circuit

## CHEMISTRY

### Chemical Reactions & Equations

• Combination, Decomposition, Displacement & Double Displacement Reactions (two examples each)
• Define Corrosion & Rancidity with preventions
• Balancing of Chemical Equations (New Book: Page No. 86 Q2, Page No. 958 Q6, 7 & 8; Old Book: Page No. 99 Q2, Page No. 108 & 109 Q6, 7 & 8)

## Metals & Non-Metals

• What are Amphoteric Oxides? Give two examples
• Define Minerals & Ores with examples and explain extraction of Metals
• What are Ionic Compounds? Write formation of NaCl & MgO and properties of Ionic Compounds
• Physical & Chemical properties of Metals & Non-Metals

## Acids, Bases & Salts

• Chemical properties of Acids (Reaction with Metal Carbonate, Metal Hydrogen Carbonate, Metal Oxide, Neutralisation Reaction)
• pH & its importance, Indicators (Universal Indicator)
• Idea about Baking Soda, Washing Soda, Hydrated Salt & Plaster of Paris (POP)

## Carbon & Its Compounds

• Explain the following reactions with examples: Combustion, Oxidation, Substitution, Addition reactions of carbon compounds
• Define Soap & Detergent with examples and explain mechanism of cleaning action of Soap
• Reactions of Ethanol: (a) With Sodium Metal (b) With Ethanoic Acid (Esterification) (c) Dehydration of Ethanol



# BIOLOGY

## Life Processes

• Define Nutrition & explain different modes of nutrition with examples
• (a) Explain Digestive System of Human Being with labelled diagram (b) Difference between Aerobic & Anaerobic Respiration
• Structure & Function of Nephron
• Explain Transport System in Plants

## Control & Coordination

• Define Reflex Action with examples & explain the role of Brain in Reflex Action
• Draw well-labelled diagram of Human Brain — main parts & their functions
• Difference between Exocrine & Endocrine glands
• Draw well-labelled diagram of Neuron & write function of each part

## How Do Organisms Reproduce

• Male & Female Reproductive System with labelled diagram

• Difference between Sexual & Asexual Reproduction
• What is Reproduction? Explain different modes of reproduction
• Sexual Reproduction in Flowering Plants

## Heredity

• Difference between Acquired & Inherited Traits
• Sex Determination in Human Beings
• Mendel's Experiment

## Our Environment

• What is Ecosystem? Explain its components (Food Chain, Food Web)
• How can we help to manage the garbage we produce?
• Ozone Layer & its Depletion
• What happens when we add waste to our environment?

## NUMERICAL QUESTIONS

• An electric bulb is connected to 220V generator. The current is 0.50A. What is the power of bulb?
• An electric iron of resistance 20Ω takes a current of 5A. Calculate the heat developed in 30 sec.
• 100J of heat are produced each second in 4Ω resistor. Find the potential difference.
• An electric refrigerator rated 400W operates 8 hours/day. What is the cost of energy to operate it for 30 days at Rs. 3.00 per kWh?
• An electric motor takes 5A current from a 220V supply line. Calculate the power of motor & electrical energy consumed by it in 2 hours.
• An electric iron consumes energy at the rate of 840W when heating is maximum & 360W when minimum. The voltage is 220V. Find current & resistance in each case.
• Find the power of concave lens of focal length 2m.
• Find the focal length of lens of power –2.0D. What type of lens is this?
• Magnification produced by plane mirror is +1. What does this mean?
• A doctor prescribed a corrective lens of power +1.5D. Find focal length of lens. Is it converging or diverging?
• Find the focal length of convex mirror whose radius of curvature is 32cm.
• An object of size 7cm is placed 27cm in front of concave mirror of focal length 18cm. Find position, size & nature of image formed.
• An object 5cm in length is placed at 20cm in front of convex mirror of radius of curvature 30cm. Find position, nature & size of image.
• An object 5cm in length is held 25cm away from converging lens of focal length 10cm. Draw ray diagram & find position, size & nature of image.
• An object 4cm in size is placed at 25cm in front of concave mirror of focal length 15cm. Find where screen should be placed for sharp image & find nature & size of image.