

MATH LOVE INSTITUTE

Annual Examination 2025-26

Class: VIII | Subject: Science (SET - 4)

Time: 3 Hours | Maximum Marks: 80

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Student Name:	_____
Roll Number:	_____
Date:	_____

General Instructions:

1. All questions are compulsory.
2. The question paper is divided into 5 sections: A, B, C, D, and E.
3. Section A: Multiple Choice Questions (1 mark each) – 15 marks
4. Section B: Fill in the Blanks / True-False (1 mark each) – 15 marks
5. Section C: Short Answer Questions (2 marks each) – 20 marks
6. Section D: Long Answer Questions (3 marks each) – 15 marks
7. Section E: Diagram Based / Case Based Questions (3 marks each) – 15 marks
8. Write neatly and legibly. Marks may be deducted for illegible handwriting.
9. Read each question carefully before attempting.

SECTION A – MULTIPLE CHOICE QUESTIONS (15 × 1 = 15 Marks)

- Q1.** The process of adding manure and fertilizers to the soil is called: **[1 Mark]**
- (a) Irrigation
 - (b) Tilling
 - (c) Manuring
 - (d) Harvesting
- Q2.** Which of the following diseases is caused by protozoa? **[1 Mark]**
- (a) Tuberculosis
 - (b) Malaria
 - (c) Typhoid
 - (d) Measles
- Q3.** PET (Polyethylene terephthalate) is used to make: **[1 Mark]**
- (a) Combs
 - (b) Bottles
 - (c) Electrical switches
 - (d) Furniture
- Q4.** Which metal is used in making thermometers? **[1 Mark]**
- (a) Silver
 - (b) Gold
 - (c) Mercury
 - (d) Copper
- Q5.** Petroleum is refined in: **[1 Mark]**
- (a) Power plant
 - (b) Refinery
 - (c) Factory
 - (d) Laboratory
- Q6.** The substance that does not burn with flame is: **[1 Mark]**
- (a) Kerosene
 - (b) Charcoal
 - (c) LPG
 - (d) Candle wax

- Q7.** Project Tiger was launched in India in: **[1 Mark]**
- (a) 1970
 - (b) 1973
 - (c) 1975
 - (d) 1980
- Q8.** The outermost covering of a cell is: **[1 Mark]**
- (a) Cytoplasm
 - (b) Nucleus
 - (c) Cell membrane
 - (d) Cell wall
- Q9.** The mode of reproduction in amoeba is: **[1 Mark]**
- (a) Budding
 - (b) Binary fission
 - (c) Fragmentation
 - (d) Spore formation
- Q10.** The release of ovum from the ovary is called: **[1 Mark]**
- (a) Fertilization
 - (b) Ovulation
 - (c) Menstruation
 - (d) Reproduction
- Q11.** Which type of friction is the maximum? **[1 Mark]**
- (a) Static friction
 - (b) Sliding friction
 - (c) Rolling friction
 - (d) All are equal
- Q12.** Atmospheric pressure is measured by: **[1 Mark]**
- (a) Thermometer
 - (b) Barometer
 - (c) Manometer
 - (d) Hygrometer

Q13. The frequency of sound is measured in: **[1 Mark]**

- (a) Decibel
- (b) Hertz
- (c) Newton
- (d) Meter

Q14. The device used to test whether an object is carrying electric charge or not is: **[1 Mark]**

- (a) Electroscope
- (b) Galvanometer
- (c) Ammeter
- (d) Voltmeter

Q15. The phenomenon of splitting of white light into seven colors is called: **[1 Mark]**

- (a) Refraction
- (b) Reflection
- (c) Dispersion
- (d) Diffraction

SECTION B – FILL IN THE BLANKS / TRUE-FALSE (15 × 1 = 15 Marks)
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Q16. The instrument used for sowing seeds is called _____. **[1 Mark]**

Q17. The process of converting milk into curd is called _____. **[1 Mark]**

Q18. True or False: Nylon was the first fully synthetic fiber. **[1 Mark]**

Q19. The process of coating iron with zinc is called _____. **[1 Mark]**

Q20. The least polluting fuel for vehicles is _____. **[1 Mark]**

Q21. The ignition temperature of paper is about _____ degree Celsius. **[1 Mark]**

Q22. True or False: Biosphere reserves help in conserving both wildlife and traditional tribal life. [1 Mark]

Q23. The thread-like structures in the nucleus are called _____. [1 Mark]

Q24. The process of fusion of male and female gametes is called _____. [1 Mark]

Q25. True or False: The endocrine glands release hormones directly into the blood. [1 Mark]

Q26. The force of attraction between all objects in the universe is called _____. [1 Mark]

Q27. A cyclone is known as _____ in American continents. [1 Mark]

Q28. The loudness of sound is measured in _____. [1 Mark]

Q29. True or False: An earthing wire transfers electric charge to the ground. [1 Mark]

Q30. The human eye can see objects when light _____ from them. [1 Mark]

SECTION C – SHORT ANSWER QUESTIONS (10 × 2 = 20 Marks)

Q31. What is irrigation? Name two modern methods of irrigation. [2 Marks]

Q32. Name two diseases caused by viruses and two caused by bacteria. [2 Marks]

Q33. Differentiate between thermoplastics and thermosetting plastics. [2 Marks]

Q34. What is the reactivity series? Name the most reactive and least reactive metals. [2 Marks]

Q35. What are petrochemicals? Give two examples of products made from them. [2 Marks]

Q36. Explain the different zones of a candle flame. **[2 Marks]**

Q37. What is meant by endemic species? Give two examples. **[2 Marks]**

Q38. What are genes? What is their function? **[2 Marks]**

Q39. Differentiate between viviparous and oviparous animals with examples. **[2 Marks]**

Q40. What is atmospheric pressure? How does it change with altitude? **[2 Marks]**

SECTION D – LONG ANSWER QUESTIONS (5 × 3 = 15 Marks)

Q41. Explain the role of microorganisms in agriculture. How do they help farmers? **[3 Marks]**

Q42. What is the difference between metals and non-metals? Explain with three points each. **[3 Marks]**

Q43. Describe the formation of petroleum with a diagram. Why is it called a fossil fuel? **[3 Marks]**

Q44. What are the advantages and disadvantages of friction? Explain with examples. **[3 Marks]**

Q45. Explain how we hear sound. Describe the structure of the human ear. **[3 Marks]**

SECTION E – DIAGRAM BASED / CASE BASED QUESTIONS (5 × 3 = 15 Marks)

Q46. Draw a neat labeled diagram showing the three zones of a candle flame. Which zone is the hottest and why? **[3 Marks]**

Q47. Case Study: Plastic Pollution**[3 Marks]**

A beach cleanup drive collected thousands of plastic bottles, bags, and straws. Scientists found that marine animals were dying after consuming plastic waste. Plastic takes hundreds of years to decompose and releases toxic chemicals when burned.

Answer the following:

- (i) Why is plastic harmful to marine life? (1 mark)
- (ii) What are the problems caused by plastic? (1 mark)
- (iii) Suggest two ways to reduce plastic pollution. (1 mark)

Q48. Case Study: Food Preservation**[3 Marks]**

Ramesh's mother preserves seasonal fruits and vegetables using different methods. She dries vegetables in the sun, stores pickles in oil and salt, keeps milk in the refrigerator, and uses vacuum-sealed packages for dry fruits.

Answer the following:

- (i) Why is food preservation necessary? (1 mark)
- (ii) Name three methods of food preservation mentioned. (1 mark)
- (iii) How does refrigeration help in food preservation? (1 mark)

Q49. Case Study: Earthquake Safety**[3 Marks]**

During a science class, the teacher explained earthquake safety measures. She said that during an earthquake, students should take shelter under strong tables, stay away from windows and heavy objects, and never use elevators.

Answer the following:

- (i) What causes earthquakes? (1 mark)
- (ii) What should you do during an earthquake if you are indoors? (1 mark)
- (iii) Why should we not use elevators during an earthquake? (1 mark)

Q50. Draw a neat labeled diagram of the human respiratory system.**[3 Marks]**

Name the organs involved and explain how breathing occurs.

ANSWER KEY – SECTION A (MCQs)

Q1. Answer: (c) Manuring

Explanation: Manuring is the process of adding manure (organic matter) and fertilizers (chemical substances) to the soil to increase its fertility and provide essential nutrients to plants for better growth.

1 mark for correct answer

Q2. Answer: (b) Malaria

Explanation: Malaria is caused by a protozoan called Plasmodium which is transmitted through the bite of female Anopheles mosquito. Tuberculosis and typhoid are bacterial diseases, while measles is a viral disease.

1 mark for correct answer

Q3. Answer: (b) Bottles

Explanation: PET (Polyethylene terephthalate) is a thermoplastic polymer used to make bottles, especially water bottles, soft drink bottles, and food packaging containers. It is recyclable and transparent.

1 mark for correct answer

Q4. Answer: (c) Mercury

Explanation: Mercury is used in thermometers because it is a liquid metal at room temperature, has uniform expansion with temperature, does not stick to glass, and is easily visible due to its shiny appearance.

1 mark for correct answer

Q5. Answer: (b) Refinery

Explanation: Petroleum is refined in a petroleum refinery where crude oil is separated into various useful products like petrol, diesel, kerosene, LPG, etc., through a process called fractional distillation.

1 mark for correct answer

Q6. Answer: (b) Charcoal

Explanation: Charcoal does not produce a flame when it burns because it does not vaporize. It undergoes glowing combustion. Substances that vaporize on burning produce flames (like kerosene, LPG, candle wax).

1 mark for correct answer

Q7. Answer: (b) 1973

Explanation: Project Tiger was launched in India in 1973 by the Government of India to protect the endangered Bengal tiger. It aimed to ensure a viable population of tigers in their natural habitats.

1 mark for correct answer

Q8. Answer: (c) Cell membrane

Explanation: The cell membrane is the outermost covering in animal cells. In plant cells, cell wall is the outermost layer and cell membrane is just inside it. The membrane controls what enters and exits the cell.

1 mark for correct answer

Q9. Answer: (b) Binary fission

Explanation: Amoeba reproduces asexually through binary fission where the parent cell divides into two equal daughter cells. Hydra reproduces by budding, while spirogyra reproduces by fragmentation.

1 mark for correct answer

Q10. Answer: (b) Ovulation

Explanation: Ovulation is the process of release of a mature ovum (egg) from the ovary. It occurs approximately once every 28 days in human females during the menstrual cycle.

1 mark for correct answer

Q11. Answer: (a) Static friction

Explanation: Static friction is the maximum among all types of friction. It acts when an object is at rest. Rolling friction is the minimum. Order: Static > Sliding > Rolling.

1 mark for correct answer

Q12. Answer: (b) Barometer

Explanation: A barometer is an instrument used to measure atmospheric pressure. It was invented by Torricelli. Changes in atmospheric pressure help predict weather changes.

1 mark for correct answer

Q13. Answer: (b) Hertz

Explanation: The frequency of sound is measured in Hertz (Hz). One Hertz means one vibration per second. Decibel (dB) measures loudness, not frequency.

1 mark for correct answer

Q14. Answer: (a) Electroscope

Explanation: An electroscope is a simple device used to detect the presence of electric charges on a body. It consists of a metal rod with two thin metal leaves at the bottom.

1 mark for correct answer

Q15. Answer: (c) Dispersion

Explanation: Dispersion is the phenomenon of splitting of white light into its seven constituent colors (VIBGYOR) when passed through a prism. This happens because different colors have different wavelengths.

1 mark for correct answer

ANSWER KEY – SECTION B (Fill in the Blanks / True-False)

Q16. Answer: Seed drill

Explanation: A seed drill is an agricultural tool used for sowing seeds uniformly at proper depth and distance. It was invented by Jethro Tull and saves time, labor, and seeds.

1 mark for correct answer

Q17. Answer: Fermentation

Explanation: Fermentation is the process where Lactobacillus bacteria convert milk into curd by converting lactose (milk sugar) into lactic acid. This process gives curd its sour taste.

1 mark for correct answer

Q18. Answer: True

Explanation: Nylon was the first fully synthetic fiber prepared in 1931 without using any natural raw material. It is made from coal, water, and air and is stronger than steel wire of the same thickness.

1 mark for correct answer

Q19. Answer: Galvanization

Explanation: Galvanization is the process of coating iron or steel with a protective layer of zinc to prevent rusting. Zinc is more reactive than iron and corrodes first, protecting the iron underneath.

1 mark for correct answer

Q20. Answer: CNG (Compressed Natural Gas)

Explanation: CNG is the least polluting fuel for vehicles. It produces less harmful gases compared to petrol and diesel. It is cheaper and cleaner, mainly consisting of methane.

1 mark for correct answer

Q21. Answer: 233°C (or approximately 230-240°C)

Explanation: The ignition temperature of paper is approximately 233°C (451°F). Ignition temperature is the minimum temperature at which a substance catches fire and starts burning.

1 mark for correct answer (accept range 230-250°C)

Q22. Answer: True

Explanation: Biosphere reserves are multi-purpose protected areas that conserve biodiversity, wildlife, and also help maintain the traditional lifestyle and culture of tribal people living in those areas.

1 mark for correct answer

Q23. Answer: Chromosomes

Explanation: Chromosomes are thread-like structures present in the nucleus that contain genes. They carry hereditary information from parents to offspring. Humans have 46 chromosomes (23 pairs).

1 mark for correct answer

Q24. Answer: Fertilization

Explanation: Fertilization is the process of fusion of male gamete (sperm) and female gamete (ovum/egg) to form a zygote. This is the first step in reproduction.

1 mark for correct answer

Q25. Answer: True

Explanation: Endocrine glands (like pituitary, thyroid, adrenal) are ductless glands that secrete hormones directly into the bloodstream. Exocrine glands release their secretions through ducts.

1 mark for correct answer

Q26. Answer: Gravitational force / Gravity

Explanation: Gravitational force is the force of attraction between all objects in the universe. It keeps planets in orbit around the sun and keeps us on the ground.

1 mark for correct answer

Q27. Answer: Hurricane

Explanation: A cyclone is called a hurricane in the American continents (Atlantic and Eastern Pacific), a typhoon in Japan and Philippines, and a cyclone in the Indian Ocean region.

1 mark for correct answer

Q28. Answer: Decibel (dB)

Explanation: The loudness or intensity of sound is measured in decibel (dB). Normal conversation is about 60 dB, while sound above 80 dB is considered harmful to ears.

1 mark for correct answer

Q29. Answer: True

Explanation: An earthing (or grounding) wire provides a safe path for electric current to flow into the ground in case of electric shock or leakage, preventing damage and injury.

1 mark for correct answer

Q30. Answer: Reflects

Explanation: We can see objects when light reflects (bounces back) from them and enters our eyes. We cannot see objects in complete darkness because there is no light to reflect.

1 mark for correct answer

ANSWER KEY – SECTION C (Short Answer Questions)

Q31. Answer: Irrigation and Modern Methods

Definition: Irrigation is the artificial application of water to agricultural land to supply water to crops for their proper growth.

Two Modern Methods of Irrigation:

1. Sprinkler System:

- Water is sprayed over crops like artificial rain through a system of pipes and sprinklers
- Suitable for uneven land, sandy soil, and areas with water scarcity
- Saves water and is useful for crops like wheat, gram, vegetables

2. Drip Irrigation:

- Water is delivered directly to the roots of plants drop by drop through a network of pipes
- Most efficient method, saves water (no wastage due to evaporation or runoff)
- Suitable for fruit plants, gardens, and areas with water shortage

Other traditional methods: Chain pump, moat (pulley system), rahat (lever system)

1 mark for definition, 1 mark for two modern methods (Total: 2 marks)

Q32. Answer: Viral and Bacterial Diseases

Diseases Caused by Viruses	Diseases Caused by Bacteria
1. Common Cold	1. Tuberculosis (TB)
2. Measles	2. Typhoid
3. Chickenpox	3. Cholera
4. Polio	4. Anthrax
5. Dengue	5. Tetanus
6. Influenza (Flu)	6. Food poisoning
7. COVID-19	7. Pneumonia

(Any two from each category are acceptable)

1 mark for viral diseases, 1 mark for bacterial diseases (Total: 2 marks)



Q33. Answer: Thermoplastics vs Thermosetting Plastics

Thermoplastics	Thermosetting Plastics
Can be softened by heating and reshaped multiple times	Cannot be softened by heating once molded
Become soft on heating and hard on cooling	Do not become soft on heating; may char or burn
Can be recycled and reused	Cannot be recycled
Less rigid and less heat resistant	More rigid and more heat resistant
Examples: Polythene, PVC, Polystyrene, Nylon	Examples: Bakelite, Melamine, Formica

Uses: Bags, bottles, toys, combs	Uses: Electrical switches, handles of utensils, floor tiles
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1 mark for differences, 1 mark for examples (Total: 2 marks)

Q34. Answer: Reactivity Series of Metals

Definition: The reactivity series is an arrangement of metals in the decreasing order of their reactivity. The most reactive metal is placed at the top and the least reactive at the bottom.

Reactivity Series (from most reactive to least reactive):

Potassium (K) > Sodium (Na) > Calcium (Ca) > Magnesium (Mg) > Aluminium (Al) > Zinc (Zn) > Iron (Fe) > Lead (Pb) > Copper (Cu) > Silver (Ag) > Gold (Au)

Most Reactive Metal: Potassium (K)

- Reacts violently with water and catches fire
- Must be stored in kerosene to prevent reaction with air and moisture

Least Reactive Metal: Gold (Au)

- Does not react with air, water, or acids
- Does not corrode or tarnish
- That's why gold ornaments remain shiny forever

Importance: The reactivity series helps predict how metals will react with oxygen, water, and acids. Metals above hydrogen in the series can displace hydrogen from acids.

1 mark for definition, 1 mark for most and least reactive metals (Total: 2 marks)

Q35. Answer: Petrochemicals and Products

Definition: Petrochemicals are chemicals obtained from petroleum (crude oil) and natural gas. They are used as raw materials for manufacturing various products.

Two Examples of Products Made from Petrochemicals:

1. Synthetic Fibers:

- Nylon, polyester, acrylic fibers are made from petrochemicals
- Used in making clothes, ropes, parachutes, toothbrush bristles

2. Plastics:

- Polythene, PVC, bakelite are made from petrochemicals
- Used in making bags, bottles, toys, electrical fittings, pipes

Other Products from Petrochemicals:

- Detergents and soaps
- Synthetic rubber for tires
- Paints and dyes
- Fertilizers and pesticides
- Medicines and drugs
- Cosmetics and perfumes
- Vaseline and wax

(Any two products are acceptable)

1 mark for definition, 1 mark for two examples (Total: 2 marks)

Q36. Answer: Zones of a Candle Flame

A candle flame has three distinct zones:

1. Innermost Zone (Dark Zone):

- Least hot zone near the wick
- Contains unburnt wax vapors
- Black in color due to incomplete combustion
- No oxygen reaches here, so combustion is incomplete

- If you hold a matchstick here, it won't catch fire

2. Middle Zone (Luminous Zone/Yellow Zone):

- Moderately hot zone
- Yellow or luminous because of partial combustion
- Contains partially burnt carbon particles that glow and emit light
- Provides most of the light from the flame
- Combustion is still incomplete here

3. Outer Zone (Non-luminous Zone/Blue Zone):

- Hottest part of the flame
- Blue in color (sometimes appears colorless)
- Complete combustion occurs here with sufficient oxygen supply
- No smoke or soot is produced
- If you hold a matchstick here, it catches fire immediately

Note: Goldsmiths use the outermost zone to melt gold because it is the hottest part.

2 marks for explaining all three zones clearly

Q37. Answer: Endemic Species

Definition: Endemic species are those species of plants and animals that are found exclusively in a particular geographical area and nowhere else in the world. They are native to that specific region.

Two Examples of Endemic Species:

1. Asiatic Lion:

- Found only in Gir Forest of Gujarat, India
- Once found across Asia, now endemic to this single location
- Protected in Gir National Park

2. Nilgiri Tahr:

- Found only in the Nilgiri Hills of Western Ghats in South India
- A type of mountain goat endemic to this region

Other Examples of Endemic Species in India:

- Lion-tailed Macaque (monkey found in Western Ghats)
- Kashmir Stag (Hangul) - found only in Kashmir
- Peacock (national bird, endemic to Indian subcontinent)
- One-horned Rhinoceros (Assam and Nepal)
- Pitcher plant (found in Meghalaya)

Importance: Endemic species need special protection because if they become extinct in their native region, they will be lost forever from the entire world.

(Any two examples are acceptable)

1 mark for definition, 1 mark for two examples (Total: 2 marks)

Q38. Answer: Genes and Their Function

What are Genes?

Genes are units of heredity that are transferred from parents to offspring. They are segments of DNA (Deoxyribonucleic Acid) located on chromosomes in the nucleus of cells. Each gene contains specific instructions for making proteins.

Functions of Genes:

- **Inheritance:** Genes carry hereditary information from parents to children. This is why children resemble their parents in various characteristics.
- **Determine Traits:** Genes determine physical characteristics like:
 - Height, weight, body structure
 - Eye color, hair color, skin color
 - Blood group
 - Shape of nose, ears, fingers
- **Protein Synthesis:** Genes contain instructions for making specific proteins. Proteins are essential for:
 - Growth and development
 - Functioning of organs

- Fighting diseases
- **Control Cell Activities:** Genes regulate how cells function, when to divide, and when to die.

Key Points:

- Humans have approximately 20,000-25,000 genes
- Genes are made of DNA
- Each parent contributes half of the genes to their child
- Genes can be dominant or recessive

1 mark for definition, 1 mark for functions (Total: 2 marks)

Q39. Answer: Viviparous vs Oviparous Animals

Viviparous Animals	Oviparous Animals
Give birth to live young ones	Lay eggs from which young ones hatch
Embryo develops inside the mother's body	Embryo develops outside the mother's body (in the egg)
Young ones are fed by mother's milk after birth	Young ones are independent or need parental care after hatching
Internal fertilization occurs	Can have internal or external fertilization
Produce fewer offspring	Usually produce many eggs
Young ones are well-developed at birth	Young ones may need time to develop after hatching
Examples: Humans, Dogs, Cats, Cows, Horses, Elephants, Whales, Dolphins	Examples: Birds (hen, crow, parrot), Reptiles (snake, lizard, crocodile), Amphibians (frog, toad), Fish, Insects (butterfly, mosquito)

Note: All mammals except platypus and echidna are viviparous. Platypus and echidna are exceptional mammals that lay eggs.

1 mark for differences, 1 mark for examples (Total: 2 marks)

Q40. Answer: Atmospheric Pressure and Altitude

What is Atmospheric Pressure?

Atmospheric pressure is the force exerted by the weight of air in the atmosphere on the Earth's surface and objects on it. It is also called air pressure or barometric pressure.

How Does Atmospheric Pressure Change with Altitude?

Relationship: Atmospheric pressure **decreases** as we go higher in altitude (move up from sea level to mountains).

Reasons:

- **Less Air Above:** At higher altitudes, there is less air above us, so the weight of air pressing down is less, resulting in lower pressure.
- **Air Density Decreases:** Air becomes thinner (less dense) at higher altitudes because air molecules are more spread out.
- **Gravitational Pull:** Most air molecules are concentrated near the Earth's surface due to gravity.

Effects of Low Pressure at High Altitudes:

- Breathing becomes difficult because oxygen is less available
- Water boils at lower temperature (below 100°C)
- Nose bleeding may occur
- Mountaineers carry oxygen cylinders

Measurement: Standard atmospheric pressure at sea level = 1 atmosphere = 101,325 Pa (Pascal) = 760 mm of Hg



1 mark for definition, 1 mark for explanation of change with altitude (Total: 2 marks)

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ANSWER KEY – SECTION D (Long Answer Questions)

Q41. Answer: Role of Microorganisms in Agriculture

Microorganisms play a crucial role in agriculture and help farmers in many ways:

1. Nitrogen Fixation:

- **Rhizobium bacteria** live in root nodules of leguminous plants (peas, beans, pulses, gram)
- They convert atmospheric nitrogen (N_2) into ammonia and nitrates that plants can use
- This natural process reduces the need for chemical nitrogen fertilizers
- Enriches soil with nitrogen naturally
- Farmers practice crop rotation with legumes to improve soil nitrogen

2. Decomposition and Nutrient Recycling:

- Decomposer bacteria and fungi break down dead plants, animals, and organic waste
- Convert complex organic matter into simple nutrients like nitrogen, phosphorus, potassium
- These nutrients are returned to the soil, making it fertile
- This natural process creates humus, improving soil structure and water retention
- Reduces dependence on chemical fertilizers

3. Preparation of Organic Manure:

- Microorganisms help in composting organic waste to make manure
- Vermicomposting uses earthworms and microbes to convert kitchen waste into rich compost
- This provides nutrients to plants and improves soil health

4. Biological Pest Control:

- Some bacteria like *Bacillus thuringiensis* (Bt) kill insect pests
- Reduces use of chemical pesticides
- Environmentally friendly and safe for crops

5. Increasing Soil Fertility:

- Blue-green algae (cyanobacteria) also fix atmospheric nitrogen
- Used in paddy fields to enrich soil

Benefits to Farmers:

- Saves money by reducing need for expensive chemical fertilizers
- Increases crop yield naturally
- Improves soil health for long-term productivity
- Promotes sustainable and organic farming
- Protects environment from harmful chemicals

3 marks for detailed explanation of roles and benefits



Q42. Answer: Difference Between Metals and Non-metals

S.No.	Metals	Non-metals
1	Lustre: Metals are lustrous (shiny). They can be polished to give a bright shine. Example: Gold, silver	Lustre: Non-metals are non-lustrous (dull). Exceptions: Iodine and graphite have lustre

2	Conductivity: Metals are good conductors of heat and electricity. Example: Copper is used in electrical wires	Conductivity: Non-metals are poor conductors of heat and electricity (insulators). Exception: Graphite conducts electricity
3	Malleability: Metals are malleable (can be beaten into thin sheets). Example: Aluminium foil	Malleability: Non-metals are non-malleable. They are brittle and break when hammered
4	Ductility: Metals are ductile (can be drawn into thin wires). Example: Copper wires	Ductility: Non-metals are non-ductile. They cannot be drawn into wires
5	State: Metals are generally solid at room temperature. Exception: Mercury is liquid	State: Non-metals exist in all three states - solid (sulphur), liquid (bromine), gas (oxygen, nitrogen)
6	Melting Point: Metals have high melting and boiling points. Exception: Sodium and potassium have low melting points	Melting Point: Non-metals have low melting and boiling points. Exception: Diamond and graphite have very high melting points
7	Sound: Metals are sonorous (produce ringing sound when struck). Used in making bells	Sound: Non-metals are non-sonorous (do not produce sound)
8	Density: Metals generally have high density (heavy). Exception: Sodium and potassium are light	Density: Non-metals have low density (light)
9	Hardness: Metals are generally hard. Exception: Sodium and potassium are soft	Hardness: Non-metals are generally soft. Exception:

		Diamond is the hardest known substance
10	Chemical Property: Metals form positive ions (cations) by losing electrons	Chemical Property: Non-metals form negative ions (anions) by gaining electrons

Examples:

- **Metals:** Iron, Copper, Aluminium, Gold, Silver, Zinc, Sodium, Potassium, Magnesium
- **Non-metals:** Carbon, Sulphur, Phosphorus, Oxygen, Nitrogen, Hydrogen, Chlorine, Bromine

(Any three points of difference are acceptable)

3 marks for three clear differences with examples

Q43. Answer: Formation of Petroleum and Why It's a Fossil Fuel

Formation of Petroleum:

Petroleum (also called crude oil) was formed from dead marine organisms (tiny plants and animals) that lived in seas millions of years ago. Here's how:

Step-by-Step Process:

1. **Death of Marine Organisms:** Millions of years ago, tiny marine plants and animals died and settled at the bottom of seas and oceans.
2. **Burial Under Sediments:** Over time, these dead organisms got buried under layers of sand, clay, and sediments carried by rivers.
3. **Absence of Oxygen:** Deep under the sea bed, there was no oxygen. This prevented the decomposition of organic matter.
4. **High Pressure and Temperature:** More and more layers accumulated over millions of years. The weight of these layers created tremendous pressure and temperature.

5. **Chemical Transformation:** Under these conditions of high pressure and temperature (but no air), the organic matter slowly transformed into petroleum and natural gas over millions of years.
6. **Formation of Oil Wells:** Petroleum got trapped between layers of rocks. We drill oil wells to extract it.

[Diagram Expected - showing layers:]

Diagram Instructions: Draw a cross-section showing:

- Top layer: Modern sea with ships
- Second layer: Sedimentary rocks (labeled)
- Third layer: Dead marine organisms buried
- Fourth layer: Petroleum trapped between rock layers (show as dark liquid)
- Fifth layer: Natural gas above petroleum
- Show an oil well drilling down to petroleum
- Label all layers clearly
- Show arrows indicating millions of years of time

Why Petroleum is Called a Fossil Fuel:

- **Formed from Fossils:** Petroleum is called a fossil fuel because it is formed from the remains (fossils) of dead plants and animals that lived millions of years ago.
- **Takes Millions of Years:** It takes millions of years to form petroleum. The organic matter that is getting buried today will become petroleum after millions of years.
- **Non-renewable:** Since it takes such a long time to form, petroleum is a non-renewable resource. Once used up, it cannot be replenished in our lifetime.
- **Other Fossil Fuels:** Coal (formed from plants) and natural gas (formed from marine organisms) are also fossil fuels.

Products Obtained from Petroleum: Petrol, Diesel, Kerosene, LPG, Lubricating oil, Paraffin wax, Petroleum jelly, Asphalt, etc.

Conservation: We must use petroleum judiciously as it is limited and cannot be renewed quickly.

1.5 marks for formation process with diagram, 1.5 marks for explaining why it's a fossil fuel (Total: 3 marks)



Q44. Answer: Advantages and Disadvantages of Friction

ADVANTAGES OF FRICTION:

1. Enables Walking:

- Friction between our shoes and the ground allows us to walk without slipping
- Without friction, we would slip and fall like walking on ice
- Example: We sprinkle sand on icy roads to increase friction

2. Helps Vehicles Move and Stop:

- Friction between tires and road helps vehicles move forward
- Brakes use friction to stop vehicles
- Without friction, cars couldn't start, move, or stop

3. Writing and Drawing:

- Friction between pen/pencil and paper allows us to write
- Chalk sticks to blackboard due to friction

4. Holding Objects:

- We can hold objects because of friction between our hands and the object
- Without friction, everything would slip from our hands

5. Lighting Matchsticks:

- Friction between matchstick and matchbox produces heat to light the match

6. Making Fire:

- Ancient humans produced fire by rubbing stones (friction produces heat)

7. Other Uses:

- Nails and screws stay in place due to friction
- Climbing trees and ropes is possible due to friction
- Sandpaper uses friction for polishing

DISADVANTAGES OF FRICTION:

1. Causes Wear and Tear:

- Friction causes parts of machines to wear out
- Shoes, tires, and soles wear out due to friction
- This leads to frequent replacement and maintenance costs
- Example: Tire treads wear out over time

2. Produces Heat and Energy Loss:

- Friction converts useful energy into heat energy
- This is a wastage of energy
- Machine parts can overheat and get damaged
- Example: Engine becomes hot due to friction between moving parts

3. Reduces Speed and Efficiency:

- Friction opposes motion, requiring more force and fuel to overcome it
- Reduces efficiency of machines
- Vehicles consume more fuel to overcome friction

4. Makes Movement Difficult:

- It's difficult to move heavy objects due to friction
- More energy is needed to push or pull objects

5. Produces Noise:

- Friction between moving parts produces unwanted noise
- Example: Squeaking of unlubricated door hinges

How to Reduce Friction When Needed:

- Use lubricants (oil, grease) on machine parts
- Use ball bearings (convert sliding friction to rolling friction)
- Streamline shapes of vehicles (to reduce air friction)

- Polish surfaces to make them smooth
- Use wheels and rollers

Conclusion: Friction is both useful and harmful. We need to increase friction in some cases (shoes, brakes) and reduce it in others (machinery).

*1.5 marks for advantages with examples, 1.5 marks for disadvantages with examples
(Total: 3 marks)*



Q45. Answer: How We Hear Sound - Structure of Human Ear

Structure of the Human Ear:

The human ear is divided into three main parts:

1. Outer Ear:

- **Pinna (Auricle):** The visible outer part that collects sound waves from the surroundings
- **Ear Canal (Auditory Canal):** A tube that carries sound waves to the eardrum

2. Middle Ear:

- **Eardrum (Tympanic Membrane):** A thin membrane that vibrates when sound waves hit it
- **Three Small Bones (Ossicles):**
 - Hammer (Malleus)
 - Anvil (Incus)
 - Stirrup (Stapes) - smallest bone in human body
- These bones amplify (increase) the vibrations
- **Eustachian Tube:** Connects middle ear to throat, maintains air pressure

3. Inner Ear:

- **Cochlea:** Spiral-shaped tube filled with liquid, contains thousands of tiny hair cells (nerve endings)

- **Auditory Nerve:** Carries electrical signals to the brain
- **Semicircular Canals:** Maintain body balance (not involved in hearing)

[Neat Labeled Diagram Expected]

Diagram Instructions: Draw a side view of the ear showing all parts clearly labeled:

- Pinna (outer ear flap)
- Ear canal
- Eardrum
- Three bones (hammer, anvil, stirrup)
- Cochlea (spiral shape)
- Auditory nerve going to brain
- Semicircular canals
- Eustachian tube

Divide the diagram into Outer Ear, Middle Ear, and Inner Ear sections.

How We Hear Sound - The Process:

1. **Sound Collection:** The pinna (outer ear) collects sound waves from the environment and directs them into the ear canal.
2. **Travel Through Ear Canal:** Sound waves travel through the ear canal and reach the eardrum.
3. **Eardrum Vibration:** Sound waves make the eardrum vibrate. Loud sounds cause more vibration; soft sounds cause less.
4. **Amplification by Bones:** The vibrations from the eardrum are passed to the three tiny bones in the middle ear (hammer → anvil → stirrup). These bones amplify (make stronger) the vibrations.
5. **Vibrations Enter Inner Ear:** The stirrup bone sends vibrations to the cochlea in the inner ear.
6. **Conversion to Electrical Signals:** Inside the cochlea, the vibrations move the liquid, which bends tiny hair cells. These hair cells convert mechanical vibrations into electrical nerve signals.

7. **Signal to Brain:** The auditory nerve carries these electrical signals from the cochlea to the brain.

8. **Brain Interprets:** The brain interprets these signals as sound, allowing us to recognize different sounds, voices, and music.

Care of Ears:

- Never insert sharp objects into ears
- Avoid very loud sounds
- Keep ears clean but don't remove all earwax (it protects ears)
- Visit doctor if you have ear pain or hearing problems

1.5 marks for labeled diagram, 1.5 marks for explanation of hearing process (Total: 3 marks)

ANSWER KEY – SECTION E (Diagram Based / Case Based Questions)

Q46. Answer: Diagram of Candle Flame Zones

[Neat Labeled Diagram Expected]

Diagram Instructions: Draw a candle with flame showing three distinct zones:

- Draw a candle with wick in center
- **Innermost Zone (Zone 1):** Dark zone near wick - color it black/dark, label as "Dark Zone / Innermost Zone"
- **Middle Zone (Zone 2):** Yellow/luminous zone - color it yellow, label as "Yellow Zone / Middle Zone / Luminous Zone"
- **Outer Zone (Zone 3):** Blue/non-luminous zone - color it blue at edges, label as "Blue Zone / Outer Zone / Non-luminous Zone"
- Mark "Hottest" pointing to the blue outer zone
- Mark "Least Hot" pointing to the dark inner zone
- Show the wick clearly in center

Description of Three Zones:

Zone	Color	Temperature	Combustion Type
Innermost (Dark Zone)	Black/Dark	Least hot	No combustion - unburnt wax vapors

Middle (Yellow/Luminous Zone)	Yellow/Bright	Moderately hot	Partial combustion - glowing carbon particles
Outer (Blue/Non- luminous Zone)	Blue (faint)	Hottest	Complete combustion - sufficient oxygen

Which Zone is the Hottest and Why?

The **outer zone (blue zone)** is the hottest part of the flame.

Reasons:

- **Complete Combustion:** In the outer zone, there is plenty of oxygen available from the surrounding air. This allows complete combustion of wax vapors.
- **Maximum Energy Release:** Complete combustion releases the maximum amount of heat energy. All the fuel burns completely, producing the highest temperature.
- **No Unburnt Particles:** There are no unburnt carbon particles, so all energy goes into heat rather than producing light or soot.
- **Direct Contact with Oxygen:** This zone has direct and continuous contact with atmospheric oxygen.

Practical Use: Goldsmiths use the outer blue zone of the flame to melt gold and other metals because it is the hottest part. If you place a wire or matchstick in this zone, it will catch fire immediately.

Comparison:

- Innermost zone: Least hot (no oxygen, no combustion)
- Middle zone: Moderately hot (partial combustion, some oxygen)
- Outer zone: Hottest (complete combustion, plenty of oxygen)

1.5 marks for neat labeled diagram showing all three zones, 1.5 marks for explaining which is hottest and why (Total: 3 marks)

Q47. Answer: Case Study – Plastic Pollution

(i) Why is plastic harmful to marine life? (1 mark)

Plastic is harmful to marine life because:

- **Ingestion:** Marine animals like turtles, fish, whales, and dolphins mistake plastic bags and pieces for food (like jellyfish) and eat them
- **Cannot Digest:** Plastic cannot be digested and stays in their stomach, blocking the digestive system
- **Starvation:** This makes them feel full, so they stop eating real food and eventually die of starvation
- **Choking:** Plastic can choke marine animals or block their breathing passages
- **Entanglement:** Animals get entangled in plastic fishing nets and bags, unable to swim or breathe
- **Toxic Chemicals:** Plastic releases harmful chemicals that poison marine life

(ii) What are the problems caused by plastic? (1 mark)

- **Non-biodegradable:** Takes hundreds of years to decompose (500+ years for some plastics)
- **Soil Pollution:** Plastic in soil prevents water absorption and makes soil infertile
- **Water Pollution:** Plastic waste pollutes rivers, lakes, and oceans
- **Harmful to Animals:** Land and marine animals die after consuming plastic
- **Clogging Drains:** Plastic bags clog drainage systems causing floods
- **Toxic Fumes:** Burning plastic releases poisonous gases causing air pollution and health problems
- **Microplastics:** Breaks into tiny pieces that enter food chain and reach humans
- **Waste Management Problem:** Huge amounts of plastic waste are difficult to dispose of

(Any relevant problems mentioned in case study or general knowledge are acceptable)

(iii) Suggest two ways to reduce plastic pollution: (1 mark)

- **Reduce Plastic Use:** Use reusable cloth bags instead of plastic bags for shopping. Say "no" to single-use plastics like straws, plates, cups.
- **Recycle Plastic:** Collect and recycle plastic waste. Many plastics can be recycled and made into new products.
- **Use Alternatives:** Use paper bags, jute bags, steel bottles, bamboo products instead of plastic.
- **Proper Disposal:** Dispose of plastic waste properly in designated bins, never throw in water bodies or streets.
- **Awareness:** Educate people about harmful effects of plastic and organize cleanup drives.
- **Government Bans:** Support bans on single-use plastics and use biodegradable alternatives.
- **Segregate Waste:** Separate plastic waste for recycling at source.

(Any two ways are acceptable)

1 mark for each correctly answered sub-question (Total: 3 marks)

Q48. Answer: Case Study – Food Preservation

(i) Why is food preservation necessary? (1 mark)

Food preservation is necessary for the following reasons:

- **Prevent Spoilage:** Food gets spoiled by microorganisms (bacteria, fungi, yeast). Preservation prevents their growth and keeps food fresh for longer time.
- **Prevent Wastage:** Without preservation, excess food produced in one season would get wasted. Preservation allows storage for future use.

- **Year-Round Availability:** Many fruits and vegetables are seasonal. Preservation makes them available throughout the year.
- **Transportation:** Preserved food can be transported over long distances without getting spoiled.
- **Food Security:** Helps maintain food supply during famines, disasters, or emergencies.
- **Nutrition Retention:** Proper preservation maintains nutritional value of food.
- **Economic Benefits:** Farmers can sell preserved seasonal produce at better prices later.

(ii) Name three methods of food preservation mentioned: (1 mark)

Three methods mentioned in the case study are:

1. **Drying (Sun-drying):** Ramesh's mother dries vegetables in the sun
2. **Preservation by Salt and Oil:** She stores pickles in oil and salt
3. **Refrigeration:** She keeps milk in the refrigerator

Additional method mentioned:

- **Vacuum Packing:** Uses vacuum-sealed packages for dry fruits

(iii) How does refrigeration help in food preservation? (1 mark)

Refrigeration helps in food preservation by:

- **Low Temperature:** Refrigerators maintain low temperature (typically 0-5°C)
- **Slows Down Bacterial Growth:** At low temperatures, bacteria and other microorganisms grow very slowly or become inactive. They cannot multiply rapidly.
- **Slows Chemical Reactions:** Low temperature slows down chemical reactions that cause food to spoil, like oxidation and enzyme activity.
- **Preserves Moisture:** Prevents food from drying out while keeping it fresh.
- **Short-term Preservation:** Keeps food fresh for several days to weeks (not permanent like freezing).

Note: Freezing (at -18°C or below) completely stops bacterial growth and preserves food for months.

Other Preservation Methods:

- Pasteurization (heating and cooling)
- Adding chemical preservatives (sodium benzoate)
- Boiling and sealing (jams, jellies)
- Smoking (fish, meat)
- Canning

1 mark for each correctly answered sub-question (Total: 3 marks)

Q49. Answer: Case Study – Earthquake Safety

(i) What causes earthquakes? (1 mark)

Earthquakes are caused by:

- **Movement of Tectonic Plates:** Earth's outer layer (crust) is made of large pieces called tectonic plates. These plates are constantly moving very slowly.
- **Plate Boundaries:** At the boundaries where plates meet, they can:
 - Move apart (divergent boundary)
 - Collide with each other (convergent boundary)
 - Slide past each other (transform boundary)
- **Stress and Energy Build-up:** As plates move, stress builds up at their edges. The rocks bend and store energy.
- **Sudden Release:** When the stress becomes too great, rocks suddenly break or slip, releasing stored energy in the form of seismic waves (vibrations).
- **Seismic Waves:** These vibrations travel through Earth's surface, causing the ground to shake - this is an earthquake.

Other Causes:

- Volcanic eruptions
- Human activities like mining, dam construction (though these cause minor tremors)

(ii) What should you do during an earthquake if you are indoors? (1 mark)

Safety Measures During Earthquake (Indoors):

- **Drop, Cover, Hold:**
 - **DROP** to the ground immediately
 - **COVER** yourself by getting under a strong table or desk
 - **HOLD** onto the furniture until shaking stops
- **Stay Away From:**
 - Windows (glass can shatter)
 - Heavy furniture, cupboards, bookshelves (can fall)
 - Hanging objects like ceiling fans, lights
 - Walls (building can collapse)
- **Do NOT:**
 - Run outside during shaking (falling debris can hurt you)
 - Use elevators (can get stuck or fall)
 - Stand in doorways (not as safe as table)
 - Panic or push others
- **Protect Your Head:** Cover your head and neck with your arms or use a pillow/book
- **Stay Inside:** Stay where you are until shaking completely stops
- **After Earthquake Stops:** Move to open ground carefully, away from buildings

(iii) Why should we not use elevators during an earthquake? (1 mark)

We should NOT use elevators during an earthquake because:

- **Power Failure:** Earthquakes often cause power cuts. If electricity goes off, the elevator will stop working and you'll be trapped inside.
- **Structural Damage:** The earthquake can damage the elevator shaft, cables, or mechanism, causing the elevator to malfunction or fall.

- **Risk of Falling:** The elevator could suddenly drop or fall if the cables break due to shaking.
- **Getting Trapped:** The elevator doors might not open if there's a power failure or if the building structure shifts, trapping people inside.
- **Delayed Rescue:** If trapped in an elevator during disaster, rescue can take very long as rescue teams prioritize those in immediate danger.
- **No Escape Route:** Unlike stairways, there's no alternative way out of an elevator.

Correct Action: Always use stairs during earthquakes, fires, or any emergency evacuation.

Additional Earthquake Safety Tips:

- Have an emergency kit ready (water, food, first aid, flashlight, radio)
- Know safe spots in your home/school
- Practice earthquake drills
- Turn off gas and electricity if possible after earthquake

1 mark for each correctly answered sub-question (Total: 3 marks)

Q50. Answer: Human Respiratory System Diagram

[Neat Labeled Diagram Expected]

Diagram Instructions: Draw the respiratory system showing:

- **Nose/Nostrils:** Entry point for air
- **Nasal Cavity:** Space behind nose
- **Pharynx:** Common passage for air and food
- **Larynx (Voice Box):** Contains vocal cords
- **Trachea (Windpipe):** Tube carrying air to lungs
- **Bronchi:** Two tubes branching from trachea (left and right)
- **Bronchioles:** Smaller branches of bronchi
- **Lungs:** Two lungs (left and right) in chest cavity

- **Alveoli:** Tiny air sacs in lungs (show magnified view)
- **Diaphragm:** Dome-shaped muscle below lungs
- **Ribs:** Protect the lungs

Label all parts clearly with neat lines.

Organs Involved in Respiration:

1. **Nose:** Air enters through nostrils. Hair and mucus filter dust and germs.
2. **Pharynx:** Common passage for air (to lungs) and food (to stomach).
3. **Larynx:** Voice box containing vocal cords that produce sound.
4. **Trachea (Windpipe):** Tube that carries air from throat to lungs. Supported by C-shaped rings of cartilage to prevent collapse.
5. **Bronchi:** Trachea divides into two bronchi - one going to left lung, one to right lung.
6. **Bronchioles:** Bronchi divide into smaller and smaller tubes called bronchioles.
7. **Alveoli:** Tiny balloon-like air sacs at the end of bronchioles. Each lung has millions of alveoli. This is where gas exchange occurs.
8. **Lungs:** Main respiratory organs. Right lung has 3 lobes, left lung has 2 lobes (to make space for heart).
9. **Diaphragm:** Dome-shaped muscular sheet below lungs. Main muscle responsible for breathing.
10. **Ribs and Rib Muscles:** Protect lungs and help in breathing movements.

How Breathing Occurs:

INHALATION (Breathing In):

1. **Diaphragm Contracts:** Diaphragm moves downward and flattens
2. **Ribs Move Up and Out:** Rib muscles contract, lifting ribs upward and outward
3. **Chest Cavity Expands:** This increases the space inside chest cavity
4. **Lungs Expand:** Lungs expand to fill the increased space

5. **Air Pressure Decreases:** Pressure inside lungs becomes less than atmospheric pressure
6. **Air Rushes In:** Air from outside rushes into lungs through nose → trachea → bronchi → bronchioles → alveoli

EXHALATION (Breathing Out):

1. **Diaphragm Relaxes:** Diaphragm moves upward and becomes dome-shaped again
2. **Ribs Move Down and In:** Rib muscles relax, ribs move downward and inward
3. **Chest Cavity Decreases:** Space inside chest cavity reduces
4. **Lungs Compress:** Lungs get compressed
5. **Air Pressure Increases:** Pressure inside lungs becomes more than atmospheric pressure
6. **Air Rushes Out:** Air is pushed out of lungs through the same path (alveoli → bronchioles → bronchi → trachea → nose)

Gas Exchange in Alveoli:

- Alveoli are surrounded by blood capillaries
- **Oxygen (O₂):** Moves from alveoli into blood (goes to all body cells)
- **Carbon dioxide (CO₂):** Moves from blood into alveoli (exhaled out)
- This exchange occurs through diffusion

Breathing Rate:

- Normal breathing rate: 15-18 times per minute at rest
- Increases during exercise (body needs more oxygen)
- We breathe about 20,000 times a day!

Care of Respiratory System:

- Breathe clean air, avoid pollution and smoking
- Exercise regularly to strengthen lungs
- Practice deep breathing exercises
- Cover nose and mouth when coughing/sneezing

1.5 marks for neat labeled diagram, 1.5 marks for naming organs and explaining breathing (Total: 3 marks)

Marking Summary

Section	Question Type	Total Marks
Section A	Multiple Choice Questions (15 × 1)	15 marks
Section B	Fill in the Blanks / True-False (15 × 1)	15 marks
Section C	Short Answer Questions (10 × 2)	20 marks
Section D	Long Answer Questions (5 × 3)	15 marks
Section E	Diagram Based / Case Based Questions (5 × 3)	15 marks
TOTAL		80 marks

END OF ANSWER KEY – SET 4

Total Marks: 80

This is a comprehensive solved practice paper for Class 8 Science Annual Examination (Set 4).

Most Expected Questions for 2025-26 Exams

Complete Coverage: Crop Production | Microorganisms | Synthetic Fibres | Metals | Petroleum | Combustion | Conservation | Cell Biology | Reproduction | Adolescence |

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This paper (Set 4) is specially designed with most expected questions for Class 8 Science Annual Examination 2025-26. Complete NCERT syllabus coverage including all important topics: Crop Production & Management | Microorganisms: Friend & Foe | Synthetic Fibres & Plastics | Metals & Non-Metals | Coal & Petroleum | Combustion & Flame | Conservation of Plants & Animals | Cell Structure & Functions | Reproduction in Animals | Reaching the Age of Adolescence | Force & Pressure | Friction | Sound | Chemical Effects of Electric Current | Some Natural Phenomena | Light | Stars & Solar System | Pollution of Air & Water | This set includes high-weightage questions, case studies, diagram-based questions, and practical applications | Suitable for Periodic Tests, Half Yearly Exams, and Annual Examinations | Perfect practice material for CBSE Board, MP Board, CG Board, and School Exams | Expertly solved with detailed explanations and marking schemes | Score 100% with regular practice

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