

Key to

General

6

Science

REVISED EDITION



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1. Food and its Sources

- A. 1. all of these 2. potato 3. all of these
4. honeybee 5. clove 6. mushroom
- B. 1. ingredients 2. roots 3. apiculture
4. decomposers 5. parasites 6. edible
7. flowers
- C. 1. True 2. True 3. True
4. True 5. False 6. True
7. True
- D. 1. tiger, lion, wolf
2. stem, root, flower, leaf
3. boiled rice, lassi
4. radish, carrot
5. hen, turkey
- E. 1. We eat food to obtain energy to perform various tasks and protect our body against diseases.
2. Green plants are called producers as they are able to make their own food.
3. Decomposers break down the bodies of dead animals and plants into simpler substances from which they were formed.
4. Potato – stem, Radish – root, Apple – fruit.
5. Parasites are organisms that live on or inside the body of another organism to obtain their food. Two parasites are flea and leech.

Hints for HOTS

1. Energy is required throughout the day for performing various activities.
2. Clean environment, materials returned to soil, remove rotten matter
3. Parasitic plants, microorganisms, nutrients from soil, carnivorous plants

2. Components of Food

- A. 1. fat 2. roughage 3. starch in food
4. vitamin D 5. carbohydrates and fats
6. iodine 7. malnutrition
- B. 1. Vitamins 2. carbohydrates, fats
3. insulator 4. vitamins 5. K
6. iodine 7. 65%

- C. 1. False 2. True 3. True
 4. True 5. True 6. False
 7. True
- D. 1. Honey, sugar
 2. Butter, ghee
 3. Marasmus, kwashiorkor
 4. Roughage
 5. Pulses, soybeans, milk
 6. Orange, amla, lemon
 7. Night blindness
- E. 1. Nutrients are components of food that give us energy and help in growth and development of the body. The various nutrients are – carbohydrates, fats, proteins, vitamins, and minerals.
 2. The factors that decide a balanced diet for an individual are:
 a) age b) sex c) health condition d) type of work done

3. Water-soluble vitamins	Fat-soluble vitamins
• These dissolve in water. • These are not stored inside the body. • These are needed continuously by the body.	• These do not dissolve in water. • These are stored inside the body. • These are not needed by the body all the time.

4. Roughage is the component of food that our body cannot digest. It is also called dietary fibre. It is essential for effective bowel movement. It adds bulk to the food and retains water in the body.
5. Fats are energy-giving foods. They provide a larger amount of energy than carbohydrates. They act as insulator helping us to maintain the correct body temperature. They protect our body parts from damage.
6. Simple carbohydrates provide us instant energy. Complex carbohydrates are converted into simple carbohydrates but have higher nutritional value than simple carbohydrates.
- F. 1. Athletes require large amount of energy quickly. Glucose is a simple carbohydrate that provides instant energy. Thus, athletes drink glucose.
2. Water is essential for almost all our life processes. It also helps in regulating the temperature of the body and excretion of waste materials.
3. Proteins are required for the building up of cells and tissues of various organs of the body. The bodies of young children are

in a state of development and hence, require more proteins than adults.

4. The nutrients present in food are lost if it is not cooked properly. Deep frying, overheating and over-boiling also add useless calories to food. Thus, food needs to be cooked properly.
5. Vitamins and minerals are required for protection of body from diseases. These nutrients also help in proper functioning of the various organs of the body.

Hints for HOTS

1. Water is essential for all body processes.
2. Roughage intake should be increased as it adds bulk to the food.
3. Calcium strengthens bones and teeth.
4. Sunlight helps in formation of calcium.
5. Yes, it causes harm in form of hyper-vitaminosis, food poisoning, obesity.

3. Separation of Substances

- | | |
|---------------------------|-----------------|
| A. 1. magnetic separation | 2. decantation |
| 3. a homogeneous mixture | 4. winnowing |
| 5. handpicking | 6. all of these |
| 7. evaporation | |
- | | | |
|-------------------|------------------------|--------------|
| B. 1. homogeneous | 2. solvent | 3. winnowing |
| 4. sieve | 5. magnetic separation | |
| 6. heterogeneous | 7. components | 8. increases |
- | | | |
|-------------|----------|----------|
| C. 1. False | 2. False | 3. True |
| 4. True | 5. True | 6. False |
| 7. False | 8. True | |
- D. 1. soil, muddy water
2. The solubility increases
3. Residue
4. Evaporation and condensation
5. Distillation
6. Water and kerosene
- E. 1. The method of separation depends on:
- a) the type of mixture.
- b) the properties of components of the mixture.
- c) the component of the mixture to be retained.
2. Sieving is used to separate components of mixture that are of different sizes using a sieve.

3. Handpicking is used when the components of a mixture:
 - a) are mixed in small quantities.
 - b) can be easily picked by hands.
 - c) have different sizes, shapes and colours.
 4. A solution in which the maximum amount of solute has been dissolved at a particular temperature is called a saturated solution.
 5. Water is called a universal solvent as it can dissolve almost all substances in it.
- G. 1. Filter paper 2. Residue 3. Funnel
 4. Beaker 5. Filtrate 6. Stand

Hints for HOTS

1. The size of sugar particles becomes very small in solution.
2. Some substances dissolve in water while others do not.
3. The size of holes of sieve is important.
4. Water can dissolve many substances in it.

4. Fibre to Fabric

- A. 1. coir 2. jute 3. alluvial soil
 4. ginning 5. cotton, jute and wool
 6. boiling 7. crude oil
- B. 1. fibre 2. Wool 3. Coir
 4. Hand loom 5. rainy 6. natural
- C. 1. True 2. False 3. True
 4. True 5. False
- D. 1. Cotton boll
 2. Black soil
 3. Natural – silk, wool; Synthetic – rayon, nylon
 4. Ropes, curtains, carpets
 5. Takli, charkha
- E. 1. Early men covered their bodies with the skin or fur of animals, bark and big leaves of trees. Humans learnt to twist grass and vines, and animal fleece into long strands and weave them into fabrics.
 2. Natural fibres are obtained from:
 - a) Plants – cotton, jute
 - b) Animals – wool, silk
3. Coir is thick and coarse. It is used for making coir foam mattresses and ropes.

4. Weaving is the process of making fabric by interlacing two sets of yarns at right angles. Weaving of fabric is done on machines called looms. Knitting is the process of making fabric by forming a series of connected loops of yarn. Knitting is done by hands and also by machines.

5. Natural fibres	Synthetic fibres
• These are obtained from plants or animals. • These allow air to pass through them. • These are expensive. • These absorb large amount of water.	• These are produced from natural raw materials or chemicals. • These do not allow air to pass through them. • These are less expensive. • These do not absorb water.

Hints for HOTS

1. Shirts and sarees must be made of a soft material.
2. Killing of animals for commercial gain is not considered right.

5. Sorting Materials into Groups

- A. 1. translucent 2. iron 3. wood
 4. opaque 5. a metal ring 6. kerosene
 7. solids only
- B. 1. translucent 2. classification 3. floats
 4. Electrical conductivity 5. Texture
 6. insoluble 7. air, moisture
- C. 1. False 2. False 3. False
 4. True 5. False 6. True
- D. 1. Sponge, wool
 2. Silver, copper
 3. Iron, aluminium
 4. Butter paper, frosted glass
 5. Water and vinegar
- E. 1. The materials which allow electric current or heat to pass through them are called conductors, e.g., silver, copper, gold and iron.
 The materials which do not allow electric current or heat to pass through them are called insulators, e.g., wood, plastic, rubber, and cork.
2. Solids have a definite shape and volume. Their particles are packed very tightly.

Liquids do not have a definite shape but have definite volume. Liquids take the shape of the container they are stored in. Their particles are not as closely packed as solids.

3. Liquids that dissolve completely in each other are called miscible liquids, e.g., vinegar and water.

Liquids that do not dissolve completely in each other are called immiscible liquids, e.g., kerosene and water.

4. Substances that have a shiny appearance and can be polished are called lustrous substances e.g., silver, gold, copper, aluminium, etc.

Substances that do not have a shiny appearance are called non-lustrous substances e.g., plastic, wood, paper, cotton, sponge, wax, etc.

5. Materials that allow all the light falling on them to pass through them are called transparent materials. We can see clearly through transparent materials.

Materials that do not allow light to pass through them and block it are called opaque materials. We cannot see on the other side through opaque materials.

- F. 1. Properties of a material are the special features of the material which distinguish it from other materials. Some properties of materials are – texture, lustre and hardness.

2. Lustre is the natural shine on a material. Two lustrous materials are – silver and gold.

3. Materials can be classified as hard or soft on the basis of their hardness. Materials that can be compressed easily are called soft materials e.g., sponge and clay. Materials that cannot be compressed easily are called hard materials e.g., glass and metal.

4. Materials become dull after some time due to exposure to air and moisture for a long time. These substances decrease the lustre of the material.

5. The property of a material to float or sink in water is called flotation. A material floats on water if it is lighter than water or its structure makes it lighter than water.

Hints for HOTS

1. Very thin wires of gold and silver are needed for making jewellery.
2. Objects lighter than water float on it.
3. Plastic is an insulator of electric current.

6. Changes Around Us

- A. 1. rotting of bread 2. mostly irreversible
3. condensation 4. drying of clothes
- B. 1. desirable 2. irreversible 3. physical
4. Rusting 5. chemical 6. mercury
- C. 1. True 2. True 3. True
4. True 5. False 6. False
- D. 1. Evaporation of water, curdling of milk
2. Melting of wax, melting of ice
3. Curdling of milk, growth of plants
4. Growth in living beings, breaking of glass
- E. 1. Changes around us can be classified as:
a) Desirable and undesirable changes
b) Reversible and irreversible changes
c) Physical and chemical changes
2. The air inside the bicycle tyre expands due to heat in summers. This expansion in air increase its volume due to which the tyre bursts.
3. Burning is considered a chemical change as the substance formed during burning cannot be converted back into the original substance.
4. A physical change is a change in which the shape, size, appearance or state of a substance may change but its composition remains the same. A physical change does not produce a new substance. Two examples of physical changes are evaporation and condensation.
5. Processes that involve more than one kind of changes are cutting of wood and burning of a candle.

Hints for HOTS

1. Some changes are not required and some changes may be harmful for us.
2. Changes can be reversed under suitable conditions.
3. Objects expand in summers and contract in winters.

7. Characteristics of Living Things

- A. 1. plants and animals 2. mushroom
3. growth, respiration, movement 4. respiration
5. gills 6. response
- B. 1. microscope 2. heterotrophs 3. electric shock
4. water 5. spiracles 6. stomata

8. Plants – Form and Function

- A. 1. flower 2. store food 3. leaves
4. fibrous root 5. trunk 6. all of these
- B. 1. root, shoot 2. petiole 3. photosynthesis
4. Lamina 5. fibrous 6. venation
7. starch
- C. 1. False 2. True 3. True
4. True 5. False 6. True
- D. 1. Pea, money plant
2. Trunk
3. Carbon dioxide, water, chlorophyll
4. Stomata
5. Fibrous roots
- E. 1. The different parts of a leaf are – lamina, petiole, veins, and midrib.
2. The stem is the main supporting axis of a plant. It bears branches, leaves, flowers, and fruits.
3. The transfer of pollen grains from a mature anther to the stigma of a pistil is called pollination.
4. Climbers are weak-stemmed plants which need the support of neighbouring structure to climb up e.g., pea, bitter gourd, money plant, and grapevine.
Creepers are weak-stemmed plants and cannot stand upright. They spread on the ground in all directions. Watermelon and pumpkin plant are examples of creepers.
5. Leaves are called the food factory of the plant because they make food for the entire plant by the process of photosynthesis.

Hints for HOTS

1. The gases are exchanged through the openings in the stomata.
2. Pollination occurs through insects.
3. Flowers require pollination and bees require nectar.

9. Body Movements

- A. 1. scales 2. twelve pairs of ribs
3. muscles 4. six 5. femur
6. pivot joint 7. all of these 8. tendons
- B. 1. swim bladder 2. antennae 3. mucous
4. fins 5. ball and socket 6. muscles
7. streamlined 8. vertebrae

- C. 1. False 2. True 3. True
 4. False 5. False 6. True
- D. 1. Skull 2. Ball and socket 3. Vertebrates
 4. Sternum 5. Ball and socket 6. 206
 7. Forelimb and hindlimb
- E. 1. Movement occurs when a part or whole of a living thing changes position from one place to another. Movement is a significant feature of living things.
 Locomotion is the movement in which an organism moves as a whole from one place to another. Locomotion is a characteristic feature of animals and humans.
2. Flying birds have wings covered with feathers which allow them to fly. They have streamlined bodies which make it easier for them to move in air. They have strong but light skeleton with a large breastbone to support powerful muscles for flapping wings up and down.
3. The bone marrow contains blood vessels. Red blood cells (RBCs) and white blood cells (WBCs) are produced in the bone marrow.
4. The skeleton consists of the various bones that are found in the human body. The various bones are connected together in the form of a skeletal system.
5. The ribcage protects the heart, lungs and major blood vessels. It allows expansion and contraction of the lungs during the process of breathing.
6. a) Cartilage is the flexible tissue present at partially movable joints.
 b) Tendons are connective tissues that join muscles to bones.
 c) Ligaments are connective tissues that join bones to bones.

Hints for HOTS

1. Yes
2. Setae need to be attached to a surface.
3. Movable joints allow movement in body parts.
4. Light and hollow bones, wings and streamlined body

10. Organisms and their Surroundings

- A. 1. habitat 2. plants 3. soil
 4. aquatic plants 5. camel 6. desert

- B. 1. nocturnal 2. terrestrials 3. terrestrial
 4. abiotic 5. Mountain 6. hump
- C. 1. False 2. False 3. True
 4. False 5. False 6. True
- D. 1. Animals – lion, deer; Plants – coneflower, milkweed
 2. Biotic and Abiotic
 3. Plants – lichens, mosses; Animals – yak, snow leopard
 4. Forests, grasslands, deserts
 5. Mountains
 6. Aquatic
- E. 1. Terrestrial habitats include all habitats on land such as mountains and deserts. Aquatic habitats include all habitats in water such as oceans and rivers.
 2. All living things in a habitat such as plants, animals and micro-organisms are called its biotic components.
 All non-living things in a habitat such as air, water, soil, sunlight, and temperature are called its abiotic components.
 3. Some adaptations in grassland plants are:
 a) Leaves are small and narrow which reduce the loss of water.
 b) Stems are flexible which can bend easily and do not break in windy conditions.
 4. Most deserts receive very less rainfall. Temperatures in deserts can be scorching hot during day and near freezing at night. Mountains situated in high altitude regions have low temperature and are covered with snow and ice. Rainfall is scanty on mountains.
 5. Adaptations in organisms enable them to survive in a particular habitat and adapt to conditions when they have to shift to a new habitat.
 6. Some adaptations in aquatic animals are:
 a) They usually have streamlined bodies which help them in moving easily through water.
 b) They have gills that enable them to breathe oxygen dissolved in the water.

Hints for HOTS

1. Plant – mushroom; Animal – corals
2. Protection from predators, hunting for food, evading natural calamities such as floods, fires, etc.
3. Through gills
4. Only plants will grow – leads to deficiency of nutrients in soil – soil loses fertility – plants die – habitat destroyed

11. Measurement and Motion

- A. 1. metre 2. translational motion
3. 1000 m 4. motion
5. beating of a drum 6. oscillatory motion
7. curvilinear motion of a car
- B. 1. kilogram (kg) 2. translational 3. rotatory
4. estimate 5. unit 6. periodic
- C. 1. False 2. True 3. True
4. False 5. True 6. True
- D. 1. Rotational motion, periodic motion
2. Curvilinear motion
3. Metre (m)
4. kilometre (km)
5. Rest
6. Rotational
7. i) 4 cm ii) 5 cm
- E. 1. An object is said to be in motion if its position changes with time with respect to a stationary observer.
2. SI units are the units for quantities accepted worldwide. This system of units is preferred over other units because of the following reasons :
a) It is accepted universally.
b) Conversion of units is easy.
c) Units are standard and do not change with time and place.
3. Periodic motion is a motion in which a movement is repeated at regular intervals of time. Two examples of periodic motion are - rotation of Earth on its axis and revolution of Earth around the Sun.
4. Handspan and footspan are not used for accurate measurement because the length of body parts varies from person to person.
5. The rotation of Earth on its axis repeats itself after a fixed interval of time (24 hrs). Thus, it is called periodic motion.
6. The National Physical Laboratory (NPL), in New Delhi is responsible for maintaining the standard units in India.
7. Length is defined as the distance between two distinct points. A large length between two points is usually called distance.

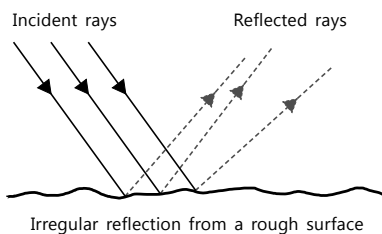
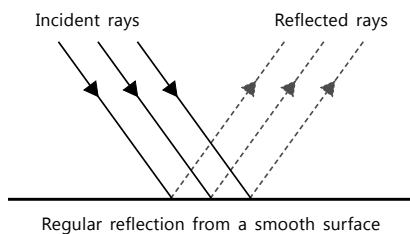
Hints for HOTS

1. Precise measurements are accurate, give correct results in further calculations
2. Rotational, translational

3. Vibratory motion
4. She should place the 1 mark on the scale at the beginning of the line. She should then subtract 1 cm from the reading on the scale at the other end of the line.

12. Light, Shadow and Reflections

- A. 1. has all of the given properties 2. Sun
 3. a translucent object
 4. cannot be formed without a screen
 5. position of the source of light 6. erect
- B. 1. opaque 2. beam 3. natural, artificial
 4. straight 5. inverted 6. Shadows
 7. reflection
- C. 1. True 2. True 3. True
 4. True 5. True 6. False
 7. False 8. False
- D. 1. 2.



- E. 1. Rectilinear propagation of light
 2. Opaque
 3. Black
 4. Firefly
 5. Luminous – Sun, stars; Non-luminous – Earth, chair
 6. Natural – stars, Moon; Man-made – candle, electric bulb
- F. 1. A translucent object allows only a part of light to pass through it. Thus, we are not able to see clearly through it.
 2. An eclipse is the formation of shadow of one celestial body over another celestial body. An eclipse occurs when three or more celestial bodies get aligned in a straight line.
 3. When light falls on a mirror, reflection of light takes place at the surface of the mirror and an image of the object is formed in the mirror.

4. Non-luminous objects become visible to us when light reflected by them reaches our eyes.
5. The movement of light in straight lines is called rectilinear propagation of light.
6. A shadow is formed when :
 - a) An object is opaque or translucent.
 - b) There is a source of light.
 - c) There is a surface or screen behind the object.

Hints for HOTS

1. The distance of bird from Earth is too far and produces a very small image
2. Yes (under multiple sources of light)
3. lateral inversion

13. Electricity and Circuits

- | | | | |
|----|---|-----------------------|----------------------|
| A. | 1. closed | 2. copper | 3. conductor |
| | 4. fused | 5. open switch | 6. positive terminal |
| | 7. filament | 8. an electric switch | |
| B. | 1. switch | 2. secondary cell | 3. two |
| | 4. filament | 5. positive, negative | |
| | 6. George Leclanche | | |
| C. | 1. True | 2. False | 3. False |
| | 4. True | 5. True | 6. True |
| D. | 1. Primary and secondary | | |
| | 2. Zinc, carbon | | |
| | 3. Tungsten | | |
| | 4. Conductors – copper, aluminium; Insulators – paper, leather | | |
| | 5. Powdered carbon, manganese oxide, ammonium chloride, zinc chloride | | |
| E. | 1. Electric current is the flow of charges through a conducting wire. Two sources of electric current are – dry cells and solar cells. | | |
| | 2. Tungsten has a high melting point and does not melt when it heats up. Thus, it is used for making filament of a bulb. | | |
| | 3. A fused bulb is a bulb in which the filament is broken. The broken filament does not allow the circuit to get completed. Hence, no current flows through the circuit and the bulb does not glow. | | |
| | 4. LEDs do not contain any harmful or toxic substances in them. They also consume very little electricity as compared to electric bulbs. | | |

5. Metals are good conductors of electricity and allow electric current to flow through them easily. Thus, electric wires are made of metals.
6. There are three basic conditions required for an electric current to flow:
 - a) A source of electric current.
 - b) An electrical appliance.
 - c) A continuous path made of conducting wires connecting one terminal of the source of current to the other end.

Hints for HOTS

1. Plastic and rubber are insulators
2. Rainwater is a good conductor of electricity
3. Insulation through feet

14. Magnets

- A.
 1. an isolated north pole can be obtained
 2. north and south poles equally
 3. concentrated at the two ends
 4. ends
 5. natural magnet
 6. gold
- B.

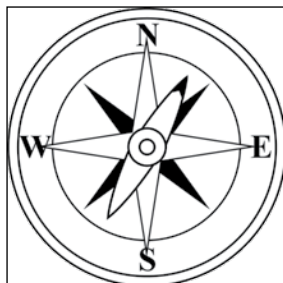
1. centre	2. magnetite	3. two
4. north-south	5. repel, attract	6. repulsion
- C.

1. False	2. True	3. True
4. True	5. False	6. False
- D.
 1. Soft iron nail, paper clips
 2. Bar, rod, horseshoe, disc
 3. Telephones, speakers, generators
 4. Lodestone
 5. Iron, cobalt
- E.
 1. Magnetic poles always occur in pairs and it is not possible to separate them. Thus, it is not possible to have a magnet with just one pole.
 2. Some methods which destroy the magnetism of a magnet are:
 - a) heating the magnet strongly.
 - b) dropping the magnet repeatedly from a height on a hard surface.
 - c) hammering the magnet strongly.
 - d) natural self-demagnetisation.
 3. Materials which are attracted towards a magnet are called magnetic materials, e.g., iron and cobalt.

Materials which are not attracted towards a magnet are called non-magnetic materials, e.g., wood and glass.

4. The region around a magnet where its magnetic force can be experienced is called its magnetic field.
5. A magnetic compass is an instrument which uses a magnet for determining direction of a place.

A magnetic compass consists of a thin magnetic needle which is free to rotate on its axis. The needle is fixed on a circular board on which the various directions are marked. The needle and the board are enclosed in a plastic or metallic case with a glass top. The north pole of the needle is usually coloured.



Hints for HOTS

1. Non-magnetic substances can get attracted towards a magnet but will never be repulsed away
2. Force of repulsion occurs between like poles of a magnet
3. 5

15. Water for Life

- | | | |
|----|--|---|
| A. | 1. dissolved salts | 2. rainwater harvesting |
| | 3. groundwater | 4. hydroelectric power plant |
| | 5. evaporation | 6. precipitation |
| | 7. groundwater recharging by percolation | |
| B. | 1. table | 2. condensation, formation |
| | 3. Rainwater | 4. solid 5. floods |
| | 6. 1 | 7. geyser |
| C. | 1. False | 2. False 3. False |
| | 4. True | 5. False 6. True |
| | 7. True | 8. False |
| D. | 1. Rafting, surfing, swimming | |
| | 2. Rivers, lakes, ponds | |
| | 3. Rooftop and roadside | |
| | 4. Water cycle – evaporation, transpiration, condensation, precipitation | |
| | 5. Water, ice, vapour | |

- E. 1. Water covers about seventy percent of Earth's surface but only 1 percent of all the water on Earth is fresh water which is fit for human consumption.
2. Water is odourless, tasteless and colourless. It has no fixed shape. It flows from a higher level to a lower level.
3. Water in oceans and seas is saline as it contains a large amount of dissolved salts. It is not fit for drinking, agricultural or industrial purposes unless treated.
4. The water trapped above layer of hard, non-porous rocks below the surface of Earth is called groundwater. The level of groundwater at a place is called water table. Underground water can be obtained by digging wells, through hand pumps or tube wells.
5. A glacier is a large, long-lasting mass of ice and snow that moves very slowly over the land. Ice caps and glaciers play vital roles in the regulation of global temperature on Earth and as source of freshwater.
6. Drought occurs due to long spells of extremely hot weather, failure of monsoon or drying up of water reserves of a place.

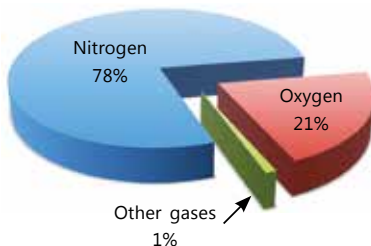
Hints for HOTS

1. Heat causes evaporation of water leading to formation of clouds
2. Condensation of vapour around the bottle
3. Condensation of vapour in exhaled air

16. Air Around Us

- A. 1. 480 km 2. carbon dioxide 3. fish
4. nitrogen 5. oxygen 6. all of these
- B. 1. atmosphere 2. wind 3. Nitrogen
4. wind mills 5. carbon dioxide
- C. 1. False 2. True 3. False
4. False 5. True
- D. 1. Nitrogen
2. Photosynthesis
3. 78%, 21%
4. Photosynthesis and respiration
5. Carbon dioxide and dust
6. Carbon dioxide
7. Sulphur dioxide, nitrogen dioxide

- E. 1. The atmosphere is an envelope of air which surrounds the entire Earth. It provides vital protection against the harmful radiations from space. It helps to maintain a stable environment in which life can flourish.
2. Air contains oxygen which is used by all living organisms for respiration. It is necessary for burning fuels. It carries sound waves and enables us to hear sound.
3. We cannot see air as it is colourless but its presence can be felt. The presence of air is felt when air moves from one region to another in form of wind.
4. Smoke consists of several gases like carbon dioxide, sulphur dioxide, nitrogen dioxide and fine dust particles. Their amount varies from time to time and place to place. These gases are acidic in nature and are harmful for living beings.
5. Air is matter which has mass and occupies space. It fills all the space available to it. It is a colourless, odourless and tasteless mixture of gases.
- 6.



Composition of Air

Hints for HOTS

- Humidity increases leading to rain
- Photosynthesis requires carbon dioxide
- Respiration in plants at night releases carbon dioxide
- Oxygen in water tries to escape from it.

17. Waste and its Management

- | | | |
|--|-----------------|------------------|
| A. 1. egg shells | 2. redworms | 3. unused metals |
| 4. decomposition of wastes by microbes | 5. sewage | |
| 6. compost pit | 7. all of these | |
| B. 1. composting | 2. resources | 3. biodegradable |
| 4. biodegradable | 5. green | 6. energy |
| C. 1. False | 2. True | 3. False |
| 4. False | 5. True | 6. True |
| 7. False | | |

- D. 1. Biodegradable and Non-biodegradable
2. Non-biodegradable
3. Glass and metals
4. Paper and glass
5. Blue
6. Computers, mobile phones, laptops
- E. 1. Biodegradable waste includes all waste materials that get broken down into simpler substances by action of microorganisms. Non-biodegradable waste includes all waste materials that cannot be broken down into simpler substances by action of micro-organisms.
2. Segregation is the process of separating waste materials into biodegradable and non-biodegradable waste. It is important for properly disposing of the vast amounts of waste materials.
3. Vermicomposting is a method of composting in which the biodegradable waste is converted into compost with the help of redworms.
4. Incineration is the process in which garbage is disposed of by burning it. This reduces the volume of waste and generates heat that may be used commercially.
5. Recycling is the technique of processing old materials into new products. It conserves natural resources and reduces use of energy. Recycling saves thousands of trees every year from being cut down. It conserves natural resources, saves energy, and reduces greenhouse gas emissions.
6. a) Waste refers to any material that no longer has a use or purpose and needs to be disposed of.
b) Domestic waste and refuse is known as garbage.
c) Waste materials carried away in sewers and drains are called sewage.

Hints for HOTS

1. They can be used to cook new dishes
2. They help in composting
3. Plastic waste can choke drains and is non-biodegradable
4. Cow dung can be converted into manure
5. Recycle old paper to produce new paper

Model Test Paper

SECTION – A (PHYSICS)

- A. 1. parallel to the object
2. has high melting point
3. electric bulb
4. magnetic compass
- B. 1. magnetic field 2. LED
3. periscope 4. random
- C. 1. False 2. True
3. False 4. True
- D. Picture 2 is incorrect as light cannot pass through wood.
- E. 1. Conductor – copper; Insulator – wood
2. Firefly
3. Motion of the pendulum of a clock
4. South pole
- F. 1. Magnetic keepers are pieces of soft iron that are placed at the ends of a pair of bar magnets. They are used to preserve the magnetism of the magnets.
2. In a fused bulb, the filament is either broken or burnt out. Thus, the circuit of the bulb is not closed and hence, no electric current flows through it. Thus, it does not glow.
3. The movement of light in straight lines is called rectilinear propagation of light.
4. SI units are the units for quantities accepted worldwide. This system of units is preferred over other units because of the following reasons :
a) It is accepted universally.
b) Conversion of units is easy.
c) Units are standard and do not change with time and place.

SECTION – B (CHEMISTRY)

- A. 1. saturated mixture
2. evaporation
3. thermal conductivity
4. water vapour
- B. 1. chemical 2. decantation
3. atmosphere 4. Knitting

3.
 - a) They usually have streamlined bodies which help them in moving through water easily.
 - b) Their bodies are usually covered with slippery scales which make them waterproof.
 - c) They have gills that enable them to breathe oxygen dissolved in the water.
 - d) They have fins which help them in movement and maintaining balance.
4.
 - a) Pedicel
 - b) Filament
 - c) Ovary
 - d) Style

