

Strictly in accordance with the latest CBSE syllabus



Me 'n' MineTM

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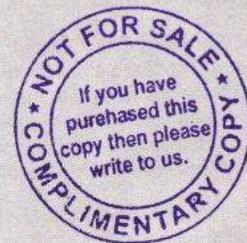
Pullout Worksheets

SCIENCE

SALIENT FEATURES

- Points to Remember at the start of each chapter
- Chapterwise Pullout Worksheets for Subject Assessment
- Chapterwise Pullout Worksheets for Enrichment Activity
- Five Practice Papers with space for writing answers

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CONTENTS

1. NUTRITION IN PLANTS	
▶ Worksheets 1 to 7.....	11-22
2. NUTRITION IN ANIMALS	
▶ Worksheets 8 to 14.....	23-34
3. FIBRE TO FABRIC	
▶ Worksheets 15 to 21.....	35-46
4. HEAT	
▶ Worksheets 22 to 28.....	47-58
5. ACIDS, BASES AND SALTS	
▶ Worksheets 29 to 35.....	59-70
6. PHYSICAL AND CHEMICAL CHANGES	
▶ Worksheets 36 to 42.....	71-82
7. WEATHER, CLIMATE AND ADAPTATIONS OF ANIMALS TO CLIMATE	
▶ Worksheets 43 to 50.....	83-96
8. WINDS, STORMS AND CYCLONES	
▶ Worksheets 51 to 57.....	97-108
9. SOIL	
▶ Worksheets 58 to 65.....	109-122
10. RESPIRATION IN ORGANISMS	
▶ Worksheets 66 to 73.....	123-136
11. TRANSPORTATION IN ANIMALS AND PLANTS	
▶ Worksheets 74 to 81.....	137-150
12. REPRODUCTION IN PLANTS	
▶ Worksheets 82 to 89.....	151-164
13. MOTION AND TIME	
▶ Worksheets 90 to 97.....	165-178
14. ELECTRIC CURRENT AND ITS EFFECTS	
▶ Worksheets 98 to 105.....	179-192
15. LIGHT	
▶ Worksheets 106 to 113.....	193-206
16. WATER: A PRECIOUS RESOURCE	
▶ Worksheets 114 to 121.....	207-220
17. FORESTS: OUR LIFELINE	
▶ Worksheets 122 to 129.....	221-234
18. WASTEWATER STORY	
▶ Worksheets 130 to 137.....	235-248
▶ PRACTICE PAPERS (1 to 5)	251-288

SCIENCE

PULLOUT WORKSHEETS

- ▶ **Points to Remember**
- ▶ **Subject Assessment**
- ▶ **Enrichment Activity**
- ▶ **Practice Papers**

NUTRITION IN PLANTS

SUBJECT ASSESSMENT

WORKSHEET-1

Name	Class	Roll No.	Time 28 Min.	Max. Marks 15	Marks Obtained
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POINTS TO REMEMBER

- **Food** is essential for all living beings. The components of food which are necessary for our body are called **nutrients**.
- **Plants** can make their food themselves but animals including humans cannot. They get it from plants or animals that eat plants. Thus, humans and animals are directly or indirectly dependent on plants.
- Green plants synthesise their food themselves by the process of **photosynthesis**. They are called **autotrophs**.
- Plants use carbon dioxide, water and minerals for synthesising their food.
- **Chlorophyll** and **sunlight** are the essential requirements of photosynthesis.
- Algae can also prepare their own food by photosynthesis.
- Some plants are called **heterotrophic** because they depend on the food produced by other plants. They are also called **parasites**.
- Some plants digest other small insects, so they are called **insectivorous plants**, e.g., pitcher plant.
- Some organisms, e.g., fungi, secrete digestive juices on the dead and decaying matter and convert it into a solution and absorb the nutrients from it. These are called **saprotrophs**.
- Some organisms live together and share shelter and nutrients. These are known as **symbiotic relationship**. Lichens and fungi live together and maintain symbiotic relationship.

EXPERIMENT. To study that light is necessary for photosynthesis.

MULTIPLE CHOICE QUESTIONS (MCQs)

15 × 1 = 15

1. To make food in the presence of sunlight and chlorophyll by green plants through photosynthesis process, which two constituents are very necessary?

(a) Carbon dioxide and water	(b) Carbon dioxide and nitrogen
(c) Carbon dioxide and oxygen	(d) None of these.
2. Which solution is used to test the starch?

(a) Chlorine solution	(b) Iodine solution
(c) Both of these	(d) None of these.
3. In iodine test, why do you use black paper strips or light screen on leaves?
 - (a) These are used to block the light to fall on the leaf surface.
 - (b) These are used to scatter the light to fall on the leaf surface.
 - (c) Remain unchanged.
 - (d) None of these.

4. Which gas is released during photosynthesis process?

- (a) Carbon dioxide (b) Water (c) Nitrogen (d) Oxygen.

5. The experimental leaf (covered with black strips/light screen) used in experiment as light is necessary for photosynthesis, should be tested for the presence of:

- (a) Sugar in leaf (b) Starch in leaf
(c) Water in leaf (d) Carbon dioxide in leaf.

CHAPTER BASED MCQs

6. The jelly-like substance to which nucleus is surrounded, is:

- (a) Cell membrane (b) Cytoplasm
(c) Protoplasm (d) None of these.

7. Nutrients are substances present in:

- (a) Water (b) Food
(c) Plant (d) Nutrition.

8. The cell enclosed by a thin outer boundary is called:

- (a) Nucleus (b) Cell membrane
(c) Cytoplasm (d) None of these.

9. *Amarbel* is an example of:

- (a) Autotroph (b) Parasite
(c) Saprotroph (d) Host.

10. The plant which traps and feeds on insects is:

- (a) *Cuscuta* (b) China rose
(c) Pitcher plant (d) Rose.

11. Heterotrophic nutrition is found in:

- (a) Green plants (b) Non-green plants
(c) Mango tree (d) Banana tree.

12. Saprophytes obtain their food from:

- (a) Green plants (b) Non-green plants
(c) Decaying wastes (d) All of these.

13. *Rhizopus* is a:

- (a) Autotroph (b) Heterotroph
(c) Saprophyte (d) None of these.

14. Nutrition is of:

- (a) One type (b) Two types
(c) Three types (d) Four types.

15. The gases used and released during photosynthesis are respectively:

- (a) Oxygen and carbon dioxide (b) Nitrogen and carbon dioxide
(c) Carbon dioxide and oxygen (d) Nitrogen and oxygen.



NUTRITION IN PLANTS SUBJECT ASSESSMENT WORKSHEET-2

Name.....	Class.....	Roll No.	Time 40 Min.	Max. Marks 26	Marks Obtained
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VERY SHORT ANSWER TYPE QUESTIONS (1 MARK)

1. Why do all organisms need to take food?
Ans.
2. What is meant by nutrition?
Ans.
3. In which way, is solar energy stored?
Ans.
4. How are green patches in ponds formed?
Ans.
5. What is meant by saprotrophic nutrition?
Ans.
6. Which substance helps leaves to capture the energy of the sunlight?
Ans.
7. What is meant by autotrophic nutrition?
Ans.
8. Which bacterium can take atmospheric nitrogen and convert it into a soluble form?
Ans.
9. What is meant by nucleus?
Ans.
10. What do such plants use to get food having no chlorophyll?
Ans.
11. What do crops require usually to make proteins?
Ans.

12. From where most of the pulses (*dals*) are obtained?

Ans.
.....

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. Name the following:

- (a) A parasitic plant with yellow, slender and tubular stem
- (b) A plant that has both autotrophic and heterotrophic modes of nutrition

2. Which is known as 'kitchen of cell'? Write the equation of photosynthesis.

Ans.
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3. What may happen on the earth in the absence of photosynthesis?

Ans.
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4. Write four lines' note on parasitic nutrition.

Ans.
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5. How do autotrophs make their food?

Ans.
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6. What are stomata?

Ans.
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7. How are water and minerals transported to the leaves?

Ans.
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NUTRITION IN PLANTS
SUBJECT ASSESSMENT
WORKSHEET-3

Name	Class	Roll No.	Time 40 Min.	Max. Marks 22	Marks Obtained
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SHORT ANSWER TYPE QUESTIONS (2 MARKS)

- 1. (a) How do water and minerals present in the soil get absorbed?
(b) Which components of food are necessary for our body?

Ans.
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- 2. (a) Why all the raw materials must reach to leaves?
(b) Are animals heterotrophs or autotrophs?

Ans.
.....
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SHORT ANSWER TYPE QUESTIONS (3 MARKS)

- 1. (a) Why algae are green in colour?
(b) What happens when pickles, leather and clothes are left in hot and humid weather for long time?

Ans.
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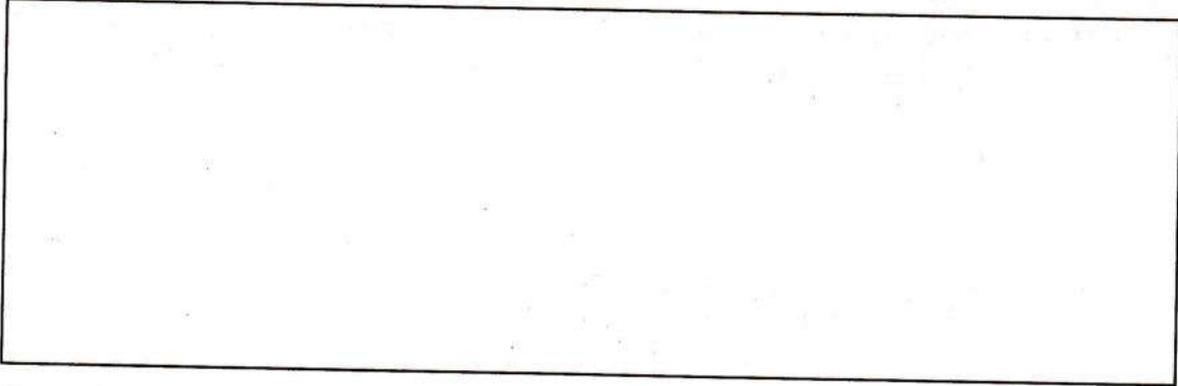
- 2. (a) How do insectivorous plants like pitcher plant obtain its nutrition?
(b) Is rhizopus a saprotroph or an autotroph?

Ans.
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3. Distinguish between a parasite and a saprotroph.

Ans.
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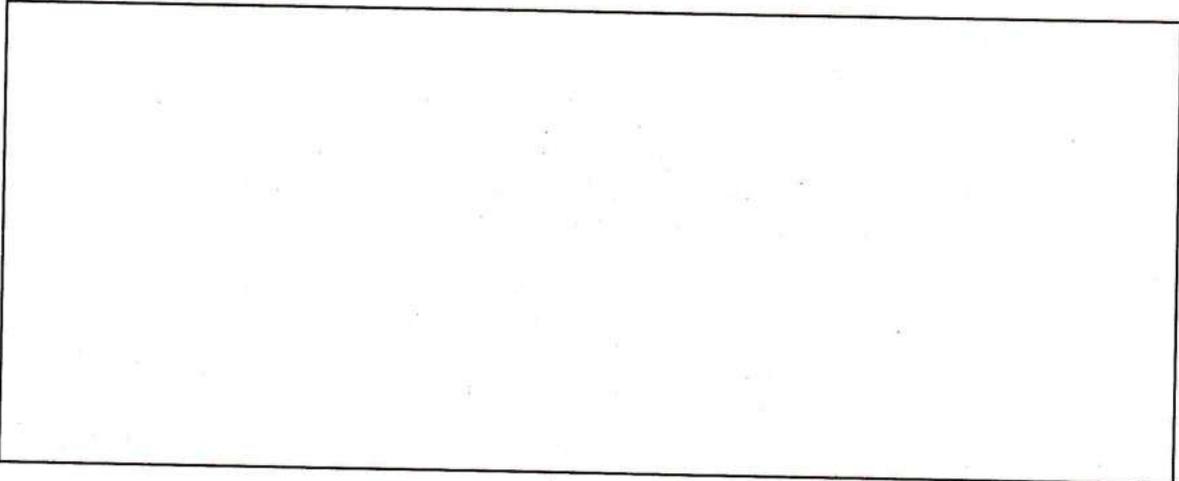
4. Show with the help of a sketch that plants are the ultimate source of food.

Ans. 

5. How would you test the presence of starch in leaves?

Ans.
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6. (a) Draw a labelled diagram of stomata.
(b) Which draws its food from host?



Ans.



**NUTRITION IN PLANTS
SUBJECT ASSESSMENT
WORKSHEET-4**

Name	Class	Roll No.	Time 40 Min.	Max. Marks 30	Marks Obtained
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ANSWER THE FOLLOWING

- 1. Fill in the blanks.** 3
- (a) Green plants are called since they synthesise their own food.
- (b) The food synthesised by the plants is stored in
- (c) In photosynthesis, solar energy is captured by the pigment called
- 2. Match the items of Column A with those in Column B.** 6

Column A	Column B
(a) Chlorophyll	(i) Bacteria
(b) Nitrogen	(ii) Heterotrophs
(c) Amarbel	(iii) Photosynthesis
(d) Animals	(iv) Pitcher plant
(e) Insects	(v) Leaf
(f) Oxygen	(vi) Parasite

Ans.

SHORT ANSWER TYPE QUESTIONS (3 MARKS)

- 1. Give a brief description of the process of synthesis of food in green plants.**

Ans.

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.....

.....

.....

- 2. (a) What type of relationship is shown by lichen?
(b) What is symbiotic relationship?**

Ans.

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LONG ANSWER TYPE QUESTIONS (5 MARKS)

1. Classify the different types of heterotrophic nutrition. Write in brief about any one type.

Ans.

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2. (a) Why is the sun called the ultimate source of energy for all living organisms?
(b) Why are leaves called food factories of plants?

Ans.

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3. Briefly describe autotrophic mode of nutrition.

Ans.

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NUTRITION IN PLANTS

SUBJECT ASSESSMENT

WORKSHEET-5

Name..... || Class..... || Roll No. || Time 50 Min. || Max. Marks 38 || Marks Obtained

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. How does the cuscuta plant derive its nutrition?

Ans.

2. What is symbiosis?

Ans.

3. Name the factors that affect the rate of photosynthesis.

Ans.

4. Write one word for the following.

- (a) The green pigment in leaves.
- (b) The mode of nutrition in which both the organisms benefit each other.
- (c) Structures that carry water and minerals from the roots to the leaves of the plants.
- (d) The plants that obtain their nutrition from dead and decaying plants and animals.

ANSWER THE FOLLOWING

1. Match the columns.

5

Column A	Column B
(a) Phloem	(i) Lichens
(b) Xylem	(ii) Fungi
(c) Symbiosis	(iii) Coral root
(d) Heterotrophs	(iv) Water
(e) Saprotroph	(v) Starch

3. State whether the following statements are true or false.

5

- (a) Carbon dioxide and glucose are the products of photosynthesis. ()
- (b) In a host-parasite relationship, both the host and the parasite benefit from each other. ()
- (c) The mucilage of *drosera* plant secretes digestive juices to digest the insect. ()
- (d) Venus flytrap is an insectivorous plant. ()
- (e) Chlorophyll is present in the grana of chloroplast. ()

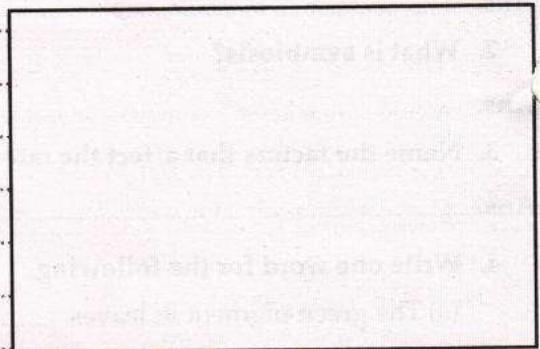
LONG ANSWER TYPE QUESTIONS (5 MARKS)

1. Write two examples of each of the following.

- (a) Insectivorous plants
- (b) Modes of nutrition
- (c) Autotrophs
- (d) Parasitic plants
- (e) Insectivorous plants

2. Explain the structure of a chloroplast with the help of a diagram.

Ans.



3. Explain the symbiotic relationship with the help of examples.

Ans.

4. Define the following terms:

- (a) Nutrition:
- (b) Symbiotic plants:
- (c) Heterotrophs:
- (d) Saprotrophic:
- (e) Insectivorous

□□

NUTRITION IN PLANTS

SUBJECT ASSESSMENT

WORKSHEET-6

Name.....	Class.....	Roll No.	Time 40 Min.	Max. Marks 21	Marks Obtained
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DO AS DIRECTED

6 × 1 = 6

1. is the ultimate source of energy.
2. The presence of in leaves indicates the occurrence of photosynthesis.
3. The starch is also a
4. The plant on which it climbs is called host. (T/F)
5. *Rhizobium* does not live in gram, peas, *moong*, beans and other legumes. (T/F)
6. Humans and animals use heterotrophic mode of nutrition for getting food. (T/F)

ANALOGY TYPE QUESTIONS

5 × 1 = 5

1. Carbohydrates : Carbon, hydrogen and : Proteins : Nitrogen.
2. Heterotrophs : Parasitic :: Autotrophs :
3. Green pigment of plants : Chlorophyll :: Tiny apertures in leaf :
4. Leguminous plant : Peas :: Insectivorous plant :
5. Fungi : Saprophytic nutrition :: : Parasitic nutrition.

ANSWER THE FOLLOWING

1. Write 'T' for True and 'F' for False statements in given brackets. Rewrite the False statements. 5
 - (a) Carbon dioxide is released during photosynthesis. ()
 - (b) Plants which synthesise their food themselves are called saprotrophs. ()
 - (c) The product of photosynthesis is not a protein. ()
 - (d) Solar energy is converted into chemical energy during photosynthesis. ()
 - (e) The pores through which leaves exchange gases are called stomata. ()
2. Give one word for the following statements: 5
 - (a) The pores through which leaves take in carbon dioxide from the air are called
 - (b) A plant that has both autotrophic and heterotrophic modes of nutrition is known as
 - (c) A group of organisms which live together and share shelter and nutrients are called
 - (d) Bodies of living organisms are made of tiny units, called
 - (e) Insect-eating plants are called

NUTRITION IN PLANTS

ENRICHMENT ACTIVITY

WORKSHEET-7

Name	Class	Roll No.	Time 30 Min.	Max. Marks 15	Marks Obtained
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PROJECT REPORT

Observe some decaying fruits and vegetables. You will see that these have a cotton mass covering on them. Use a hand lens to see the cotton clearly.

SCIENCE QUIZ

Oxygenise a science quiz on 'how do plants take nutrition'.

ACTIVITY

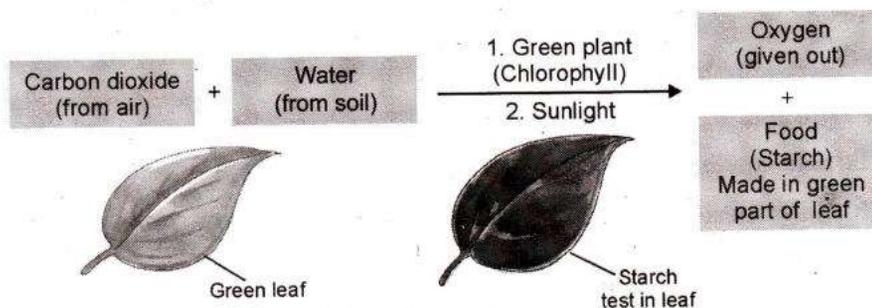
Aim: To show that starch is formed in leaves.

Materials Required: Leaf, beaker, petri dish, spirit lamp, matchbox, tripod stand, wire gauze, water bath, alcohol, water, iodine solution, dropper.

Procedure: Take a leaf from a plant which is exposed to bright sunshine for at least 4-5 hours. Boil the leaf in a test tube containing alcohol over the water bath. The leaf will be decolourised. Remove it and wash it with water. Place the leaf in petri dish and add iodine solution with the help of a dropper.

Observation/Result: The leaf turns blue-black due to presence of starch in it.

Carbon dioxide + Water $\xrightarrow[\text{Sunlight}]{\text{Chlorophyll}}$ Food + Oxygen



NUTRITION IN ANIMALS

SUBJECT ASSESSMENT

WORKSHEET-8

Name	Class	Roll No.	Time 30 Min.	Max. Marks 17	Marks Obtained
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POINTS TO REMEMBER

- The process of taking food into the body is called **ingestion**.
- The breakdown of complex components of food into simpler substances is called **digestion**.
- Nutrition in animals includes nutrient requirement, mode of intake of food and its utilisation in the body.
- The human digestive system consists of the **alimentary canal** and **secretory glands**. It consists of the (i) **buccal cavity**, (ii) **oesophagus**, (iii) **stomach**, (iv) **small intestine**, (v) **large intestine** ending in rectum and (vi) **anus**. The main digestive glands which secrete digestive juices are (a) the **salivary glands**, (b) the **liver** and (c) **pancreas**. The stomach wall and the wall of the small intestine also secrete digestive juices.
- Digestion, a complex process, involves; (a) **ingestion**, (b) **digestion**, (c) **absorption**, (d) **assimilation** and (e) **egestion**.
- Complete digestion of food takes place in alimentary canal.
- Absorbed substances are transported to different parts of the body. Water and some salts are absorbed from the undigested food in the large intestine.
- The undigested and unabsorbed residues are expelled out of the body as faeces through the anus.
- *Amoeba* ingests its food with the help of its false feet (pseudopodia). The food is digested in the food vacuole.
- The grass which the animals eat is rich in **cellulose**, a type of carbohydrate.
- The **villi** increase the surface area for absorption of the digested food.
- The digested food can now pass into the blood vessels in the wall of intestine, called **absorption**.
- Teeth called molars are used for grinding and chewing. Incisors are used for biting and cutting. Canines are used for piercing and tearing.
- The saliva breaks down the starch into sugar.

EXPERIMENT. To study the effect of saliva on starch.

MULTIPLE CHOICE QUESTIONS (MCQs)

17 × 1 = 17

1. Which is a secretion of salivary glands?
 (a) Starch (b) Saliva (c) Both of these (d) None of these.
2. Starch test in a foodstuff solution can be tested by:
 (a) Water (b) Test tube (c) Iodine (d) Saliva.
3. Which colour indicates the presence of starch in foodstuff solution when it is treated with iodine solution?
 (a) Blue (b) Black (c) Blue-black (d) Red.
4. Name the enzyme present in saliva is:
 (a) Pepsin (b) Renin (c) Ptylin (d) None of these.

5. Why does the boiled rice after chewing not show the starch test?

- (a) Because starch is converted into rice.
- (b) Because starch is converted into milk.
- (c) Because starch is converted into sugar.
- (d) None of these.

6. Which of the following is correct related with tongue?

- (a) Tongue is used for talking.
- (b) Tongue mixes saliva with the food during chewing and helps in swallowing food.
- (c) The food tasted by us is only possible with the help of our tongue.
- (d) All of these.

7. The swallowed food passes into:

- (a) Foodpipe or oesophagus
- (b) Windpipe
- (c) Saliva
- (d) None of these.

CHAPTER BASED MCQs

8. The grass is rich in:

- (a) Sucrose
- (b) Fructose
- (c) Cellulose
- (d) None of these.

9. Which part of *Amoeba* is used for movement and capture of food?

- (a) Nucleus
- (b) Food vacuole
- (c) Pseudopodium
- (d) Ingestion.

10. The pancreas is a:

- (a) Green-coloured gland
- (b) Red-coloured gland
- (c) Large cream coloured
- (d) None of these.

11. Fat is completely digested in the:

- (a) Stomach
- (b) Mouth
- (c) Small intestine
- (d) Large intestine.

12. Water from the undigested food is absorbed mainly in the:

- (a) Stomach
- (b) Foodpipe
- (c) Small intestine
- (d) Large intestine.

13. Autotrophic mode of nutrition is also called:

- (a) Holozoic
- (b) Heterotrophic
- (c) Holophytic
- (d) None of these.

14. Which one is correct among the following?

- (a) Carbohydrates $\xrightarrow{\text{Breakdown}}$ Sugar
- (b) Fats $\xrightarrow{\text{Breakdown}}$ Fatty acid and glycerol
- (c) Proteins $\xrightarrow{\text{Breakdown}}$ Amino acids
- (d) All of these.

15. Alimentary canal starts with:

- (a) Stomach
- (b) Oesophagus
- (c) Tongue
- (d) Small intestine.

16. The end point of alimentary canal is:

- (a) Buccal cavity
- (b) Small intestine
- (c) Anus
- (d) Large intestine.

17. The reddish brown gland situated in the upper part of the abdomen on the right side is:

- (a) Bile
- (b) Villi
- (c) Anus
- (d) Liver.

□□

NUTRITION IN ANIMALS
SUBJECT ASSESSMENT
WORKSHEET-9

Name	Class	Roll No.	Time 40 Min.	Max. Marks 27	Marks Obtained
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VERY SHORT ANSWER TYPE QUESTIONS (1 MARK)

1. How does starfish feed?

Ans.

2. What is meant by milk teeth?

Ans.

3. What is meant by permanent teeth?

Ans.

4. What does inner lining of the stomach secrete?

Ans.

5. Which breakdown the proteins into simpler substances?

Ans.

6. What should be given to the diarrhoea patient instantly before consulting a doctor?

Ans.

7. How do bees and humming-birds take in food into their body?

Ans.

8. What are the various compartments of the canal?

Ans.

9. Which secrete digestive juices?

Ans.

10. What is meant by assimilation?

Ans.

11. What is meant by rumen?

Ans.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. What happens when assimilation of food in man occurs?

Ans.

.....

2. Why do we get instant energy from glucose?

Ans.
.....

3. (a) What is liver?
(b) What does liver secrete?

Ans.
.....
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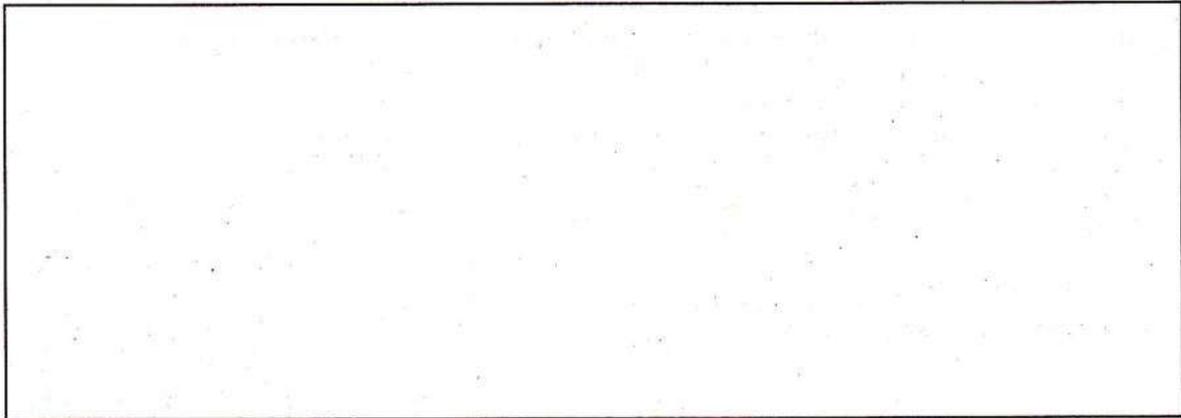
4. Why is there a change in colour in test tubes?

Ans.
.....

5. How does *Amoeba* ingest its food and where it is digested?

Ans.
.....

6. Draw the well-labelled diagram of *Amoeba*.



7. Where is the bile produced? Which component of the food does it digest?

Ans.
.....
.....

8. Write the function of tongue.

Ans.
.....
.....

□□

NUTRITION IN ANIMALS

SUBJECT ASSESSMENT

WORKSHEET-10

Name

Class

Roll No.

Time
45 Min.Max.
Marks
30Marks
Obtained

ANSWER THE FOLLOWING

1. Mark 'T' for True and 'F' for False statements in the given brackets. Rewrite the False statements. 3

- (a) Digestion of starch starts in the stomach. ()
 (b) The tongue helps in mixing food with saliva. ()
 (c) The gall bladder temporarily stores bile. ()

Ans.

2. Match the items of Column A with those in Column B. 6

Column A	Column B
(a) Salivary gland	(i) Bile juice secretion
(b) Stomach	(ii) Storage of undigested food
(c) Liver	(iii) Saliva secretion
(d) Rectum	(iv) Acid release
(e) Small intestine	(v) Digestion is completed
(f) Large intestine	(vi) Absorption of water
	(vii) Release of faeces

Ans.

SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. (a) What are the products of digestion of carbohydrates?
 (b) What are the products of digestion of proteins?
 (c) What are the products of digestion of fats?

Ans.

2. (a) What are ruminants?
(b) What type of solution is given to the diarrhoea patient?

Ans.
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.....
.....

3. What is large intestine? How does it function?

Ans.
.....
.....
.....

4. What are villi? What are their location and functions?

Ans.
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5. Name the type of carbohydrate that can be digested by ruminants but not by humans. Give the reason also.

Ans.
.....
.....
.....

6. Why do we feel hiccup or choking sensation while eating food?

Ans.
.....
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7. (a) What is meant by assimilation?
(b) How does the tooth decay?

Ans.
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NUTRITION IN ANIMALS

SUBJECT ASSESSMENT

WORKSHEET-11

Name	Class	Roll No.	Time 45 Min.	Max. Marks 31	Marks Obtained
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SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. Can we survive only on raw, leafy vegetables/grass? Discuss.

Ans.

2. Write one similarity and one difference between the nutrition in *amoeba* and human beings.

Ans.

LONG ANSWER TYPE QUESTIONS (5 MARKS)

1. Which part of the digestive canal is involved in:

- (i) Absorption of food
- (ii) Chewing of food
- (iii) Killing of bacteria
- (iv) Complete digestion of food
- (v) Formation of faeces

2. Differentiate between:

- (a) Molar and premolar
- (b) Ingestion and egestion
- (c) Milk teeth and permanent teeth
- (d) Absorption and assimilation
- (e) Canines and incisors

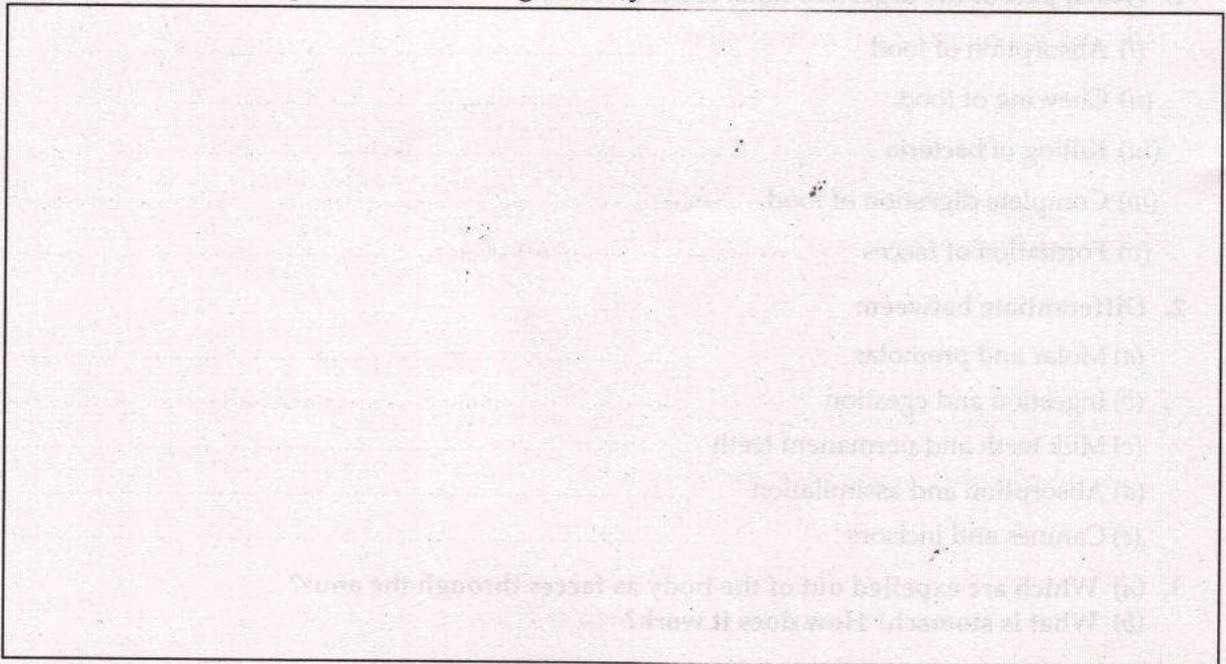
3. (a) Which are expelled out of the body as faeces through the anus?
 (b) What is stomach? How does it work?

Ans.

4. Write the functions of different types of teeth.

Ans.

5. Draw the labelled diagram of human digestive system.



□□

NUTRITION IN ANIMALS

SUBJECT ASSESSMENT

WORKSHEET-12

Name	Class	Roll No.	Time 50 Min.	Max. Marks 35	Marks Obtained
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SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. Name the different stages involved in the process of nutrition in animals.

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.....

2. Why should we brush our teeth before going to bed?

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.....

3. What do you understand by assimilation and rumination?

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.....

.....

4. Discuss the role of teeth in digestion.

.....

.....

.....

5. Name the different parts of the stomach of a ruminant.

.....

.....

ANSWER THE FOLLOWING

1. State whether the following statements are true or false.

- (a) Egestion is the process by which the food is taken in by an organism.
- (b) Pancreas secretes bile juice.
- (c) The last part of the human alimentary canal is called the large intestine.
- (d) *Amoeba* eats its food through its pseudopodia.
- (e) A ruminant's stomach is divided into four chambers.

5

2. Fill in the blanks.

5

- (a) The main steps of digestion in humans are , , , and
- (b) The largest gland in the human body is
- (c) The stomach releases hydrochloric acid and juices which act on food.
- (d) The inner wall of the small intestine has many finger-like outgrowths called
- (e) *Amoeba* digests its food in the

3. Match the columns.

5

Column A	Column B
(a) Stomach	(i) Omasum
(b) Muscular organ used to taste food	(ii) Pseudopodia
(c) Finger-like projections on the lining of the small intestine	(iii) Pancreatic juice
(d) <i>Amoeba</i>	(iv) Villi
(e) Ruminants	(v) Tongue

LONG ANSWER TYPE QUESTIONS (5 MARKS)

1. Give one word for the following.

- (a) The mixture of chewed food, digestive juices and mucus.
- (b) Tiny finger-like projections in the small intestine.
- (c) The process of chewing food by teeth.
- (d) The muscular organ in our mouth which helps to identify the taste of the food.
- (e) The narrow muscular tube which connects the mouth with the stomach.

2. Define the following terms.

- (a) Pseudopodia

Ans.

- (b) Digestion

Ans.

- (c) Ruminants

Ans.

- (d) Assimilation

Ans.

- (e) Villi

Ans.

NUTRITION IN ANIMALS

SUBJECT ASSESSMENT

WORKSHEET-13

Name	Class	Roll No.	Time 25 Min.	Max. Marks 14	Marks Obtained
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DO AS DIRECTED

6 × 1 = 6

1. The increase the surface area for absorption of the digested food.
2. Animals store swallowed grass in of the stomach.
3. is caused by an infection, food poisoning or indigestion.
4. The tongue is a fleshy muscular organ attached at the back to the floor of the buccal cavity. (T/F)
5. The saliva breaks down the starch into sugars. (T/F)
6. Liver is the shortest gland in the body. (T/F)

MATCH THE COLUMNS (DOUBLE MATCHING)

3

Column A	Column B	Column C
(A) Largest gland in the body	(a) Large intestine	(i) It secretes bile juice.
(B) Wider and shorter than small intestine	(b) Stomach	(ii) It absorbs water and some salts from the undigested food materials.
(C) Widest part of alimentary canal	(c) Liver	(iii) It receives food from foodpipe at one end.

Ans.

ONE WORDS SUBSTITUTION

5 × 1 = 5

1. The breakdown of complex components of food into simpler substances is called
2. The process of taking food into the body is called
3. The process through which digested food passes into the blood vessels in the wall of the intestine is called
4. The process through which faecal matter is removed through the anus is called
5. The digested tract and the associated glands together constitute the

NUTRITION IN ANIMALS ENRICHMENT ACTIVITY WORKSHEET-14

Name	Class	Roll No.	Time 40 Min.	Max. Marks 25	Marks Obtained
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PROJECT FILE

Collect the pictures of some different types of foods eaten by people of different regions. Paste them in project file and write about it.

GROUP ACTIVITY

Observe following organisms:

(a) Housefly (b) Butterfly or bee (c) Cow.

Discuss about their nutritional mode.

ACTIVITY-1

Aim: To show use of teeth.

Materials Required: An apple.

Procedure: Take an apple and start eating it.

Observation/Result: Note your observation in Table given below. Which teeth are in use?

Type of teeth	Number of teeth		Total
	Upper jaw	Lower jaw	
Cutting and biting teeth			
Piercing and tearing teeth			
Chewing and grinding teeth			

ACTIVITY-2

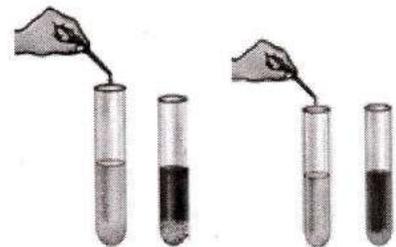
Aim: To demonstrate the effect of saliva on the food item containing starch.

Materials Required: Test tube, beaker, boiled rice, water and iodine solution

Procedure: • Take two test tubes and label them as A and B.

- In test tube A, put some boiled rice.
- Chew some amount of boiled rice for 5 minutes and put it in test tube B.
- Add some amount of water in both the test tubes.
- Leave them for some time.
- Now, put a drop of iodine solution in both the test tubes.

Observation: The boiled rice present in test tube A shows blue-black colour on addition of iodine solution. So, test tube A contains starch. In test tube B, there is no colour change as the enzymes in the saliva digest the starch present in the boiled rice into sugars.



FIBRE TO FABRIC SUBJECT ASSESSMENT WORKSHEET-15

Name	Class	Roll No.	Time 30 Min.	Max. Marks 15	Marks Obtained
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POINTS TO REMEMBER

- **Wool and Silk fibres** are obtained from animals.
- Wool is obtained from the fleece (hair) of **sheep or yak**.
- Silk fibres come from cocoons of the silk moth. That is why silk and wool are termed as **animal fibres**.
- The hairs of **Camel, Llama and Alpaca** are also processed to yield wool.
- In India, sheep are reared mostly for getting wool.
- **Sheep hair** is sheared off from the body, scoured, sorted, dried, dyed, spun and woven to yield wool.
- The wool comes from sheep, goat and yak.
- China established the silk industry first.
- The rearing of silkworms for obtaining silk is called **sericulture**.
- After scouring, sorting is done.
- Silkworms are caterpillars of silk moth.
- During life cycle of silkworms, the worms spin cocoons of silk fibres.
- The caterpillar secretes fibre of a **protein** which hardens on exposure to air and becomes silk fibre. The silk fibres from cocoons are taken out and reeled into silk threads.
- The **weaver** weaves silk thread into silk cloth.
- The process of taking out threads from the cocoon for use as silk is called **reeling the silk**.
- Burrs are small fluffy fibres of sheep hair.

EXPERIMENT 1. To study the different stages of life cycle of silk moth (*Bombyx mori*).

MULTIPLE CHOICE QUESTIONS (MCQS)

15 × 1 = 15

1. What is the lifespan of a silk moth?

(a) 7–8 days	(b) 3–4 days
(c) 9–10 days	(d) 6–7 days.
2. The stage of silk moth that produces silk fibres is called:

(a) Adult	(b) Eggs
(c) Caterpillar	(d) Pupa.
3. Silk moth is:

(a) Pink-coloured	(b) Creamy white-coloured
(c) Black-coloured	(d) None of these.
4. The caterpillar of silk moth feeds on:

(a) Neem leaves	(b) Mango leaves
(c) Grass	(d) Mulberry leaves.
5. What is the use of cocoon to human?

(a) Silk threads are extracted from cocoon.	(b) Cotton threads are extracted from cocoon.
(c) Wool threads are extracted from cocoon.	(d) None of these.

EXPERIMENT 2. To study the burning of different fibres used for making cloth.

6. How does fibre look like?

- (a) Fibre is a thick thread or hair-like structure.
- (b) Fibre is a thin thread or hair-like structure.
- (c) Fibre is a flat thread or bundle-like structure.
- (d) None of these.

7. Which fibres catch fire easily?

- (a) Wool
- (b) Cotton
- (c) Nylon
- (d) Silk.

CHAPTER BASED MCQs

8. Pure silk is obtained from:

- (a) Silkworm
- (b) Silk moth
- (c) Both of these
- (d) None of these.

9. A cloth fibre can be:

- (a) Natural
- (b) Artificial
- (c) Both of these
- (d) None of these.

10. Which kind of fibre gives the smell of burning hair?

- (a) Cotton
- (b) Silk
- (c) Wool
- (d) Nylon.

11. Which country is the highest producer of silk?

- (a) India
- (b) China
- (c) Japan
- (d) Singapore.

12. Animals that give us wool are:

- (a) Rabbit
- (b) Goat
- (c) Sheep
- (d) All of these.

13. The rearing of silkworms for obtaining silk is called:

- (a) Pisciculture
- (b) Agriculture
- (c) Sericulture
- (d) None of these.

14. Which among them is the best quality of wool?

- (a) Angora
- (b) Kashmiri
- (c) Pashmina
- (d) None of these.

15. Which one is correct among the following?

- (a) The process of obtaining silk fibre threads from the cocoon is called reeling.
- (b) The process of washing woollen fibres to remove dust, grease and dirt is called scouring.
- (c) The process of shaving sheep's hair is called shearing.
- (d) All of them.



FIBRE TO FABRIC SUBJECT ASSESSMENT WORKSHEET-16

Name	Class	Roll No.	Time 35 Min.	Max. Marks 23	Marks Obtained
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VERY SHORT ANSWER TYPE QUESTIONS (1 MARK)

1. What is meant by selective breeding?

Ans.
.....

2. Where is lohi, the breed of good quality of wool, found?

Ans.
.....

3. How is sorter's disease caused?

Ans.

4. What does caterpillar secrete?

Ans.

5. What is silk route?

Ans.
.....

6. Why silk and wool are called animal fibres?

Ans.
.....

7. What is the most common silk moth?

Ans.
.....

8. For which purpose, silk fibres are used?

Ans.

9. What is used for obtaining silk fibres?

Ans.

10. Write three types of silk.

Ans.

11. What are the feed for sheep?

Ans.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. Name two animal fibres and their sources.

Ans.
.....
.....

2. Why wool-giving animals have a thick coat of hair?

Ans.
.....
.....

3. Why sheared skin with hair is thoroughly washed in tanks?

Ans.
.....
.....

4. Why a cotton garment cannot keep us as warm in winter as a woollen sweater can?

Ans.
.....
.....

5. What is meant by pupa?

Ans.
.....
.....

6. You must be familiar with the following nursery rhymes:

- (a) 'Baa baa black sheep, have you any wool'.
- (b) 'Mary had a little lamb, whose fleece was white as snow.'

Answer the following:

- (i) Which parts of the black sheep have wool?
- (ii) What is meant by the white fleece of the lamb?

Ans.
.....



FIBRE TO FABRIC SUBJECT ASSESSMENT WORKSHEET-17

Name

Class

Roll No.

Time
45 Min.Max.
Marks
33Marks
Obtained

ANSWER THE FOLLOWING

1. Fill in the blanks with suitable words. 4

- (a) The process of taking out threads from the cocoon for use as silk is called
- (b) Silkworms are of silk moth.
- (c) The spins the cocoon inside which develops the silk moth.
- (d) Silk fibres are made of a

2. State True (T) or False (F) against the following statements. Rewrite the False statements. 4

- (a) In winters, sheep are kept outdoor and fed on leaves, grain and dry fodder. ()
- (b) The sorting is a process in which sheared skin with hair of the sheep is washed in the tank. ()
- (c) Angora wool is obtained from Kashmiri goat. ()
- (d) The rearing of silkworms for obtaining wool is called sericulture. ()

Ans.

.....

.....

.....

3. Match the words of Column A with those given in Column B. 4

Column A	Column B
(a) Scouring	(i) Yields silk fibres
(b) Mulberry leaves	(ii) Wool-yielding animal
(c) Yak	(iii) Food of silkworm
(d) Cocoon	(iv) Reeling
	(v) Cleaning sheared skin

SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. During the rearing of silkworms, the eggs are warmed to a suitable temperature. Why?

Ans.

.....

.....

.....

2. Why it hurts when someone pulls the hair, but not when one goes for a haircut?

Ans.
.....
.....

3. (a) Why shearing does not hurt the sheep?
(b) What is meant by shearing?

Ans.
.....
.....
.....

4. (a) Do camels also yield wool?
(b) Write the two types of fibres obtained from sheep.

Ans.
.....
.....
.....

5. Write short note on occupational hazards.

Ans.
.....
.....
.....

6. (a) What is meant by fleece?
(b) Define sorting and rolling.

Ans.
.....
.....
.....

7. Make sketches of the two stages in the life history of the silk moth which are directly related to the production of silk.

Ans.



**FIBRE TO FABRIC
SUBJECT ASSESSMENT
WORKSHEET-18**

Name	Class	Roll No.	Time 45 Min.	Max. Marks 32	Marks Obtained
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SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. (a) What do you mean by cocoon?
 (b) Out of four, *i.e.*, yak, camel, goat and woolly dog which does not yield wool?
 (c) Name the protein secreted by silkworm.

Ans.

.....

.....

.....

2. Why do birds (swell) puff up their feathers in winter?

Ans.

.....

LONG ANSWER TYPE QUESTIONS (5 MARKS)

1. (a) Given below is a sequence of steps in the processing of wool. Which are the missing steps?
 Add them.
 Shearing,, sorting,,
- (b) Out of the following, which are two terms related to silk production?
 Sericulture, floriculture, moriculture, apiculture and silviculture.
- (c) Write the differences between woollen cloth and silk cloth.

Ans.

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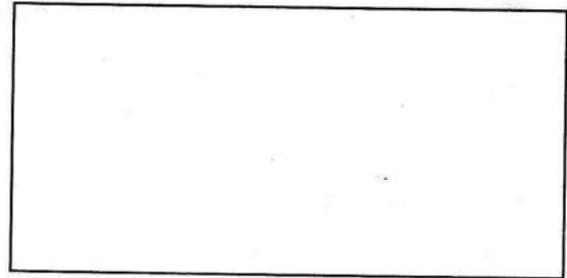
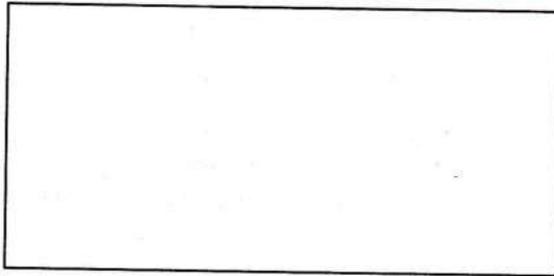
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2. Draw the diagrams of larva and cocoons.



ANSWER THE FOLLOWING

1. Match the items of Column A with those in Column B.

10

Ans.	Column A	Column B
	(a) Yak	(i) Washing and cleaning of sheared wool
	(b) Anthrax	(ii) Rearing of silkworm
	(c) Shearing	(iii) Covering of caterpillars
	(d) Sericulture	(iv) Silk
	(e) Cocoon	(v) Food of silkworm
	(f) Angora goat	(vi) Hair
	(g) Scouring	(vii) Wool
	(h) <i>Tassar</i> silk	(viii) Shaving of sheep
	(i) Mulberry leaves	(ix) Sorter's disease
	(j) Fleece	(x) Wool-yielding animal

2. Given below is a crossword puzzle based on this lesson. Use hints to fill in the blank spaces with letters that complete the words.

6

Down

1: Thorough washing

2: Animal fibre

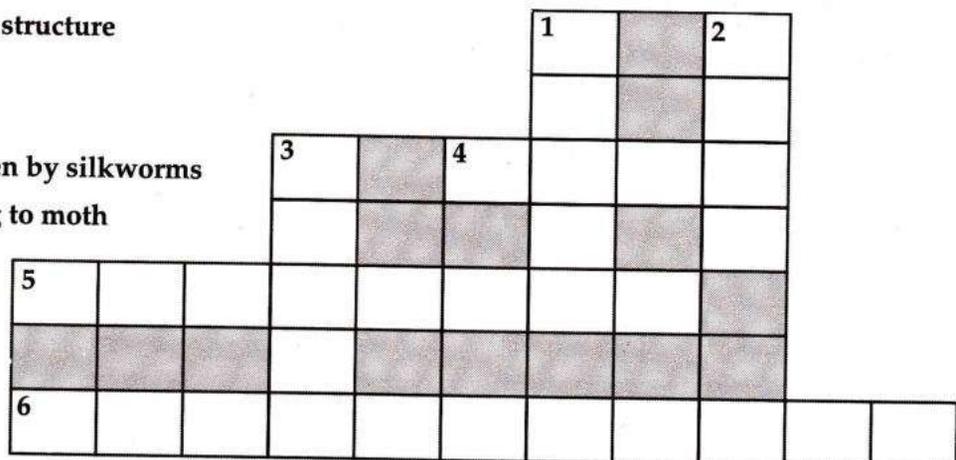
3: Long thread-like structure

Across

4: Keeps warm

5: Its leaves are eaten by silkworms

6: Hatches from egg to moth



FIBRE TO FABRIC SUBJECT ASSESSMENT WORKSHEET-19

Name	Class	Roll No.	Time 45 Min.	Max. Marks 31	Marks Obtained
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ANSWER THE FOLLOWING

1. Complete the analogy.

5

- (a) Yak : Wool :: Bombyx mori :
- (b) Cashmere goat : India :: Alpaca :
- (c) Silk : Reeling :: Wool :
- (d) Moth : Cocoon :: Sheep :
- (e) Lohi : Superior wool :: Marwari :

2. Match the columns.

5

Column A	Column B
(a) Wool	(i) Spain
(b) Merino	(ii) Mohair
(c) Angora	(iii) Goat Shearing
(d) Removing of fleece	(iv) Pashmina shawls
(e) Cashmere goat	(v) Sorter's disease

3. Give two examples for each of the following.

5

- (a) Wool-yielding animals
- (b) Animal fibres
- (c) Synthetic fibres
- (d) Plant fibres
- (e) Types of silk

4. Define the following terms.

5

(a) Shearing

.....

.....

(b) Reeling

.....

.....

(c) Carding

.....
.....

(d) Fibroin

.....
.....

(e) Scouring

.....
.....

5. Give reasons for the following.

5

(a) Shearing does not cause any pain to the sheep.

.....
.....

(b) Scouring is necessary before using the fleece for making wool.

.....
.....

(c) Woollen fibres have greater bulk as compared to other fibres.

.....
.....

(d) Wool is preferred for winter clothing.

.....
.....

(e) Silk farmers allow only a small percentage of pupae to develop into moths.

6. Explain in detail about the hazards caused to people working in sericulture industry.

3

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7. List and explain the steps involved in the processing of fleece of a sheep into woollen fibres.

3

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□□

FIBRE TO FABRIC SUBJECT ASSESSMENT WORKSHEET-20

Name.....	Class.....	Roll No.	Time 30 Min.	Max. Marks 20	Marks Obtained
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DO AS DIRECTED

$11 \times 1 = 11$

1. The gestation period of sheep and goat is
2. A place where sheeps are reared, is called
3. The secreted by silkworm is fibrin.
4. Animal fibres usually contain as its constituent.
5. The removal of wool from a sheep is called
6. The fibre obtained from the Angora goat is called
7. The strands of wool are spun together to form
8. wool is used to produce the finest woollen clothes.
9. Wool and cotton are plant fibres. (T/F)
10. Kosa and mooga are silk produced by non-mulberry silkworms. (T/F)
11. The insect that does not produce silk is called silk moth. (T/F)

ANALOGY TYPE QUESTIONS

$5 \times 1 = 5$

1. Marwari : Coarse wool :: Patanwadi : For
2. Llama : South America :: Yak :
3. Marwari : Gujarat :: Bhakarwal :
4. Alpaca : :: Angora : Goat.
5. Kashmiri : Goat :: Pashmina :

ANSWER THE FOLLOWING

$4 \times 1 = 4$

1. The hair of sheep or yak, from which wool is obtained is called
2. A small fluffy fibre is known as
3. A sorter of wool generally suffers from a disease, which is fatal, is called
4. The next stage of caterpillar's life is

FIBRE TO FABRIC ENRICHMENT ACTIVITY WORKSHEET-21

Name	Class	Roll No.	Time 30 Min.	Max. Marks 20	Marks Obtained
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PROJECT REPORT

Collect information on the various breeds of sheep and how the quality of wool is dependent on the breed of sheep. Do a case study on any one breed of sheep reared in India, with its feeding habits, breeding time, its shelter and the quality of wool it gives.

ACTIVITIES

1. Collect pictures about life cycle of silk moth or collect real silkworms and try to rear them in your home.
2. Visit a nearby silk handloom/exhibitions and try to see stalls where elders tell you more about rearing of silk.

ACTIVITY

Aim: To differentiate between various plant, animal and synthetic fibres.

Materials Required: A candle, matchbox and swatches of different fibres.

Procedure: Number the swatches in sequence. Feel the swatch between your forefinger and thumb and describe its texture. Pull out a thread from each of the swatches, light the candle and bring one thread at a time near the burning candle. Complete the following Table according to their burning characteristics:

Type of fibre	Burning characteristics	Fibre texture	Fibre number
Cotton			
Wool			
Rayon			

Result. We get the burning characteristics (like flame and smell) of plants, animals and synthetic fibre are differ from each other.

□□

HEAT

SUBJECT ASSESSMENT

WORKSHEET-22

Name	Class	Roll No.	Time 25 Min.	Max. Marks 15	Marks Obtained
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POINTS TO REMEMBER

- **Temperature** is a measure of the degree of hotness or coldness of an object.
- **Thermometer** is a device to measure the temperature of bodies.
- Our sense of touch is not always reliable guide to the degree of hotness of an object.
- The temperature of a body is always measured by **clinical thermometer**.
- The normal temperature of human body is 37°C.
- The clinical thermometer has the range of temperature between 35°C and 42°C because the normal body temperature does not exceed below 35°C or above 42°C.
- For other purposes, we use laboratory thermometers. The range of these thermometers is usually from -10°C to 110°C.
- There are three ways in which heat can flow from one body (object) to another. These are: **conduction, convection and radiation**.
- The process by which heat is transferred from the hotter end to the colder end of an object is known as **conduction**. In solids, generally heat is transferred by **conduction**. In liquids and gases, heat can be transferred by **convection**. No medium is required for transfer of heat by radiation.
- The materials (generally metals) which allow heat to pass through them easily, are called **conductors** of heat. For example, all metals are good conductors of heat.
- Liquid mercury is good conductor of heat.
- The materials which do not allow heat to pass through them easily, are called **poor conductors of heat**. Examples are plastic, rubber and wood. Water and air are **poor conductors of heat**. **Poor conductors of heat** are also known as **insulators**.
- All hot bodies radiate heat.
- Woollen clothes keep us warm during winter. It is so because wool is a poor conductor of heat and it has air, trapped in between the fibres.

EXPERIMENT 1. Reading a thermometer.

MULTIPLE CHOICE QUESTIONS (MCQs)

15 × 1 = 15

1. What is the least count?

- (a) Least count is the reading represented by one large division of a measuring device.
- (b) Least count is the reading represented by one small division of a measuring device.
- (c) Both of these.
- (d) None of these.

2. Measuring of temperature is done by:

- (a) Lactometer (b) Barometer (c) Thermometer (d) Hygrometer.

EXPERIMENT 2. Measurement of temperature.

3. The exact temperature of boiling water is:

- (a) 98°C (b) 99°C (c) 105°C (d) 100°C.

4. The normal human body temperature 37°C is written in fahrenheit as:
 (a) 98.6°F (b) 98.7°F (c) 98.4°F (d) 99°F .
5. The material used in the bulb of a laboratory thermometer which measures the temperature of hot water, is
 (a) Copper (b) Iron (c) Iodine (d) Mercury.

EXPERIMENT 3. To study the various solid material strips or materials as good or bad conductors of heat.

6. Are metals good conductors of heat and electricity?
 (a) Yes (b) No (c) Both (d) None of these.
7. Which one is odd one out?
 (a) Glass (b) Spoon made of steel
 (c) Paper pin (d) Blade.

EXPERIMENT 4. To study about convection of heat in water.

8. Convection is a:
 (a) Crystal (b) KMnO_4
 (c) Mode of heat transfer (d) None of these.
9. Hot water moves in which direction, after water is being heated?
 (a) Up (b) Down (c) Both (a) and (b) (d) Nowhere.
10. Potassium permanganate crystal used in experiment of convection of heat in water is to:
 (a) heat water (b) colour
 (c) see (d) see rising convection currents.

CHAPTER BASED MCQs

11. Which one does not require material medium in transfer of heat?
 (a) Convection (b) Radiation (c) Conduction (d) None of these.
12. Which is correct among the following?
 (a) A clinical thermometer consists of long narrow and uniform glass tube.
 (b) The glass tube has a bulb at one end containing mercury.
 (c) Outside the bulb, a small shining thread of mercury can be seen.
 (d) All of these.
13. The process by which heat is transferred from the hotter end to colder end of an object is known as:
 (a) Convection (b) Conduction (c) Radiation (d) None of these.
14. Heat from the sun reaches us by the process of:
 (a) Conduction (b) Radiation
 (c) Convection (d) All of the above.
15. A wooden spoon dipped in the icecream cup:
 (a) becomes cold by conduction. (b) becomes cold by convection.
 (c) becomes cold by radiation. (d) does not become cold.



HEAT SUBJECT ASSESSMENT WORKSHEET-23

Name	Class	Roll No.	Time 35 Min.	Max. Marks 24	Marks Obtained
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VERY SHORT ANSWER TYPE QUESTIONS (1 MARK)

1. When we heat water, by which method heat travels in water?

Ans.

2. Which is the fastest mode of transfer of heat?

Ans.

3. Write one property of a black body with rough surface.

Ans.

4. Which is the most malleable metal?

Ans.

5. Which is the best conductor of heat?

Ans.

6. Why are cooling coils at the back of refrigerators made of copper?

Ans.

7. How are the maximum and minimum temperatures of the previous day, reported in weather reports, measured?

Ans.

8. Which is better absorber of heat, dark-coloured object or light-coloured object?

Ans.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. Why are handles of most utensils made of plastic and wood?

Ans.

2. Why are two thin woollen blankets warmer than a thick woollen blanket?

Ans.

HEAT SUBJECT ASSESSMENT WORKSHEET-24

Name || Class || Roll No. || Time 35 Min. || Max. Marks 26 || Marks Obtained

ANSWER THE FOLLOWING

1. Match the items of Column A with those in Column B. 4

Column A	Column B
(a) Land breeze blows during	(i) Summer
(b) Sea breeze blows during	(ii) Winter
(c) Dark-coloured clothes are preferred during	(iii) Day
(d) Light-coloured clothes are preferred during	(iv) Night

Ans.

2. Fill in the blanks. 4

- (a) Temperature of boiling water cannot be measured by a
- (b) Temperature is measured in degree
- (c) No medium is required for transfer of heat by the process of
- (d) A cold steel spoon is dipped in a cup of hot milk. It transfers heat to its other end by the process of

3. State True (T) or False (F) against the following statements. Rewrite the False statements. 3

- (a) Paper is a good conductor of heat. ()
- (b) All metals are good conductor of heat. ()
- (c) Radiation can pass through vacuum also. ()

Ans.

.....

.....

SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. (a) Look at the Fig. at answer's place. Mark where the heat is being transferred by conduction, by convection and by radiation.
- (b) What is the range of clinical thermometer?

Ans.



-
.....
2. (a) Why are ventilators provided in houses?
(b) In radiation, heat travels in straight lines or in zigzag path?

Ans.
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.....
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.....

3. (a) Write two conditions for conduction of heat.
(b) Which is the best heat insulator among air, metal, iron and water?

Ans.
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4. (a) Why room heaters have bright polished surfaces?
(b) Can you use laboratory thermometer for measuring the human body temperature?

Ans.
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5. (a) Why are stainless steel usually provided with copper bottoms?
(b) What is the range of laboratory thermometers?

Ans.
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□□

HEAT SUBJECT ASSESSMENT WORKSHEET-25

Name	Class	Roll No.	Time 45 Min.	Max. Marks 31	Marks Obtained
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SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. (a) Why does the mercury not fall or rise in a clinical thermometer when it is taken out of the mouth?
(b) Define convection with one example.

Ans.

2. (a) Why does the electrician wear rubber gloves when he works?
(b) What is the range of fahrenheit scale (°F)?

Ans.

LONG ANSWER TYPE QUESTIONS (5 MARKS)

1. (a) By which process the heat is transferred in solids, liquids and gases?
(b) By which process the heat is transferred in liquids and gases?
(c) In which process, there is no require any medium for transference of heat?
(d) Which of the following is the better absorber of heat radiations, a black surface or shiny or white surface?
(e) Which currents are produced inside the earth's crust?

Ans.

2. The desert sand is very hot in day and very cool at night. Explain the reason.

Ans.
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.....
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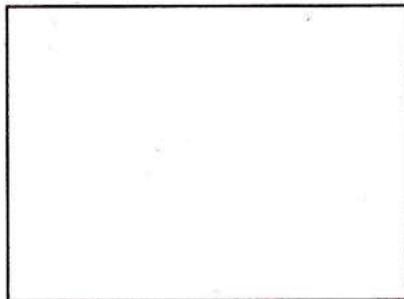
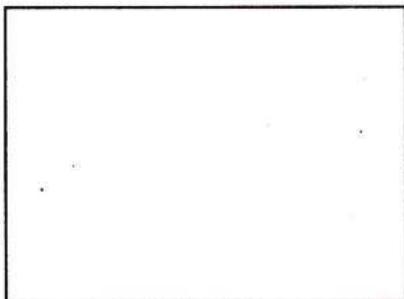
3. Give one word for the following statements:

- (a) The reliable measure of the hotness or coldness of an object is
- (b) The instrument that is used to measure the temperature of the boiling water
- (c) The air that blows from sea towards land during day is known as
- (d) The normal temperature of the human body in fahrenheit scale is
- (e) The process by which heat is transferred from the hotter end to the colder end of an object

4. State similarities and differences between the laboratory thermometer and clinical thermometer.

Ans.
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5. Draw a well-labelled diagrams of sea breeze and land breeze.



HEAT

SUBJECT ASSESSMENT

WORKSHEET-26

Name	Class	Roll No.	Time 45 Min.	Max. Marks 31	Marks Obtained
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ANSWER THE FOLLOWING

1. Fill in the blanks.

5

- (a) is the fastest mode of transfer of heat.
- (b) is the mode of transfer of heat where no medium is required.
- (c) metal is used in the bulb of thermometer.
- (d) Metals are and plastics are of heat.
- (e) coloured objects absorb more heat.

2. Match the columns.

5

Column A	Column B
(a) Thermos flask	(i) 100°C
(b) Boiling point of water	(ii) From land to sea
(c) Normal body temperature	(iii) From sea to land
(d) Sea breeze	(iv) Maintains the temperature hot or cold
(e) Land breeze	(v) 37°C

3. Define the following terms.

5

(a) Convection

.....

(b) Radiation

.....

(c) Conduction

.....

(d) Conductors

.....

(e) Insulators

.....

4. Differentiate between:

5

(a) Convection and radiation

.....

.....

(b) Conduction and convection

.....
.....

(c) Sea breeze and land breeze

.....
.....

(d) Laboratory thermometer and clinical thermometer

.....
.....

(e) Insulators and conductors

.....
.....

5. Give reasons for the following.

5

(a) People prefer to wear light-coloured clothes in the summer season.

.....
.....

(b) Ventilators in houses are provided at the top of the walls.

.....
.....

(c) We use iron or aluminium utensils for cooking food.

.....
.....

(d) Hot air balloon rises up in the air.

.....
.....

(e) The bottom of some cooking utensils is painted black.

6. What precautions should be taken while using a laboratory thermometer and a clinical thermometer?

3

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7. Explain why do gases expand more than solids on heating.

3

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HEAT SUBJECT ASSESSMENT WORKSHEET-27

Name	Class	Roll No.	Time 30 Min.	Max. Marks 16	Marks Obtained
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DO AS DIRECTED

$6 \times 1 = 6$

1. The breeze which blows from the lands towards sea at night in coastal regions is called
2. coloured objects are better absorber of heat.
3. Shining and surfaces are better reflectors of heat.
4. Transfer of heat from one part of a fluid to another by movement of fluid itself is called convection heat. (T/F)
5. Heat is a form of electricity. (T/F)
6. Steel pan has copper bottom because copper is better conductor of heat than steel. (T/F)

ONE WORDS SUBSTITUTION

$5 \times 1 = 5$

1. A thermometer used to measure temperature of other objects not of the body temperature is called
2. The breeze which blows from sea towards land in daytime is called
3. The degree of 'hotness' and 'coldness' of a body is called
4. The materials which allow heat to pass through them easily are called
5. The materials which do not allow heat to pass through them easily are called

ANALOGY TYPE QUESTIONS

$5 \times 1 = 5$

1. Clinical thermometer : 35°C to 42°C :: : -10°C to 110°C .
2. Solids: :: Liquids and gases: Convection.
3. Dark-coloured object : Heat absorber :: Light-coloured object : Heat
4. Fahrenheit scale : 32°F - 212°F :: Kelvin scale:
5. Heat energy gains : Temperature :: Heat energy losses : Temperature

HEAT ENRICHMENT ACTIVITY WORKSHEET-28

Name	Class	Roll No.	Time 40 Min.	Max. Marks 20	Marks Obtained
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PROJECT REPORT

1. Take a water bottle and see how you can modify it so that it will keep cold water cool in it for a long time.
2. Conservation of electricity is very important to all of us. Think of methods to redesign a room so that it will remain cool in summer and warm in winters. This can minimise the use of air conditioners and room heaters.

ACTIVITY-1

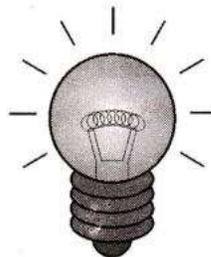
Aim: To show radiation of heat with the help of an activity.

Materials Required: Electric bulb.

Procedure: First of all, switch on the electric bulb and wait for a few minutes. Put your hand close to it without touching.

Observation: You will observe that you can feel the heat of electric bulb even when you do not touch it.

Result: Heat energy is reaching your hand from bulb in the form of radiation.



ACTIVITY-2

Aim: To study the concept of heat transfer.

Material Required: A big tumbler or a big glass vessel, a small beaker, 2 thermometers, stopwatch, cold water and warm water

Procedure: • Put some warm water in the bigger tumbler and cold water in the small beaker.

- Put a thermometer in both the containers and note down the temperature of water in both the containers.
- Set the cold water beaker into the warm water tumbler as shown in the diagram.
- Watch time in the clock carefully and after every 2 minutes measure and record the temperatures of both the containers.
- Keep on recording till you get the same reading in both the containers.

Observation:

S. No.	Time	Temperature in the big container	Temperature in the small beaker
1.	0 min		
2.	2 min		
3.	4 min		
4.	6 min		
5.	8 min		

Temperature in both the containers will become the same as the heat flows from the higher temperature to the lower temperature till the temperature of both the beakers becomes equal.

ACIDS, BASES AND SALTS

SUBJECT ASSESSMENT

WORKSHEET-29

Name	Class	Roll No.	Time 30 Min.	Max. Marks 13	Marks Obtained
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POINTS TO REMEMBER

- Substances having sour taste, are called **acids**.
- Bases are bitter in taste and soapy to touch.
- Baking soda (Sodium bicarbonate) is base.
- Special type of substances are used to test whether a substance is acidic or basic. These substances are called **indicators**. **Turmeric, litmus, china rose petals, phenolphthalein**, etc., are some of the naturally occurring indicators.
- **Acid** turns blue litmus red and **base** turns red litmus blue.
- The chemical name of vitamin C is Ascorbic acid.
- Litmus is most commonly used natural indicator which is extracted from **lichens**. It has a mauve (purple) colour in distilled water. When this solution is added to an acidic solution, it turns red and when added to a basic solution, it turns blue. The litmus is available in the form of a solution, or in the form of strips of paper, known as **litmus paper**. They are generally available as red and blue litmus papers.
- An acid and a base neutralise each other and form a salt. A **salt** may be acidic, basic or neutral in nature.
- Our stomach contains hydrochloric acid.
- The reaction between an acid and a base is known as **neutralisation**. Salt and water are produced in this process with the evolution of heat.
- Ammonium hydroxide (NH_4OH) is found in window cleaner.

EXPERIMENT 1. To show litmus paper test on some solutions.

MULTIPLE CHOICE QUESTIONS (MCQs)

13 × 1 = 13

1. An acid will change blue litmus into:

- | | |
|-----------|--------------------|
| (a) White | (b) Red |
| (c) Green | (d) None of these. |

2. Red litmus turns blue when the solution is:

- | | |
|-----------------------|------------------------|
| (a) acidic in nature. | (b) neutral in nature. |
| (c) basic in nature. | (d) all of these. |

3. Purple colour of litmus is obtained in which solution?

- | | |
|----------------------|--------------------|
| (a) Acidic solution | (b) Basic solution |
| (c) Neutral solution | (d) None of these. |

4. Which of the following is not an indicator?

- | | | | |
|------------|------------|-------------------|----------------------|
| (a) Digene | (b) Litmus | (c) Methyl orange | (d) Phenolphthalein. |
|------------|------------|-------------------|----------------------|

5. Litmus is obtained from:

- | | | | |
|-----------------|---------------|-------------|--------------------|
| (a) Only fungus | (b) Only alga | (c) Lichens | (d) None of these. |
|-----------------|---------------|-------------|--------------------|

CHAPTER BASED MCQs

6. Which indicator gives dark-pink colour in acid?

- (a) Litmus
- (b) Methyl orange
- (c) China rose
- (d) Phenolphthalein.

7. Vinegar is a/an:

- (a) Acid
- (b) Base
- (c) Acetic acid
- (d) Both (a) and (c).

8. Which of the following are mineral acids?

- (a) Hydrochloric acid (HCl)
- (b) Sulphuric acid (H_2SO_4)
- (c) Nitric acid (HNO_3)
- (d) All of these.

9. Which indicator is colourless in acidic medium?

- (a) Litmus
- (b) Phenolphthalein
- (c) Methyl orange
- (d) China rose.

10. Which indicator is yellow in basic medium?

- (a) Methyl orange
- (b) Phenolphthalein
- (c) Litmus
- (d) None of these.

11. Which is also known as epsom salt?

- (a) Magnesium sulphate
- (b) Copper sulphate
- (c) Ferrous sulphate
- (d) Sodium carbonate.

12. Which is also known as green vitriol?

- (a) Copper sulphate
- (b) Ferrous sulphate
- (c) Magnesium sulphate
- (d) Sodium chloride.

13. Which compound is used in treatment, when a bee stings?

- (a) Baking soda
- (b) Washing soda
- (c) Slaked lime
- (d) Magnesium sulphate.

□□

ACIDS, BASES AND SALTS

SUBJECT ASSESSMENT

WORKSHEET-30

Name	Class	Roll No.	Time 40 Min.	Max. Marks 29	Marks Obtained
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VERY SHORT ANSWER TYPE QUESTIONS (1 MARK)

1. What are meant by neutral solutions?

Ans.

2. How are salts formed?

Ans.

3. How does indicator like methyl orange change colour in basic medium?

Ans.

4. What are deliquescent salts?

Ans.

5. Name the compound used for white-washing.

Ans.

6. Name two acids, used for manufacturing baking powder.

Ans.

7. Proteins are made of which substance?

Ans.

8. What acid does each cell in our body contain?

Ans.

9. How is indigestion caused?

Ans.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. Write the chemical names of the following:

(a) Calamine solution

(b) Quicklime

(c) Milk of magnesia

(d) Washing soda.

2. Write the acids present in the following:

(a) Curd

(b) Grapes

(c) Spinach

(d) Citrus fruits such as oranges, lemon, etc.

3. (a) State two characteristics of bases.

(b) What is meant by anhydrous salt?

Ans.
.....
.....

4. (a) Ammonia is found in many household products, such as window cleaners. It turns red litmus blue. What is its nature?

(b) Name the source from which litmus solution is obtained? What is the use of this solution?

Ans.
.....

5. Explain why factory waste is neutralised before disposing it into the water bodies.

Ans.
.....

6. Why citrus fruits are not stored in vessels made of metal?

Ans.
.....

7. (a) What is alkali?

(b) Write the chemical name and molecular formula of table salt.

Ans.
.....

8. (a) What happens when acids react with metal and metal carbonates?

(b) What is meant by effervescence?

Ans.
.....

9. How does acid rain become acidic?

Ans.
.....

10. Is the distilled water acidic/basic/neutral? How would you verify it?

Ans.
.....
.....

□□

ACIDS, BASES AND SALTS
SUBJECT ASSESSMENT
WORKSHEET-31

Name	Class	Roll No.	Time 35 Min.	Max. Marks 21	Marks Obtained
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SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. State differences between acids and bases.

Ans.

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.....

.....

2. Describe the process of neutralisation with the help of an example.

Ans.

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3. Three liquids are given to you. One is hydrochloric acid, another is sodium hydroxide and third is a sugar solution. How will you identify them? You have only turmeric powder.

Ans.

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4. Explain why:

- (a) An antacid tablet is taken when we suffer from acidity.
- (b) Calamine solution is applied on the skin when an ant bites.

Ans.

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5. (a) Consider the following statements:

- (i) Both acids and bases change colour of all indicators.
- (ii) If an indicator gives a colour change with an acid, it does not give a change with a base.
- (iii) If an indicator changes colour with a base, it does not change colour with an acid.
- (iv) Change of colour in an acid and a base depends on the type of the indicator. Which of the statements are correct?

Which of these statements are correct?

- (i) All four (ii) i and ii (iii) ii and iii (iv) only iv.

(b) What will you feel if the acid comes in contact with your skin?

Ans.

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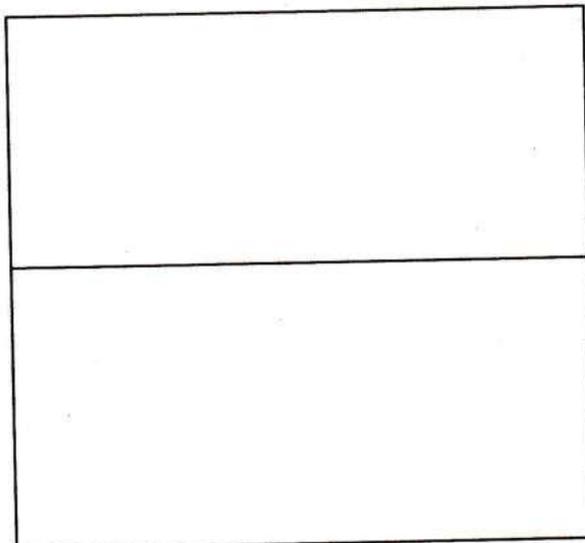
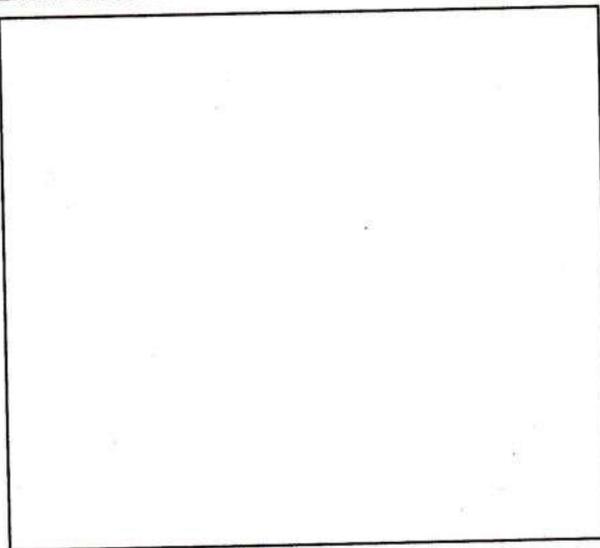
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6. Draw lichens and red and blue litmus papers.

Ans.



7. (a) What steps do you take to get rid of indigestion?

(b) Name two compounds, used as soap.

Ans.

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□□

ACIDS, BASES AND SALTS
SUBJECT ASSESSMENT
WORKSHEET-32

Name	Class	Roll No.	Time 40 Min.	Max. Marks 24	Marks Obtained
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SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. (a) Name three naturally occurring indicators.
 (b) Why does turmeric stain on a cloth turns red when it is washed with soap?

Ans.

2. (a) How is lime water tested?
 (b) What is the chemical name of lime water?

Ans.

3. Why plants do not grow well when the soil is either too acidic or too basic?

Ans.

LONG ANSWER TYPE QUESTIONS (5 MARKS)

1. Write the effects of blue litmus paper in the following solutions and also state the nature of the solutions:

(a) Detergent solution

(b) Sugar solution

(c) Milk of magnesia

(d) Aerated drinks

(e) Vinegar.

Ans.

2. Dorji has a few bottles of soft drink in his restaurant. But, unfortunately, these are not labelled. He has to serve the drinks on the demand of customers. One customer wants acidic drink, another wants basic and third one wants neutral drink. How will Dorji decide which drink is to be served to whom?

Ans.

3. Write products and equations for the following:

- (a) When sulphuric acid reacts with sodium hydroxide.
- (b) When copper oxide reacts with sulphuric acid.
- (c) When sodium hydroxide reacts with phosphoric acid.

Ans.



ACIDS, BASES AND SALTS

SUBJECT ASSESSMENT

WORKSHEET-33

Name	Class	Roll No.	Time 45 Min.	Max. Marks 31	Marks Obtained
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ANSWER THE FOLLOWING

1. Name the following acids or bases. 5

(a) The acid used in car batteries.

.....

(b) The acid present in ant and bee sting.

.....

(c) The base used in whitewashing of walls.

.....

(d) The base used as an antacid.

.....

(e) The acid that contains very less quantity of water.

.....

2. Match the columns. 5

Column A	Column B
(a) Oxalic acid	(i) Tannic acid
(b) Ammonium hydroxide	(ii) Baking soda
(c) Natural acid	(iii) Alkali
(d) Weak base	(iv) Cleaning agent
(e) Sodium hydroxide	(v) Tomato

3. Define the following terms. 5

(a) Mineral acid

.....

(b) Natural indicators

.....

(c) Water of crystallisation

.....

(d) Organic acids

.....

(e) Alkalis

4. Give reasons for the following.

5

(a) Factory waste is neutralised before disposing it of into the waterbodies.

(b) Calamine lotion is applied on bee stings.

(c) An antacid tablet is taken when you suffer from acidity.

(d) Most acids are not stored in metal containers.

5. Red litmus paper is dipped in a solution. It remains red. What is the nature of the solution?

3

6. What is meant by neutralisation reaction? Explain by giving suitable examples.

3

7. Mention two uses of each of the following.

5

(a) Ammonium hydroxide

(b) Hydrochloric acid

(c) Magnesium hydroxide

(d) Nitric acid

(e) Sodium hydroxide

ACIDS, BASES AND SALTS

SUBJECT ASSESSMENT

WORKSHEET-34

Name

Class

Roll No.

Time
30 Min.Max.
Marks
21Marks
Obtained**DO AS DIRECTED****6 × 1 = 6**

- Saliva is is nature.
- Milk of magnesia helps in
- Bases are to touch.
- Bases that can dissolve in water are called alkalis. (T/F)
- Magnesium hydroxide $[Mg(OH)_2]$ is also known as milk of magnesia. (T/F)
- Potassium hydroxide is known as caustic soda. (T/F)

MATCH THE COLUMNS (DOUBLE MATCHING)**5**

Column A	Column B	Column C
(A) Acetic acid	(a) In the manufacture of paper	(i) HNO_3
(B) Sulphuric acid	(b) In manufacturing explosive, i.e., TNT	(ii) CH_3COOH
(C) Calcium hydroxide	(c) As a preservatives in pickles	(iii) NaOH
(D) Sodium hydroxide	(d) In improvement of acidic soils	(iv) H_2SO_4
(E) Nitric acid	(e) Used in car batteries	(v) $Ca(OH)_2$

ANSWER THE FOLLOWING**5 × 1 = 5****1. Give one word for the following statements:**

- The name given to litmus, phenolphthalein, turmeric, china rose, etc. is
- The reaction that takes place between an acid and a base is known as
- The solutions which do not change the colour of either red or blue litmus, are called
- Curd, lemon juice, orange juice and vinegar are sour in taste and they are known as
- When fats react with sodium hydroxide, they form

2. Mark 'T' if the statement is true and 'F' if it is false. Correct the false statements.**5 × 1 = 5**

- Nitric acid turns red litmus blue. ()
 - Sodium hydroxide turns blue litmus red. ()
 - Sodium hydroxide and hydrochloric acid neutralise each other and form salt and water. ()
 - Indicator is a substance which shows different colours in acidic and basic solutions. ()
 - Tooth decay is caused by the presence of a base. ()
-
-
-

ACIDS, BASES AND SALTS

ENRICHMENT ACTIVITY

WORKSHEET-35

Name	Class	Roll No.	Time 40 Min.	Max. Marks 17	Marks Obtained
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PROJECT REPORT

1. Collect at least ten different solutions found in your home. Identify whether they are acidic or basic or neutral using a china rose indicator.
2. Can you prepare a natural indicator using beetroot extract or red cabbage extract? Explain what colour does it show in acidic/basic solutions.

ACTIVITY

Aim: To know about neutralisation reaction.

Materials Required: Test tubes, sodium hydroxide, hydrochloric acid, phenolphthalein.

Procedure: Take 30 ml of dilute solution of sodium hydroxide in a test tube and add a drop of phenolphthalein to it. The solution will turn pink/magenta. Now, pour a few ml of acid, *i.e.*, hydrochloric acid, in other test tube and add a few drops of phenolphthalein to it. The solution will remain unchange, *i.e.*, colourless. Test this solution with blue as well as red litmus paper.

Observation/Result: You will notice that blue as well as red retain their colour, indicating that the solution is neutral.

ACTIVITY BASED MCQS

1. When a drop of phenolphthalein is added with dilute solution of sodium hydroxide, the solution will turn:
(a) Pink (b) Yellow (c) White (d) Black.
2. When a drop of phenolphthalein is added with hydrochloric acid, the solution will:
(a) Turn pink (b) Remain unchange (c) Turn yellow (d) Turn white.

□□

PHYSICAL AND CHEMICAL CHANGES

SUBJECT ASSESSMENT

WORKSHEET-36

Name	Class	Roll No.	Time 25 Min.	Max. Marks 13	Marks Obtained
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POINTS TO REMEMBER

- Changes are the true fact of the universe. Every moment, changes are taking place all around us.
- Changes are generally of two types, *i.e.*, **physical** and **chemical**.
- Properties such as shape, size, colour and state of a substance are called its **physical properties**.
- A change in which a substance undergoes a change in its physical properties is called a **physical change**.
- A **physical change** is generally reversible. In such changes, no new substance is formed.
- A change in which one or more new substances are formed is known as a **chemical change**.
- A chemical change is also called a **chemical reaction**. It is irreversible change. A new substance is formed in a **chemical change**. Indeed, one or more new substances are produced.
- **Rusting** is a chemical change. For rusting, the presence of both oxygen and water (or water vapour) is essential.
- The process of depositing a layer of zinc on iron is called **galvanisation**. The iron pipes we use in our homes to carry water are galvanised to prevent rusting.
- Some substances can be obtained in pure state from their solutions by **crystallisation**.
- The chemical name of blue vitriol is copper sulphate.

EXPERIMENT 1. To study the effect of gas evolved from reaction of vinegar and baking soda on limewater.

MULTIPLE CHOICE QUESTIONS (MCQs)

13 × 1 = 13

1. Which gas turns limewater milky?

(a) Carbon monoxide	(b) Oxygen
(c) Nitrogen	(d) Carbon dioxide.
2. What is the chemical name of baking soda?

(a) Sodium benzoate	(b) Sodium bisulphate
(c) Sodium bicarbonate	(d) Sodium acetate.
3. What happens when carbon dioxide is treated with limewater?
 - (a) Magnesium carbonate is formed.
 - (b) Calcium carbonate is formed.
 - (c) Water is liberated.
 - (d) Both (b) and (c) are correct.
4. Which is evolved after mixing of vinegar with baking soda?

(a) Limewater [Ca(OH) ₂]	(b) Carbon dioxide (CO ₂)
(c) Quicklime (CaO)	(d) None of these.

5. Why does limewater turn milky?

- (a) Limewater turns milky due to formation of calcium oxide.
- (b) Limewater turns milky due to formation of calcium carbonate.
- (c) Limewater turns milky due to formation of water.
- (d) None of these.

EXPERIMENT 2. To make copper sulphate crystals.

6. The process of formation of crystals from a saturated solution of substance is called:

- (a) Rusting
- (b) Galvanisation
- (c) Crystallisation
- (d) None of these.

7. Crystals of copper sulphate are:

- (a) Blue
- (b) Red
- (c) Yellow
- (d) Green.

8. The formation of crystals from its solution is:

- (a) a physical change.
- (b) a chemical change.
- (c) both of these.
- (d) neither (a) nor (b).

9. Why is copper sulphate powder dissolved in boiling water?

- (a) Because hot water dissolves less powder and a supersaturated solution can be made.
- (b) Because hot water dissolves more powder and a supersaturated solution can be made.
- (c) Both of these.
- (d) None of these.

10. When iron pieces are added to a blue copper sulphate solution:

- (a) white iron sulphate and red copper are obtained.
- (b) green iron sulphate and brown copper are obtained.
- (c) yellow iron sulphate and blue copper are obtained.
- (d) none of these.

CHAPTER BASED MCQs

11. Which one is incorrect among the following?

- (a) MgO is used in formation of milk of magnesia.
- (b) The chemical formula of rust is Fe_2O_3 .
- (c) Chemical change is permanent in nature.
- (d) Physical change is always irreversible change.

12. Temporary change is also known as:

- (a) Chemical change
- (b) Irreversible change
- (c) Physical change
- (d) None of these.

13. Anaerobic bacteria digest animal waste and produce biogas (Process-A). The biogas is then burnt as fuel (Process-B). The following statement pertain to these changes. Choose the correct one.

- (a) Process-A is a chemical change.
- (b) Process-B is a chemical change.
- (c) Both processes A and B are chemical changes.
- (d) None of these processes is a chemical change.

□□

PHYSICAL AND CHEMICAL CHANGES
SUBJECT ASSESSMENT
WORKSHEET-37

Name	Class	Roll No.	Time 35 Min.	Max. Marks 25	Marks Obtained
------------	-------------	---------------	-----------------	---------------------	-------------------

VERY SHORT ANSWER TYPE QUESTIONS (1 MARK)

1. How does rusting become faster?

Ans.
.....

2. Which acts as a protective shield to protect us from the harmful ultraviolet radiation?

Ans.

3. Is burning of coal a chemical change?

Ans.

4. How calcium carbonate is formed? (Write chemical equation).

Ans.

5. In which change, new substances are formed?

Ans.

6. Is digestion of food, chemical change or physical change?

Ans.

7. Which properties have shape, size, colour and state of a substance?

Ans.

8. Which change is related with boiling water?

Ans.

9. Which change is related with souring of milk?

Ans.
.....

10. Why does blue colour of copper sulphate change to green colour?

Ans.
.....

11. Why is rust different from iron?

Ans.
.....

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. Why does ship suffer a lot of damage from rusting in spite of being painted?

Ans.
.....
.....

2. Explain how painting of an iron gate prevents it from rusting.

Ans.
.....
.....

3. Explain why rusting of iron object is faster in coastal areas than in deserts.

Ans.
.....
.....

4. When baking soda is mixed with lemon juice, bubbles are formed with the evolution of a gas. What type of change is it? Explain.

Ans.
.....
.....

5. What do you mean by rusting?

Ans.
.....
.....

6. Why are we not advised to play with fireworks?

Ans.
.....
.....

7. (a) Which change is associated with burning of any substance?
(b) Write the equation of process of rusting.

Ans.
.....
.....



PHYSICAL AND CHEMICAL CHANGES
SUBJECT ASSESSMENT
WORKSHEET-38

Name	Class	Roll No.	Time 40 Min.	Max. Marks 24	Marks Obtained
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SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. Classify the changes involved in the following processes as physical or chemical changes:

- (a) Photosynthesis
- (b) Dissolving sugar in water
- (c) Melting of wax
- (d) Beating aluminium to make aluminium foil

2. Tick the correct answer.

- (a) The gas we use in the kitchen is called liquefied petroleum gas (LPG). In the cylinder, it exists as a liquid. When it comes out from the cylinder it becomes a gas (Process – A) then it burns (Process – B). The following statements pertain to these changes. Choose the correct one.
- (i) Process – A is a chemical change.
- (ii) Process – B is a chemical change.
- (iii) Both processes A and B are chemical changes.
- (iv) None of these processes is a chemical change.
- (b) Anaerobic bacteria digest animal waste and produce biogas (Process – A). The biogas is then burnt as fuel (Process – B). The following statements pertain to these changes. Choose the correct one.
- (i) Process – A is a chemical change.
- (ii) Process – B is a chemical change.
- (iii) Both processes A and B are chemical changes.
- (iv) None of these processes is a chemical change.

3. What does magnesium ribbon leave after burning? Write the equation of involved reaction or change.

Ans.

.....

.....

SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. Describe how crystals of copper sulphate are prepared.

Ans.

.....

.....

.....
.....
2. How does ozone act as a natural shield against ultraviolet radiation?

Ans.
.....
.....

**3. (a) Why does stainless steel not get rusted?
(b) How is iron prevented from rusting?
(c) What is the chemical name of milk of magnesia?**

Ans.
.....
.....
.....

**4. (a) What is meant by chemical reaction? Write the type of change in making tea.
(b) When we heat marble chips, carbon dioxide is evolved. Write the type of change.**

Ans.
.....
.....

5. Write an activity to show burning of magnesium ribbon in air.

Ans.
.....
.....

6. Explain why burning of wood and cutting it into small pieces are considered as two different types of changes.

Ans.
.....
.....



PHYSICAL AND CHEMICAL CHANGES

SUBJECT ASSESSMENT

WORKSHEET-39

Name	Class	Roll No.	Time 45 Min.	Max. Marks 33	Marks Obtained
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ANSWER THE FOLLOWING

1. State whether the following statements are True (T) or False (F). 3

(a) Cutting a log of wood into pieces is a chemical change.

(b) Formation of manure from leaves is a physical change.

(c) Iron pipes coated with zinc do not get rusted quickly.

2. How would you show that setting of curd is a chemical change? 3

Ans.

3. Match the items of Column A with those in Column B. 6

Column A	Column B
(a) Oxygen and water vapour are needed	(i) Chemical change
(b) Salts can be obtained	(ii) Prevents from rusting
(c) Salt water of the sea	(iii) Makes rusting process faster
(d) Cooking of <i>chapati</i>	(iv) By the evaporation of sea water
(e) Galvanisation	(v) For rusting to occur
(f) Crystallisation	(vi) A process to form large crystals

Ans.

4. Classify the changes involved in the following processes as physical or chemical changes: 6

(a) Blooming of flower

(b) Sound produced by radio

(c) Condensation of steam

(d) Stretched rubber band

(e) Dissolving copper sulphate in water

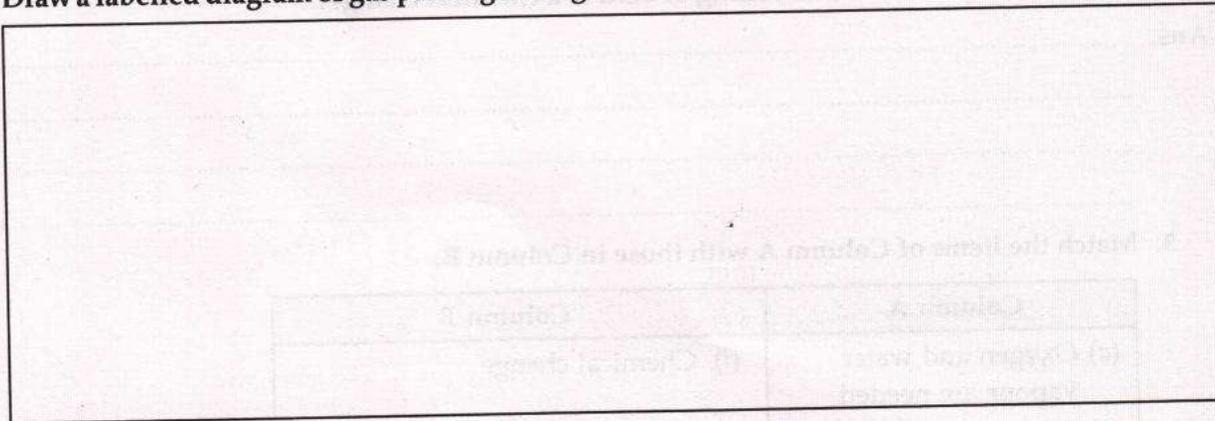
(f) Water evaporates and converts into clouds

LONG ANSWER TYPE QUESTIONS (5 MARKS)

1. When a candle burns, both physical and chemical changes take place. Identify these changes. Give another example of a familiar process in which both the chemical and physical changes take place.

Ans.

2. Draw a labelled diagram of gas passing through lime water and write the involved equation also.



Ans.

3. (a) Is rusting a physical change? Why?
(b) Write an activity to show that there is a change in colour of the copper sulphate due to reaction with iron.

Ans.



PHYSICAL AND CHEMICAL CHANGES
SUBJECT ASSESSMENT
WORKSHEET-40

Name..... || Class..... || Roll No. || Time 50 Min. || Max. Marks 28 || Marks Obtained

ANSWER THE FOLLOWING

1. Match the columns.

5

Column A	Column B
(a) Melting of ice	(i) Chemical substance which participates in a reaction
(b) Rusting of iron	(ii) Chemical substance which forms during a reaction
(c) Reactant	(iii) Chemical change
(d) Magnesium hydroxide	(iv) Physical change
(e) Products	(v) Base

2. State whether the following statements are true or false.

5

- (a) Melting of butter is a physical change.
 (b) Iron and rust are the same things.
 (c) Cutting of a log of wood is a chemical change.
 (d) When zinc reacts with dilute sulphuric acid, hydrogen gas is released.
 (e) A physical change is irreversible whereas a chemical change is reversible.

3. Define the following terms.

5

(a) Chemical reaction

.....

(b) Rusting

.....

(c) Physical change

.....

(d) Galvanisation

.....

(e) Crystallisation

.....

4. Differentiate between:

2

(a) Physical and chemical change

.....

.....
.....
.....
(b) Galvanisation and rusting
.....
.....

5. Write the chemical reactions involved in the following processes. 5

(a) Reaction between vinegar and baking soda
.....
.....

(b) Reaction between lime water and carbon dioxide
.....
.....

(c) Reaction between iron, water and oxygen
.....
.....

(d) Reaction for during of magnesium
.....
.....

(e) Reaction between magnesium oxide and water
.....
.....

6. What are the two essential conditions for rusting? How can rusting be prevented? 3

Ans.
.....
.....
.....

7. With the help of an experiment, explain that physical change is reversible. 3

Ans.
.....
.....
.....
.....
.....



PHYSICAL AND CHEMICAL CHANGES
SUBJECT ASSESSMENT
WORKSHEET-41

Name || Class || Roll No. || Time 30 Min. || Max. Marks 16 || Marks Obtained

DIFFERENTIATE BETWEEN

5

Ans.

Physical changes	Chemical changes

DO AS DIRECTED

11 × 1 = 11

1. Burning of magnesium ribbon forms
2. is given out or absorbed during a chemical change.
3. Coating iron objects with zinc is called
4. When carbon dioxide is passed through lime water, it turns milky due to the formation of
5. The chemical name of baking soda is
6. Two methods by which rusting of iron can be prevented are and
7. Changes in which only properties of a substance change are called physical changes.
8. Changes in which new substances are formed are called
9. Dissolving sugar in water is physical change. (T/F)
10. Formation of manure from leaves is a physical change. (T/F)
11. Ozone acts as a protective shield against ultraviolet radiation. (T/F)

PHYSICAL AND CHEMICAL CHANGES

ENRICHMENT ACTIVITY

WORKSHEET-42

Name	Class	Roll No.	Time 40 Min.	Max. Marks 17	Marks Obtained
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PROJECT REPORT

1. Prepare crystals of alum.
2. Describe an activity to show that both air and water are essential for rusting of iron.

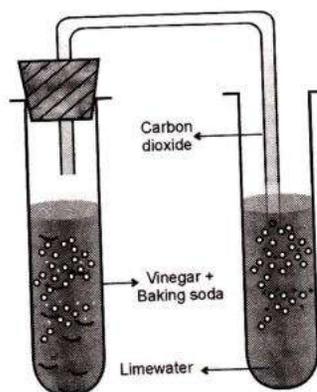
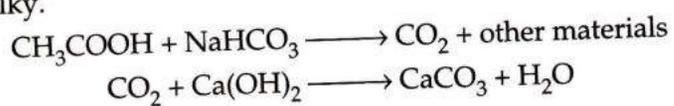
ACTIVITY

Aim: To know that limewater turns milky after passing of CO_2 gas through it.

Materials Required: Vinegar, test tube, baking soda.

Procedure: Take a teaspoonful of vinegar in a test tube. Add small amount of baking soda with it.

Observation/Result: You will see CO_2 gas is released. When the gas is allowed to pass through limewater, it will turn limewater milky.



ACTIVITY BASED QUESTIONS

1. Which compound is obtained after CO_2 is passed through limewater.

Ans.

2. The common name of acetic acid is



WEATHER, CLIMATE AND ADAPTATIONS OF ANIMALS TO CLIMATE

SUBJECT ASSESSMENT WORKSHEET-43

Name	Class	Roll No.	Time 30 Min.	Max. Marks 15	Marks Obtained
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POINTS TO REMEMBER

- **Humidity** is the measure of the moisture in air.
- The day-to-day condition of the atmosphere at a place with respect to the temperature, humidity, rainfall, wind-speed, etc., is called the **weather** at that place.
- The weather reports are prepared by the Meteorological Department of the government. This department collects data on temperature, wind, etc., and makes the **weather prediction**.
- The **maximum temperature** of the day occurs generally in the afternoon, while the **minimum temperature** occurs in the early morning.
- Days and nights are almost equal throughout the year in tropical region.
- The **polar regions** present an extreme climate. These regions are covered with snow and it is very cold for most part of the year. The sun does not set for six months in a year and in the other six months it does not rise.
- Animals in the **polar regions** are adapted to the extremely cold climate by having some special characteristics such as white fur, strong sense of smell, a layer of fat under the skin, wide and large paws for swimming and walking, etc.
- Polar bears and penguins are inhabitants of polar region.
- Huge populations of plants and animals are found in the tropical forests because of the hospitable climatic conditions.
- **Camouflage** is the ability of an animal to merge with its surroundings.
- Some adaptations of animals living in the tropical rainforests include living on the trees, development of strong tails, long and large beaks, bright colours, sharp patterns, loud voice, diet of fruits, sensitive hearing, sharp eyesight, thick skin, ability to camouflage in order to protect themselves from predators, etc.
- The lion-tailed macaque lives in the rainforests of western ghats.

EXPERIMENT 1. To demonstrate the effect of atmospheric pressure on tin can or a plastic pet bottle.

MULTIPLE CHOICE QUESTIONS (MCQs)

15 × 1 = 15

1. Hot water used in the experiment of effect of atmospheric pressure on bottle is to:

(a) Heat the bottle	(b) Heat the water
(c) Heat the air	(d) All of these.
2. Cold water used in the experiment of effect of atmospheric pressure on bottle is to:

(a) Cool the bottle	(b) Cool the water
(c) Both (a) and (b)	(d) None of these.
3. Which one of the following is correct?
 - (a) The pressure exerted upon the surface of all objects present on earth by the atmosphere.
 - (b) Rainfall is measured by an instrument called hydrometer.
 - (c) The maximum temperature of the day generally occurs in the morning.
 - (d) All changes in the weather are caused by the moon.

CHAPTER BASED MCQs

4. **The polar regions:**
- (a) are very cold throughout the year.
 - (b) in which sun does not set for six months in a year.
 - (c) in which sun does not rise in the other six months.
 - (d) all of the above.
5. **The elements of the weather:**
- (a) are temperature and humidity.
 - (b) are wind-speed and humidity.
 - (c) are rainfall and temperature.
 - (d) all of these.
6. **Earth's position in solar system is:**
- (a) Ist nearest to sun
 - (b) IInd nearest to sun
 - (c) IIIrd nearest to sun
 - (d) IVth nearest to sun.
7. **In India, there are:**
- (a) One season
 - (b) Two seasons
 - (c) Three seasons
 - (d) Four seasons.
8. **A carnivore with stripes on its body moves very fast while catching its prey. It is likely to be found in:**
- (a) Polar regions
 - (b) Deserts
 - (c) Oceans
 - (d) Tropical rainforests.
9. **Which features adapt polar bears to live in extremely cold climate?**
- (a) A white fur, fat below skin, keen sense of smell.
 - (b) Thin skin, large eyes, a white fur.
 - (c) A long tail, strong claws, white large paws.
 - (d) White body, paws for swimming, gills for respiration.
10. **Which option best describes a tropical region?**
- (a) Hot and humid
 - (b) Moderate temperature and heavy rainfall
 - (c) Cold and humid
 - (d) Hot and dry.
11. **Which animal is known as ship of desert?**
- (a) Polar bear
 - (b) Camel
 - (c) Tiger
 - (d) None of these.
12. **The dates on which day and night is around equal in the year are:**
- (a) 21st March
 - (b) 23rd September
 - (c) Both (a) and (b)
 - (d) None of these.
13. **The scale by which amount of rainwater is recorded, is:**
- (a) Thermometer
 - (b) Anemometer
 - (c) Rain gauge
 - (d) None of these.
14. **Which one of the following is correct?**
- (a) The day-to-day change in the conditions of a day is called weather.
 - (b) The longest day in summer is 21st June.
 - (c) The shortest day in winter is 22nd December.
 - (d) All of these.
15. **The place in world where highest rainfall occurs, is:**
- (a) Kolkata
 - (b) Mumbai
 - (c) Meghalaya
 - (d) Kashmir.



WEATHER, CLIMATE AND ADAPTATIONS OF ANIMALS TO CLIMATE

SUBJECT ASSESSMENT WORKSHEET-44

Name	Class	Roll No.	Time 35 Min.	Max. Marks 24	Marks Obtained
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VERY SHORT ANSWER TYPE QUESTIONS (1 MARK)

1. What do you understand by the climate of the place?

Ans.

2. How are all changes in the weather caused?

Ans.

3. Why the tropical region has a hot climate?

Ans.

4. Name two animals, living in the tropical rainforests.

Ans.

5. What do you mean by adaptation?

Ans.

6. In which regions, the sun does not set at the poles for six months and does not rise for six months?

Ans.

7. Why animals in tropical rainforests are adapted?

Ans.

8. What is a measure of the moisture of air?

Ans.

9. Where are tropical rainforests found in India?

Ans.

10. What properties make polar bears and penguins good swimmers?

Ans.

11. By which body part, elephant can tear the bark of trees that elephant loves to eat?

Ans.

12. How can you say that the climate of that place is hot and wet?

Ans.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. (a) What is the function of sticky pads in red-eyed frog?
(b) How do tropical rainforests support wide variety of plants and animals?

Ans.
.....
.....
.....

2. (a) What are migratory birds?
(b) What can be the minimum temperatures of the coldest month and hot summers in tropical rainforests?

Ans.
.....
.....
.....

3. (a) Which regions of the earth have severe climatic conditions?
(b) In which conditions animals are adapted to survive?

Ans.
.....
.....
.....

4. (a) Name the major types of animals, living in the tropical rainforests.
(b) Which body part assists polar bears in swimming and walking?

Ans.
.....
.....
.....

5. (a) What is the function of a thick skin and a lot of fat of penguins?
(b) Which protects polar bears from predators?

Ans.
.....
.....
.....

6. How can you say that the climate of the north-east is wet?

Ans.
.....
.....
.....



**WEATHER, CLIMATE AND ADAPTATIONS OF
ANIMALS TO CLIMATE
SUBJECT ASSESSMENT
WORKSHEET-45**

Name

Class

Roll No.

Time
40 Min.Max.
Marks
28Marks
Obtained

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. (a) What do you understand by weather at that place?
(b) What can be the temperature at the lowest level in winters in polar regions?

Ans.
.....
.....
.....

2. Identify the type of the climate of the following areas:

- (a) Jammu and Kashmir
(b) Kerala
(c) Rajasthan
(d) North-east India

3. (a) How can we say that the climate of individual place is hot?
(b) What is the function of two thick layers of fur of polar bears?

Ans.
.....
.....
.....

4. Write some countries belonging to the polar regions and some countries belonging to tropical rainforests.

Ans.
.....
.....
.....

5. Categorise the animals, fishes and birds into polar regions and tropical regions.

Musk oxen, reindeers, foxes, seals, red-eyed frog, toucan, whales, elephant, siberian crane, a new world monkey, lion-tailed macaque.

Ans.
.....
.....

.....
.....
.....
.....
.....

SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. Write three main differences between weather and climate.

Ans.
.....
.....

2. (a) Define habitat.
(b) Which of the two changes frequently, weather or climate?

Ans.
.....
.....

3. Why do birds migrate during winters?

Ans.
.....
.....

4. Why does Rajasthan remain hot and dry?

Ans.
.....
.....

5. The tropical rainforest has a large population of animals. Explain why it is so.

Ans.
.....
.....

6. How do elephants living in the tropical rainforest adapt themselves?

Ans.
.....
.....



WEATHER, CLIMATE AND ADAPTATIONS OF ANIMALS TO CLIMATE

SUBJECT ASSESSMENT WORKSHEET-46

Name	Class	Roll No.	Time 35 Min.	Max. Marks 29	Marks Obtained
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SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. (a) Mention the type of climate of the following:

- (i) Kolkata
- (ii) Jaipur
- (iii) Meghalaya
- (iv) Leh

(b) What are the sources through which you can have the knowledge about climate of a particular region?

Ans.

2. (a) What do you mean by migration? Give one example.
(b) Where are penguins found?

Ans.

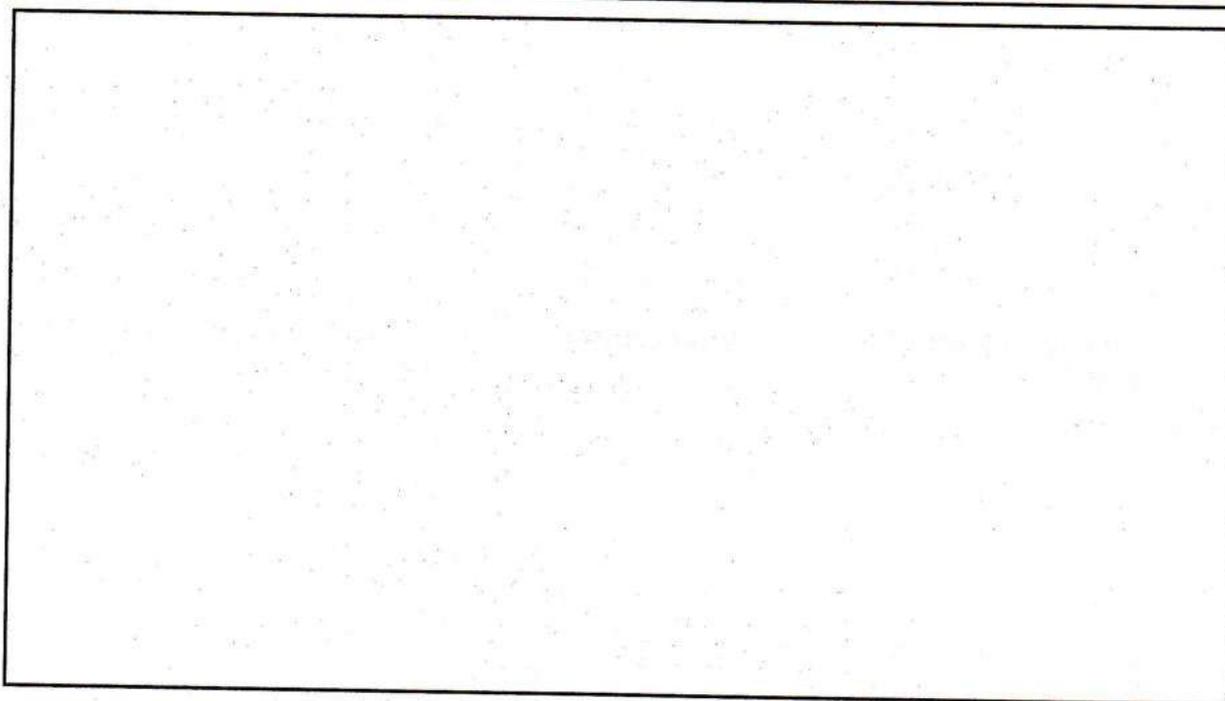
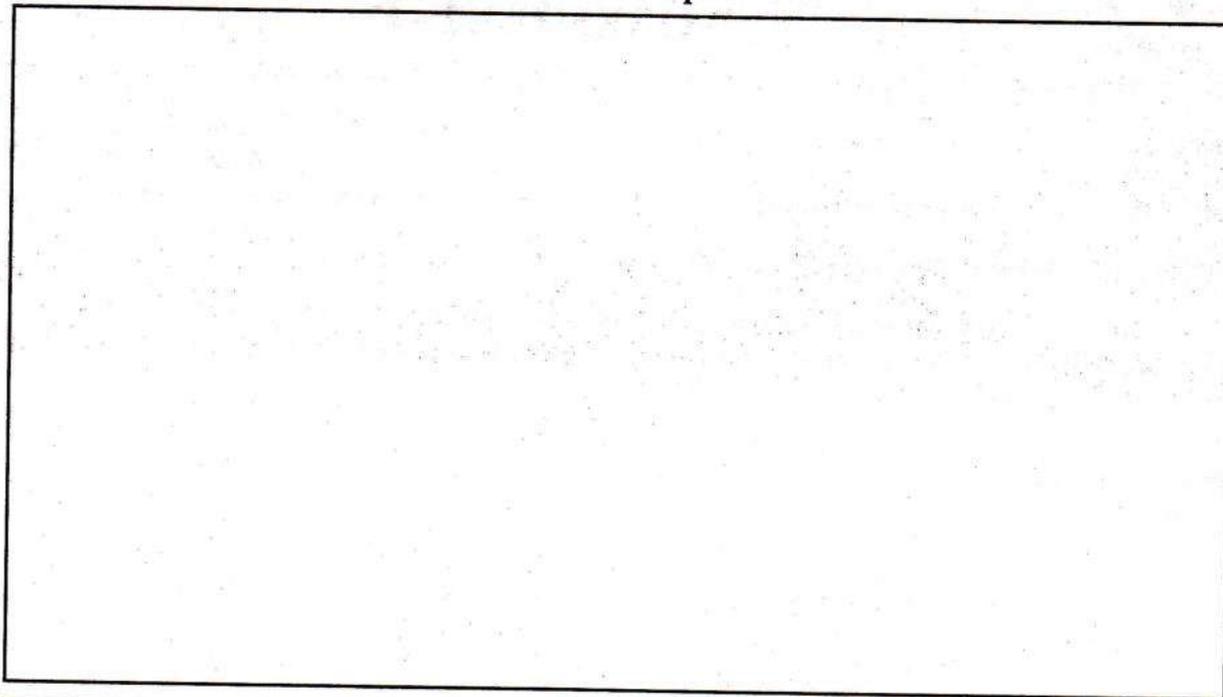
ANSWER THE FOLLOWING

1. Fill in the blanks:

3

- (a) The average weather taken over a long time is called
- (b) A place receives very little rainfall and the temperature is high throughout the year, the climate of that place will be and
- (c) The two regions of the earth with extreme climatic conditions are and

3. Draw the diagrams of Toucan and Lion-tailed macaque.



□□

**WEATHER, CLIMATE AND ADAPTATIONS OF ANIMALS TO CLIMATE
SUBJECT ASSESSMENT
WORKSHEET-48**

Name.....	Class.....	Roll No.	Time 40 Min.	Max. Marks 23	Marks Obtained
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ANSWER THE FOLLOWING

1. Match the columns. 5

Column A	Column B
(a) Humidity	(i) Rain gauge
(b) Temperature	(ii) Hygrometer
(c) Meteorology	(iii) The study of weather
(d) Rainfall	(iv) Maximum-minimum thermometer
(e) Kerala	(v) hot and wet

2. Define the following terms. 5

- (a) Adaptation
.....
.....
- (b) Humidity
.....
.....
- (c) Camouflage
.....
.....
- (d) Hibernation
.....
.....
- (e) Migration
.....
.....

3. Give reasons for the following. 5

- (a) Penguins cannot fly but still have a streamlined body.
.....
.....

(b) Birds migrate during the winter season.

.....
.....

(c) The tropical rainforests harbour a variety of organisms.

.....
.....

(d) Camels can live in desert conditions easily while we human beings find it difficult to survive there.

.....
.....

(e) Arctic birds such as Ptarmigan have feathers up to their feet.

.....
.....

4. Differentiate between:

5

(a) Weather and climate

.....
.....

(b) Temporary and permanent adaptation

.....
.....

(c) Polar region and tropical rainforests

.....
.....

(d) Humidity and precipitation

.....
.....

(e) Maximum temperature and minimum temperature

.....
.....

5. How is an elephant well adapted to live in tropical rainforests?

3

.....
.....

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.....



WEATHER, CLIMATE AND ADAPTATIONS OF ANIMALS TO CLIMATE

SUBJECT ASSESSMENT WORKSHEET-49

Name	Class	Roll No.	Time 30 Min.	Max. Marks 21	Marks Obtained
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DO AS DIRECTED

16 × 1 = 16

1. The animal named survives the extreme cold temperature as low as -37°C .
2. The bird named is the inhabitant of polar region of southern hemisphere.
3. Earth has natural satellite.
4. Days and nights are caused by the of the Earth.
5. Predicting the weather is called
6. Human activities such as, and have resulted in various climatic changes.
7. The Earth is tilted at an angle of on its axis.
8. The long-term weather conditions of a particular place are called its
9. Earth appears red from space. (T/F)
10. Climate in tropical regions is hotter than other regions. (T/F)
11. The earth is called yellow planet. (T/F)
12. The climatic regions of the Earth are polar region and desert region. (T/F)
13. White fur, fat below the skin, and keen sense of smell are the adaptive features of polar bears to live in extremely cold climate. (T/F)
14. Tusks are modified teeth which can tear the bark of the trees. (T/F)
15. Large ears of the elephant help it to hear very loud sounds only. (T/F)
16. Penguins have a thick skin and a lot of fat to protect them from cold. (T/F)

ANALOGY TYPE QUESTIONS

5 × 1 = 5

1. Maximum temperature recorded : Noon :: Minimum temperature recorded :
2. Longest river : Nile :: Largest desert :
3. Hottest place : :: Coldest place : Antarctica
4. Freezing cold : Drass :: Very hot :
5. Reindeers : Polar regions :: Lions :

WEATHER, CLIMATE AND ADAPTATIONS OF ANIMALS TO CLIMATE ENRICHMENT ACTIVITY WORKSHEET-50

Name || Class || Roll No. || Time 40 Min. || Max. Marks 20 || Marks Obtained

PROJECT REPORT

1. Study of climate of your state.

Hint. Read the weather report of your state/city/town.

Sources. Local newspapers, TV news. What to do? Make a case study Table regarding temperature, humidity, etc.

WEATHER REPORT-PRESENTATION

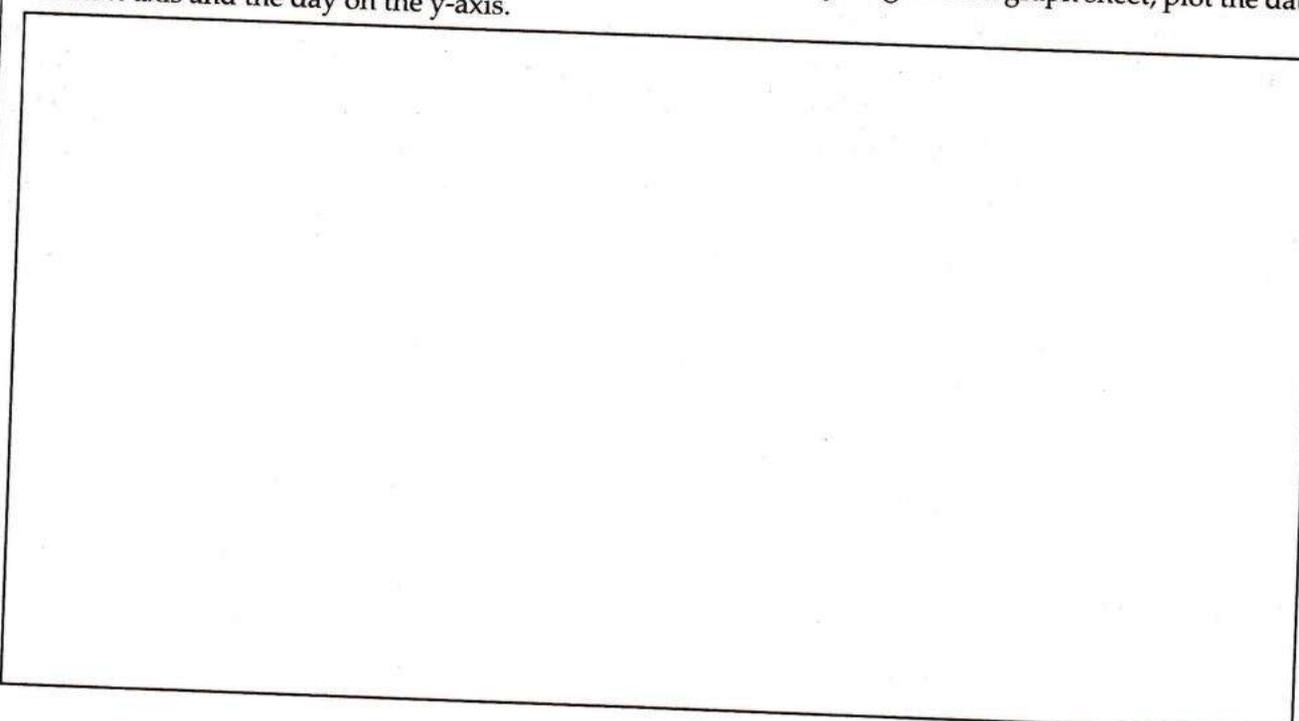
1. Give the weather report of your city by using clippings of newspapers.
2. Give the weather date of a week of your city.

ACTIVITY

Aim: To plot the graph of changes in length of the day.

Materials Required: A centimetre graph sheet, data from your local newspaper for at least ten days, a sharp pencil, an eraser.

Procedure: Note the time of sunrise and sunset from the daily newspaper for ten consecutive days. Find the difference in the times to get the duration of each day, *i.e.*, day length. On a graph sheet, plot the date on the x-axis and the day on the y-axis.



WINDS, STORMS AND CYCLONES

SUBJECT ASSESSMENT

WORKSHEET-51

Name.....	Class	Roll No.	Time 30 Min.	Max. Marks 15	Marks Obtained
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POINTS TO REMEMBER

- Moving air is called **wind**.
- **Air** exerts pressure all around us.
- Warm air rises up whereas cooler air tends to sink towards the earth's surface.
- As warm air rises, air pressure at that place is reduced and the cooler air moves to that place.
- Air moves from the region where the air pressure is high to the region where the air pressure is low. The greater the difference in pressure, the faster the air moves.
- Winds carrying water vapour bring rains.
- The **monsoon winds** carry water and it rains.
- **High speed winds** accompanying a cyclone can damage house, telephones and other communication systems, trees, etc., causing tremendous loss of life and property.
- It has become easier to monitor cyclones with the help of advance technologies like satellites and radars.
- The diameter of tornado is as small as a metre.
- Satellites and radars, a **cyclone alert** or **cyclone watch** is issued 48 hours in advance of any expected storm and a **cyclone warning** is issued 24 hours in advance. The message is broadcasted every hour or half an hour when a cyclone is nearer to the coast.
- Cyclone is caused by high wind-speeds and air pressure. The whole coast of India, particularly the east coast, is vulnerable to cyclones.
- Self-help is the best help. Therefore, it is better to plan in advance and be ready with defence against any approaching cyclone.
- The centre of cyclone is known as the eye of the storm.

MULTIPLE CHOICE QUESTIONS (MCQs)

15 × 1 = 15

1. An instrument used to find wind direction is:

(a) Wind vane	(b) Anemometer
(c) Beaufort scale	(d) None of these.
2. Which one of the following is correct?
 - (a) A movement of air in the atmosphere is called wind.
 - (b) Storm is a very strong wind.
 - (c) Moving air can provide lift.
 - (d) All of these.
3. As air gets warmer:
 - (a) its particles spread out.
 - (b) its particles become heavier or more dense.
 - (c) both of these.
 - (d) none of these.

4. Storms are called hurricanes in:

- (a) India (b) North America (c) Eastern Asia (d) None of these.

5. Storms are called typhoons in:

- (a) Caribbean (b) India (c) North America (d) Eastern Asia.

6. Wind is generally described by two characteristics, these are:

- (a) Composition of air and temperature (b) Composition of air and pressure
(c) Direction and speed (d) Speed and temperature.

7. When there is a storm, we should:

- (a) go to the beach. (b) take shelter under a tree.
(c) take shelter indoors. (d) none of these.

8. The conditions for development of cyclonic storm are having:

- (a) high relative humidity. (b) atmospheric instability.
(c) warm sea temperature. (d) all of these.

9. Which one of the following places is unlikely to be affected by a cyclone?

- (a) Chennai (b) Mangaluru (Mangalore)
(c) Amritsar (d) Puri.

10. Which of the statements given below is correct?

- (a) In winter, the winds flow from the land to the ocean.
(b) In summer, the winds flow from the land towards the ocean.
(c) A cyclone is formed by a high-pressure system with very high-speed winds revolving around it.
(d) The coastline of India is not vulnerable to cyclones.

11. Which one of the following is correct?

- (a) Hot air rises up. (b) Cyclones cause destruction.
(c) Moving air is called wind. (d) All of these.

12. The length of Indian coastline is:

- (a) 8,041 km (b) 6,053 km
(c) 7,565 km (d) 5,665 km.

13. Natural phenomenon occurs due to:

- (a) Physical change (b) Geological change
(c) Both (a) and (b) (d) None of these.

14. In India, cyclones strike:

- (a) South coast (b) East coast (c) West coast (d) Both (b) and (c).

15. The causes of wind are:

- (a) change in air pressure.
(b) rotation of earth about its imaginary axis.
(c) both (a) and (b).
(d) none of these.



WINDS, STORMS AND CYCLONES

SUBJECT ASSESSMENT

WORKSHEET-52

Name	Class	Roll No.	Time 40 Min.	Max. Marks 28	Marks Obtained
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VERY SHORT ANSWER TYPE QUESTIONS (1 MARK)

1. What is the meaning of 'monsoon'?

Ans.

2. When was Odisha hit by a cyclone with wind-speed of 200 km/h?

Ans.

3. What happens to air pressure when wind-speed is increased?

Ans.

4. In which regions (areas), thunderstorms develop very frequently?

Ans.

5. What happens to air when it gets heated and cooled?

Ans.

6. What is meant by thunderstorm?

Ans.

7. Which is lighter, warm air or cold air?

Ans.

8. What happens to the air when there is greater difference in pressure?

Ans.

9. How does air move from one region to other with respect to pressure?

Ans.

10. Which part of the regions get maximum heat from the sun?

Ans.

11. How is there a change in wind's direction caused?

Ans.

12. What are the factors which contribute to the development of cyclones?

Ans.

ANSWER THE FOLLOWING

1. Match the following items of Column A with those in Column B.

4

Column A	Column B
(a) Winds carrying water vapour bring	(i) about 300 km/h
(b) Cyclone watch is issued	(ii) 24 hours in advance
(c) Cyclone warning is issued	(iii) rain
(d) A violent tornado can travel at speed of	(iv) 48 hours in advance of any expected storm

Ans.

2. Fill up the missing words in the blank spaces in the following statements:

4

- (a) Wind is air.
- (b) Winds are generated due to heating on the earth.
- (c) Near the earth's surface air rises up whereas air comes down.
- (d) Air moves from a region of pressure to a region of pressure.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. How does thunderstorm occur?

Ans.

2. (a) What is meant by wind? (b) Which exerts pressure around us?

Ans.

3. Write two precautions, if you are staying in a cyclone hit area.

Ans.

4. (a) Which part of India is less vulnerable to cyclonic storms—both in terms of intensity and frequency of the cyclones?
 (b) What was the wind-speed of second Odisha cyclone that occurred in the same year on 29 October, 1999?

Ans.



WINDS, STORMS AND CYCLONES

SUBJECT ASSESSMENT

WORKSHEET-53

Name	Class	Roll No.	Time 40 Min.	Max. Marks 27	Marks Obtained
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SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. Explain why holes are made in hanging banners and hoardings.

Ans.

2. How will you help your neighbours in case cyclone approaches your village/town?

Ans.

3. A *kachcha* house is more comfortable in summer than a *pucca* house. Why?

Ans.

SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. How is it raining?

Ans.

2. What are the actions which should be taken by the people before there is a possibility of occurrence of cyclone?

Ans.

3. Why is it difficult to force a crushed paper ball placed at the mouth of a bottle by blowing into it?

Ans.
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4. You want to buy a house. Would you like to buy a house having windows but no ventilators? Explain your answer.

Ans.
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5. How do cyclones cause destruction in places near sea?

Ans.
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6. Write short note on tornado.

Ans.
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7. What planning is to be required in advance to deal with the situation created by a cyclone?

Ans.
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WINDS, STORMS AND CYCLONES
SUBJECT ASSESSMENT
WORKSHEET-54

Name	Class	Roll No.	Time 40 Min.	Max. Marks 29	Marks Obtained
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ANSWER THE FOLLOWING

1. True or False statements. Write 'T' for True and 'F' for False in given brackets. 3
- (a) Anemometer is used for measuring the speed of wind. ()
 - (b) Cyclones increase the fertility of the soil. ()
 - (c) Monsoon winds carry lots of water from the Indian ocean. ()

SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. (a) What was the height of water waves of cyclone that occurred on 29 October, 1999?
 (b) What thing varies from 10 to 30 km?
 (c) What are the natures of cyclone?

Ans.

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2. (a) How do clouds form?
 (b) What is meant by cyclone?
 (c) Which sets up convection in air?

Ans.

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LONG ANSWER TYPE QUESTIONS (5 MARKS)

1. Suggest two methods to find out wind direction at a given place.

Ans.

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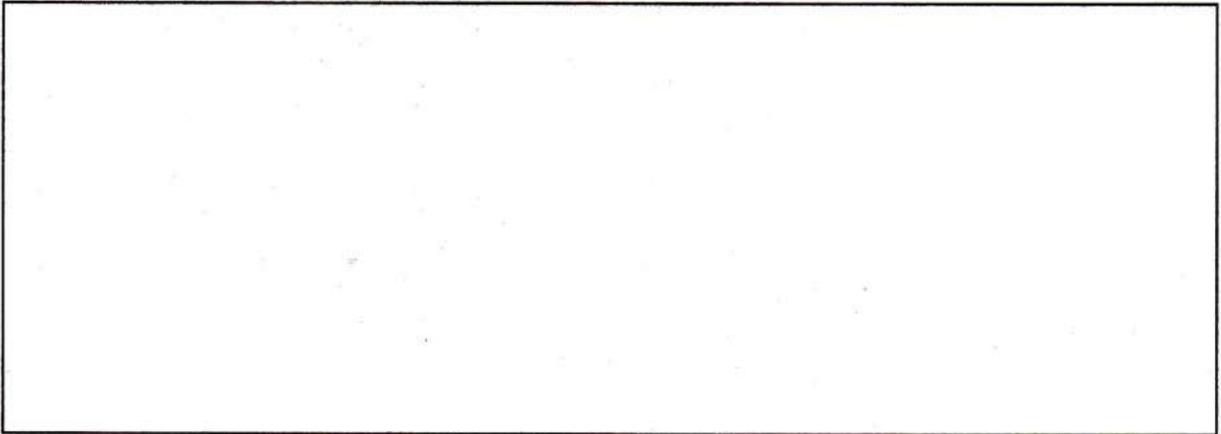
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2. (a) Why are ventilators made close to the ceilings?

(b) (i) A dark funnel-shaped cloud that reaches from the sky to the ground is called

(ii) Cyclone alert or cyclone watch can be issued 48 hours in advance by technology known as

Ans.
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3. Draw a well-labelled diagram of formation of cyclone.



4. State two experiences that made you think that air exerts pressure (other than those given in the text).

Ans.
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WINDS, STORMS AND CYCLONES

SUBJECT ASSESSMENT

WORKSHEET-55

Name	Class	Roll No.	Time 50 Min.	Max. Marks 32	Marks Obtained
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ANSWER THE FOLLOWING

1. Give one word for the following. 5

- (a) A cyclone in South-East Asia.
- (b) A low pressure area in the atmosphere in which the winds move in spirally.
- (c) A storm whose wind speed is around 64-80 km/h.
- (d) Cyclones of the temperate latitudes, especially in Europe.
- (e) The calm, cloudless area of a cyclone.

2. Match the columns. 5

Column A	Column B
(a) Direction of wind	(i) Extratropical cyclones
(b) Anemometer	(ii) Lighter
(c) Warm air	(iii) Heavier
(d) Cold air	(iv) Speed of wind
(e) Cyclone in mid-latitudes	(v) Wind vane

3. Differentiate between: 2

- (a) Thunderstorm and cyclone

Ans.

- (b) Storms and winds

Ans.

4. Define the following: 5

- (a) Monsoon wind

Ans.

- (b) Storm

Ans.

(c) Hurricane

Ans.
.....

(d) Typhoon

Ans.
.....

(e) Cyclone

Ans.
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LONG ANSWER TYPE QUESTIONS (5 MARKS)

1. You want to buy a house. Would you like to buy a house which has windows but no ventilators? Give reasons for your answer.

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2. List the precautions which should be taken during a thunderstorm.

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3. Mention five damaging effects of a cyclone. List a few safety measures to protect ourselves from cyclones.

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WINDS, STORMS AND CYCLONES

SUBJECT ASSESSMENT

WORKSHEET-56

Name	Class	Roll No.	Time 30 Min.	Max. Marks 21	Marks Obtained
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DO AS DIRECTED

16 × 1 = 16

1. Tornado, hurricane and cyclone are types of
2. Storms in summer are caused by rise in
3. Fast moving air produces
4. The exerts pressure on every object of the Earth.
5. Hot air moves and cold air its place.
6. air is lighter than air.
7. Unequal heating of causes wind.
8. Air expands on
9. The phenomena occurring in nature by themselves are called phenomena.
10. Hot air is lighter than cold air. (T/F)
11. Knowledge of wind velocity is of no use of man. (T/F)
12. The equatorial regions of the Earth get heated up quickly. (T/F)
13. The speed of the wind is measured by a wind vane. (T/F)
14. Air moves from a region of low pressure to a region of high pressure. (T/F)
15. Warm air is lighter than cold air. (T/F)
16. A wind vane is used to find out the direction of the wind. (T/F)

ANALOGY TYPE QUESTIONS

5 × 1 = 5

1. Wind vane: :: Anemometer : Wind-speed.
2. Rain : Natural phenomena :: Thunder
3. Wind-speed high : :: Wind-speed low : Air pressure high.
4. Cyclone in Japan : : Cyclone in American continent : Hurricane.
5. Air expands : On heating :: : On cooling.

WINDS, STORMS AND CYCLONES

ENRICHMENT ACTIVITY

WORKSHEET-57

Name	Class	Roll No.	Time 40 Min.	Max. Marks 20	Marks Obtained
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PROJECT REPORT

1. Prepare a report on the major wind patterns on earth and find out their importance.
2. Prepare a report on how to make an anemometer.

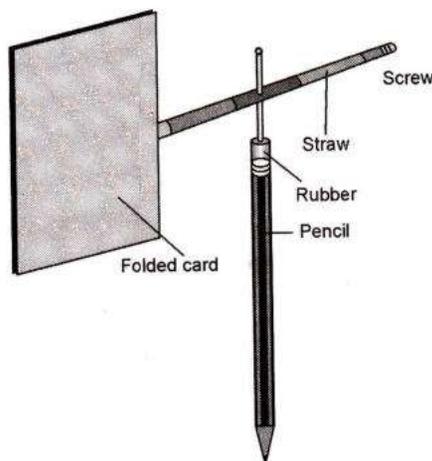
ACTIVITY-1

Aim: With the help of an activity show how to make a wind vane.

Materials Required: A piece of card 12 cm × 12 cm, stapler, metal screw, straw pipe, pencil with eraser and pin.

Procedure: Bend the card in half and staple it to one end of the straw. Put the screw into the other end. Balance the straw across your finger. Now, push the pin through the straw's balancing point and into the eraser on the pencil end. Move the screw till the straw balances. Now, your wind vane is ready. Take the wind vane outside and hold the pencil steadily in your hand.

Observation/Result: The shorter end will point to where the wind is coming from. We can use compass to find the exact direction of the wind.



ACTIVITY-2

Aim: To show that atmospheric pressure reduces when air moves at a high speed.

Materials Required: Table tennis balls, cotton thread and drinking straw.

Procedure: • Tape the cotton thread to the two tennis balls and hang them from a support, so that they are placed at the same height, about 2-3 cm apart from each other.

- Now blow them apart using a straw.
- The harder you blow, the closer the balls come to each other.

Observation: When you blow between the two balls, the air pressure between them reduces. The higher atmospheric pressure of the area around the balls forces them to come together.

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SOIL SUBJECT ASSESSMENT WORKSHEET-58

Name	Class	Roll No.	Time 25 Min.	Max. Marks 13	Marks Obtained
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POINTS TO REMEMBER

- **Soil** is one of the most important natural resources, which supports the growth of plants by holding the roots firmly and supplying water and nutrients.
- **Soil** is the uppermost layer of the earth's crust. It is very important for life on the earth.
- Polythene bags and plastics pollute the soil. So, the use of polythene bags should be banned.
- The rotting dead matter in the soil is called **humus**.
- The soil is formed by the breaking down of rocks by the action of wind, water and climate. This process is known as **weathering**.
- A vertical section through different layers of the soil is called the **soil profile**.
- There are three types of soil such as **sandy soil, loamy soil and clayey soil**.
- A section through the different layers of the soil constitutes the soil profile and the various layers are called **horizons**.
- A-horizon is the uppermost layer of soil profile.
- Bedrock is the lowermost layer of the soil profile.
- **Percolation rate of water** in the soil is the ratio of amount of water percolated per unit time (in minute). **Percolation rate of water** differs in different types of soil. It is the highest in the sandy soil and the least in clayey soil.
- Different types of soils are used to cultivate different types of crops. **Clayey and loamy soils** are suitable for growing wheat, gram and paddy. Cotton is grown in **sandy and loamy soils**.
- Soil holds water in it, which is called **soil moisture**. The capacity of a soil to hold water is important for various crops.
- **Clayey soil** is used to make pots, toys and statues.
- Loamy soil is the best topsoil for growing plants.
- Sand, clay and silt are the constituents of loamy soil.
- Silt occurs as a deposit in river beds.
- Loss of topsoil due to wind, ice or water is known as **soil erosion**. Soil erosion can be checked by deforestation or plantation or planting trees on bald and barren land.

EXPERIMENT 1. To study about the:

- (a) Percolation rate and
- (b) Absorption of water in soil samples obtained from different sources.

MULTIPLE CHOICE QUESTIONS (MCQs)

13 × 1 = 13

1. Movement of water through soil particles is:

(a) Retention	(b) Absorption	(c) Percolation	(d) Evaporation.
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2. Which of these soils will retain more water?

(a) Roadside soil	(b) Garden soil	(c) Playground soil	(d) All of these.
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3. Which soil shows fast rate of water percolation?

- (a) Playground soil
- (c) Garden soil

- (b) Roadside soil
- (d) All of these.

EXPERIMENT 2. (a) To remove moisture from soil sample.

(b) To calculate moisture content of the soil sample.

4. Which soil will have less moisture?

- (a) Playground soil
- (c) Desert soil

- (b) Garden soil
- (d) All of these.

5. Moisture of soil helps in:

- (a) binding soil particles.
- (c) growing plants.

- (b) keeping soil cool.
- (d) all of these.

6. Heating of soil removes:

- (a) moisture from soil.
- (c) air from soil.

- (b) soil particles.
- (d) moisture and air from soil.

CHAPTER BASED MCQs

7. In addition to the rock particles, the soil contains:

- (a) air and water
- (b) water and plants
- (c) minerals, organic matter, air and water
- (d) water, air and plants.

8. The water holding capacity is the highest in:

- (a) Sandy soil
- (c) Loamy soil

- (b) Clayey soil
- (d) Mixture of sand and loam.

9. Which one of the following is incorrect?

- (a) The rotting dead matter in the soil is called humus.
- (b) Weathering is the process through which soil is formed by the breaking down of rocks by the action of wind, water and climate.
- (c) The best topsoil for growing plants is loamy soil.
- (d) The lowermost layer of soil profile is A-horizon.

10. Which type of soil is used to make pots, toys and statues?

- (a) Loamy soil
- (c) Clayey soil

- (b) Sandy soil
- (d) None of these.

11. Soil profile shows:

- (a) One layer
- (c) Three layers

- (b) Two layers
- (d) Four layers.

12. Hardest layer of soil is:

- (a) Topsoil
- (c) Bedrock

- (b) Subsoil
- (d) None of these.

13. In which type of soil, water moves faster?

- (a) Sandy soil
- (c) Loamy soil

- (b) Clayey soil
- (d) None of these.



**SOIL
SUBJECT ASSESSMENT
WORKSHEET-59**

Name	Class	Roll No.	Time 35 Min.	Max. Marks 23	Marks Obtained
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VERY SHORT ANSWER TYPE QUESTIONS (1 MARK)

1. Which is always refreshing after the first rain?

Ans.

2. How is soil formed?

Ans.

3. Which makes the soil fertile and provides nutrients for growing plants?

Ans.

4. What are the factors which affect soil?

Ans.

5. What is meant by erosion?

Ans.

6. What are ideal sources for growing paddy?

Ans.

7. How is C-horizon, *i.e.*, third layer, made up?

Ans.

8. Which soil contains greater proportion of big particles?

Ans.

9. What is the nature of A-horizon?

Ans.

10. Which soil contains greater proportion of fine particles?

Ans.

11. Which part of soil profile contains lesser proportion of humus but more of minerals?

Ans.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. Why there is a demand to ban the polythene bags and plastics?

Ans.
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2. Why the use of pesticides should be minimised?

Ans.
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3. (a) What is meant by soil profile?
(b) What is meant by parent rock?

Ans.
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4. How is clayey soil useful for crops?

Ans.
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5. Razia conducted an experiment in the field related to the rate of percolation. She observed that it took 40 min for 200 ml of water to percolate through the soil sample. Calculate the rate of percolation.

Ans.
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6. (a) What is meant by soil moisture?
(b) Which soil is used to make pots, toys and statues?

Ans.
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**SOIL
SUBJECT ASSESSMENT
WORKSHEET-60**

Name	Class	Roll No.	Time 40 Min.	Max. Marks 28	Marks Obtained
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ANSWER THE FOLLOWING

- 1. Name the following:** 4
- (a) Highest percolation rate of water
 - (b) Lowest percolation rate of water
 - (c) Rotting dead matter in the soil
 - (d) Soil having big and fine particles in similar proportion.

- 2. Fill in the blanks.** 4
- (a) produces small particles of various materials.
 - (b) The mixture of and humus is called the soil.
 - (c) Soil is classified on the basis of of particles of various sizes.
 - (d) provides shelter for many living organisms such as worms, rodents, moles and beetles.

3. Why percolation rate of water is the highest in sandy soil? 2

Ans.

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SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. (a) Which layer of soil is generally soft, porous and can retain more water?
 (b) Where are roots of small plants embedded?
 (c) Which layer of soil is hard and difficult to dig with a spade?

Ans.

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2. (a) What factors determine the type of vegetation of a region?
(b) What are meant by horizons?

Ans.
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3. Explain how soil pollution and soil erosion could be prevented.

Ans.
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4. Why do sandy soils tend to be light, well-aerated and rather dry?

Ans.
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5. Why does clayey soil hold more water than the sandy soil?

Ans.
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6. Describe the process of formation of soil.

Ans.
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**SOIL
SUBJECT ASSESSMENT
WORKSHEET-61**

Name	Class	Roll No.	Time 35 Min.	Max. Marks 27	Marks Obtained
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SHORT ANSWER TYPE QUESTIONS (3 MARKS)

- (a) Why is loamy soil called the best soil?

(b) Glass containing water is full of gravel, sand, clay and humus. Which will be at the lowest level in the glass?

Ans.

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- (a) Why does some land shimmer during summer?

(b) How is soil erosion caused?

Ans.

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- Draw a well-labelled diagram of soil profile.

Ans.

4. Write the ways by which layers below top surface of the soil can be seen or observed.

Ans.
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ANSWER THE FOLLOWING

1. Write 'T' for True and 'F' for False in given brackets and rewrite the False statements. 5

- (a) Plant roots firmly bind the soil. ()
- (b) Cutting of trees and deforestation are helpful to increase the green areas. ()
- (c) Water can drain quickly through the spaces between the clayey soil. ()
- (d) Cotton is grown in clayey and loamy soils. ()
- (e) Erosion of soil is more severe in areas of little or no surface vegetation such as desert or barren lands. ()

2. Match the items of Column A with those in Column B. 10

Column A	Column B
(a) A home for living organisms	(i) Large particle
(b) Upper layer of the soil	(ii) Mixture of sand, clay and silt
(c) Sandy soil	(iii) Lesser amount of humus
(d) Middle layer of the soil	(iv) The growth of plants by holding the roots firmly
(e) Clayey soil	(v) All kinds of soil
(f) Soil supports	(vi) Worms, rodents, moles and beetles
(g) Loamy soil	(vii) Dark in colour
(h) Wheat is grown	(viii) Wind, rainfall, temperature, light and humidity
(i) Factors affecting soil	(ix) Small particles and packed tight
(j) Topsoil provides shelter for	(x) In fine clayey soil.

Ans.
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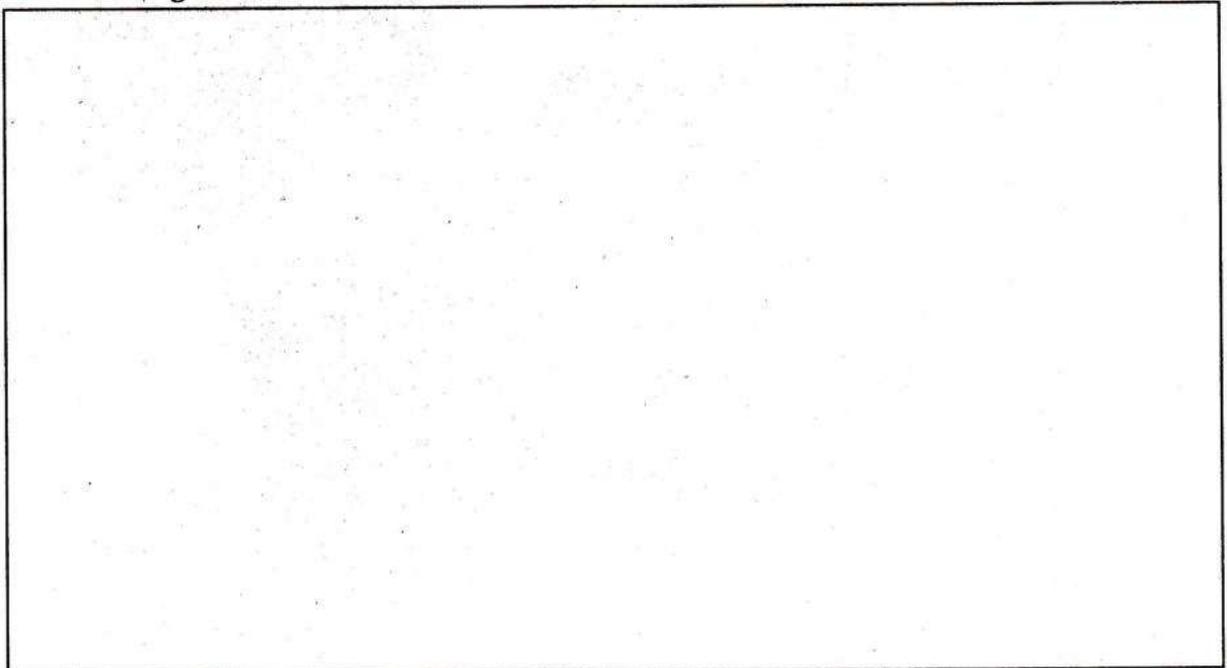
7. Living organism in the soil.

Down

1. In desert, soil erosion occurs through.
 3. Clay and loam are suitable for cereals like.
 4. This type of soil can hold very little water.
 5. Collection name for layers of soil.
3. (a) The rate of percolation is 60 ml/min in a soil. If 420 ml water is to be percolated, how much time will it take to be percolated?
(b) Which soil will be fruitful for growing lentils (*masoor*) and other pulses?
(c) What is the difference between rate of percolation and the amount of water retained? 5

Ans.
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4. Draw the diagram in which moisture of soil is removed from the soil. 5



SOIL SUBJECT ASSESSMENT WORKSHEET-63

Name.....	Class	Roll No.	Time 45 Min.	Max. Marks 26	Marks Obtained
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ANSWER THE FOLLOWING

1. State whether the following statements are true or false. 5
 - (a) R horizon is rich in humus.
 - (b) Acid rain does not cause soil pollution.
 - (c) Waterlogging occurs in clayey soil.
 - (d) Weathering of rock pieces occurs due to natural forces.
 - (e) Terrace farming helps in soil erosion.

2. Complete the following analogy. 5
 - (a) Humus : A horizon :: Parent rock :
 - (b) Weathering : Rock :: Erosion :
 - (c) Paddy : Clay :: Loamy !
 - (d) Overgrazing : Animals :: Humans !
 - (e) Deforestation : Soil erosion :: Afforestation :

3. Give reasons for the following. 5
 - (a) Clayey soil is more suitable for making pottery rather than farming.
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 - (b) Waterlogging does not occur in sandy soil.
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 - (c) Soil is a non-renewable natural resource.
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 - (d) Plastics and metals should not be thrown in the soil.
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 - (e) Soil not covered by vegetation gets eroded easily.
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4. Differentiate between:

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(a) Clayey soil and sandy soil

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(b) Horizon A and horizon B

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(c) Soil erosion and soil conservation

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(d) Humus and clay

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(e) Loamy soil and sandy soil

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5. List the different uses of soil.

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6. What is weathering? Explain the different types of weathering.

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SOIL SUBJECT ASSESSMENT WORKSHEET-64

Name	Class	Roll No.	Time 30 Min.	Max. Marks 17	Marks Obtained
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DO AS DIRECTED**11 × 1 = 11**

1. Insects in soil are found in
2. is formed from decaying of plant and animal wastes.
3. The process of formation of soil is called
4. and horizons are mixed by farmers while ploughing.
5. is the natural process by which soil particles are formed.
6. Soil particles are formed by the breaking down of
7. layer is also called the R horizon.
8. Each layer of a soil profile is referred to as a
9. Rice/paddy is cultivated in sandy soil. (T/F)
10. Silt and humus are parts of loamy soil. (T/F)
11. The best soil for growing wheat and rice is clayey soil. (T/F)

MATCH THE COLUMNS (DOUBLE MATCHING)**3**

Column A	Column B	Column C
(A) Sandy soil	(a) Larger proportion of thinner particles	(i) High water retention capacity
(B) Clayey soil	(b) Larger proportion of big particles	(ii) Good water retention capacity
(C) Loamy soil	(c) Equal proportion of small and big particles	(iii) Least water retention capacity

Ans.

ONE WORDS SUBSTITUTION**3 × 1 = 3**

1. One crop for which clayey and loamy soils are suitable is
2. The soil appropriately used for growing lentils (*masoor*) is
3. The soil having the highest percolation rate of water is

SOIL ENRICHMENT ACTIVITY WORKSHEET-65

Name || Class || Roll No. || Time 40 Min. || Max. Marks 25 || Marks Obtained

SUGGESTED TOPICS OF SEMINAR

1. Causes of soil erosion
2. How can soil be conserved?

GROUP DISCUSSION

How does soil formation take place?

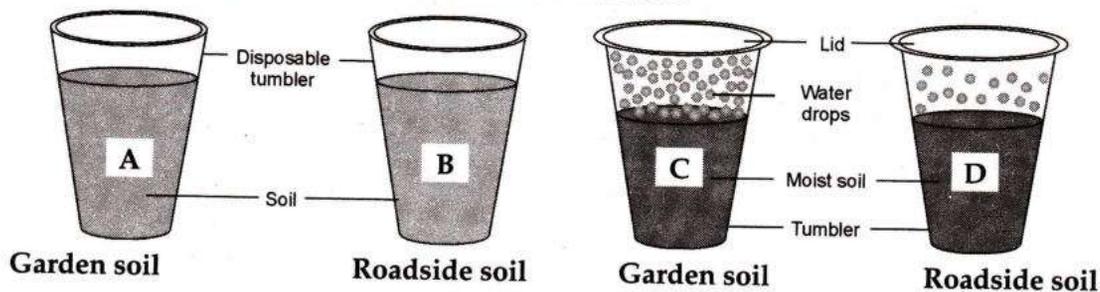
ACTIVITY-1

Aim: To study water holding capacity of soil.

Materials Required: Two disposable plastic tumblers with garden and roadside soil of same weighing, water, nail and balance.

Procedure: Make the small hole at the at the bottom of tumbler to pass air with a nail. Now, fill water in both tumblers and keep it overnight. Next day, weigh the tumblers with soil with the help of a balance.

Observation: One tumbler with more water will be heavy than other. Now, remove the soil from the tumblers and transfer them to glass tumblers. Now, cover them with lids. Keep them in sunshine. You will see drops of water inside the tumbler of C is more than D.



Conclusion: Garden soil holds water.

Roadside soil holds water.

Result: Water holding capacity of garden soil is more than that of roadside soil.

ACTIVITY-2

Aim: To check the moisture content in soil

Materials Required: A petri dish or a test tube, soil samples, weighing scale, burner

Procedure: Take a Petri dish or any test tube. Put a small amount of soil sample in it and weigh it. Now heat this soil over a flame till it dries. Let it cool down. Now weigh the Petri dish or the test tube again and calculate the difference. Repeat the same with different soil samples.

Observation: Different soil samples will have different weight.

Result: Different soil samples will have different amount of water present in them.

RESPIRATION IN ORGANISMS

SUBJECT ASSESSMENT

WORKSHEET-66

Name.....	Class.....	Roll No.	Time 25 Min.	Max. Marks 17	Marks Obtained
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POINTS TO REMEMBER

- All living organisms respire to get energy from food.
- **Respiration** is essential for survival of living organisms. It releases energy from the food.
- The oxygen we inhale is used to breakdown glucose into carbon dioxide and water. Energy is also released in this process.
- The process of breakdown of food in the cell with the release of energy is called **cellular respiration**.
- When breakdown of glucose occurs with the use of oxygen, it is called **aerobic respiration**.
- Food can also be broken down, without using oxygen. This is known as **anaerobic respiration**.
- During heavy exercise, when the supply of oxygen to our muscle cells is insufficient, food breaks down by anaerobic respiration.
- Muscle cramps are caused by accumulation of lactic acid.
- Lactic acid is produced in muscle by partial breaking down of glucose.
- **Breathing** is a part of the process of respiration during which an organism takes in oxygen rich air and gives out air rich in carbon dioxide. The respiratory organs for the exchange of gases vary in different organisms.
- We take in air through our nostrils.
- An adult human being breathes in and out 15-18 times in a minute.
- Breathing involves the movement of diaphragm and rib cage.
- The percentages of oxygen and carbon dioxide in inhaled air are 21% and 0.04% respectively.
- In cockroaches, breathing occurs through openings in the body of cockroach, called **spiracles**.
- Insects breathe through a network of air tubes called **tracheae** for gas exchange.
- **Earthworms** breathe through their moist skin.
- **Fishes** breathe through their gills.
- **Frogs** breathe through lungs and moist skin.

EXPERIMENT 1. To study that the carbon dioxide (CO₂) is released during respiration.

MULTIPLE CHOICE QUESTIONS (MCQs)

17 × 1 = 17

1. Why does the limewater turn milky?

- (a) Limewater turns milky because it reacts with carbon dioxide to form calcium carbonate.
- (b) Limewater turns milky because it reacts with carbon monoxide to form calcium carbonate.
- (c) Limewater turns milky because it reacts with oxygen to form calcium carbonate.
- (d) None of these.

2. The exhaled air has more:

- | | |
|--------------------|---------------------|
| (a) O ₂ | (b) CO ₂ |
| (c) N ₂ | (d) None of these. |

3. The percentage of CO₂ in exhaled air is:

- (a) 1% (b) 2.2%
(c) 3.3% (d) 4.4%.

4. In which kind of respiration, CO₂ and water is released after using oxygen?

- (a) Aerobic respiration (b) Anaerobic respiration
(c) Both of these (d) None of these.

5. In which kind of respiration, ethyl alcohol and carbon dioxide is used, without using oxygen?

- (a) Aerobic respiration (b) Anaerobic respiration
(c) Both of these (d) None of these.

CHAPTER BASED MCQs

6. Respiratory part of man is:

- (a) Skin (b) Gills (c) Trachea (d) None of these.

7. Plants exchange gases through:

- (a) Stem (b) Leaves (c) Stomata (d) None of these.

8. Insects have to breathe.

- (a) Skin (b) Gills (c) Trachea (d) None of these.

9. In cockroaches, air enters the body through:

- (a) Lungs (b) Gills (c) Spiracles (d) Skin.

10. During heavy exercise, we get cramps in the legs due to the accumulation of:

- (a) Carbon dioxide (b) Lactic acid
(c) Alcohol (d) Water.

11. Normal range of breathing rate per minute in an average adult person at rest is:

- (a) 9 – 12 (b) 15 – 18 (c) 21 – 24 (d) 30 – 33.

12. During exhalation, the ribs:

- (a) move towards (b) move downwards
(c) move upwards (d) do not move at all.

13. The process by which gases are exchanged between the body and the surroundings is:

- (a) Digestion (b) Excretion
(c) Reproduction (d) Respiration.

14. The biological fuel is:

- (a) Glucose (b) Water
(c) Carbon dioxide (d) Oxygen.

15. The food material used to release energy in body cells is:

- (a) Oxygen (b) Carbon dioxide
(c) Glucose (d) Water.

16. The percentage of oxygen during exhalation is:

- (a) 20% (b) 17% (c) 16% (d) 25%.

17. The percentage of carbon dioxide during inhalation is:

- (a) 0.04% (b) 0.03% (c) 0.02% (d) 0.08%.



RESPIRATION IN ORGANISMS
SUBJECT ASSESSMENT
WORKSHEET-67

Name	Class	Roll No.	Time 35 Min.	Max. Marks 20	Marks Obtained
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VERY SHORT ANSWER TYPE QUESTIONS (1 MARK)

1. What is meant by a cell?

Ans.

2. Why does cell need energy?

Ans.

3. Where does cellular respiration take place?

Ans.

4. What happens to ribs and diaphragm during exhalation in breathing?

Ans.

5. What do we get important products after breaking down of glucose in the absence of oxygen (air)?

Ans.

6. What do you mean by breathing rate?

Ans.

7. How do ribs and diaphragm move during inhalation?

Ans.

8. Why should we cover our nose while sneezing?

Ans.

9. What are the percentage of oxygen and carbon dioxide in exhaled air?

Ans.

10. How does the skin of an earthworm feel on touching?

Ans.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. (a) Take three test-tubes. Fill $\frac{3}{4}$ th of each with water. Label them A, B and C. Keep a snail in test-tube A, a water plant in test-tube B and in C, keep snail and plant both. Which test-tube would have the highest concentration of CO_2 ?
(b) Why mountaineers carry oxygen with them?

Ans.

2. (a) Write the names of four animals having the respiratory organs and process of breathing, similar to those in humans.
(b) Through which, does the exchange of gas take place in fishes?

Ans.

3. Why does an athlete breathe faster and deeper than usual after finishing the race?

Ans.

4. How does oxygen in the air help in the breaking down of food?

Ans.

5. How can yeast survive in the absence of air?

Ans.



RESPIRATION IN ORGANISMS
SUBJECT ASSESSMENT
WORKSHEET-68

Name	Class	Roll No.	Time 40 Min.	Max. Marks 26	Marks Obtained
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ANSWER THE FOLLOWING

1. Fill in the blanks. 3

- (a) When we feel drowsy, our breathing rate
- (b) During heavy exercise, the breathing rate can increase up to times per minute.
- (c) The process of breaking down of food in the cell with the release of energy is called

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. Why yeasts are used for making wine and beer?

Ans.

2. What is the difference between exhalation and inhalation?

Ans.

3. (a) Through which, does the exchange of gas take place in both insects and earthworm?
 (b) Why do all living organisms need to respire?

Ans.

4. Why do root cells absorb air from the soil?

Ans.

RESPIRATION IN ORGANISMS
SUBJECT ASSESSMENT
WORKSHEET-69

Name	Class	Roll No.	Time 40 Min.	Max. Marks 27	Marks Obtained
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SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. Why can our muscle cells respire anaerobically for short time?

Ans.

2. Describe the process of breathing in earthworms.

Ans.

3. What is the utility of diaphragm in respiration in human beings?

Ans.

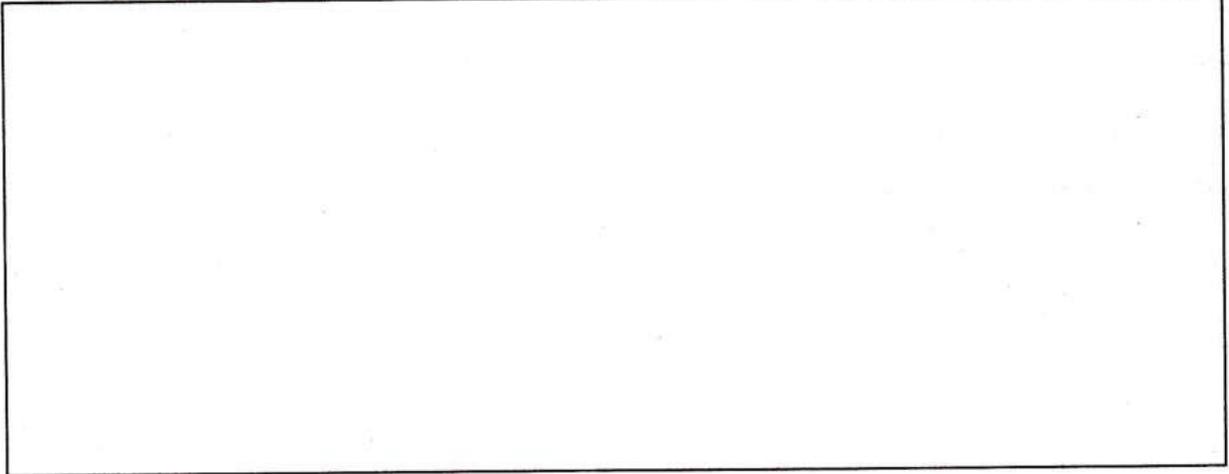
4. (a) When a person feels cramping in his leg, how does he get relief form it?
 (b) Why do we feel hungry after physical activities?

Ans.

ANSWER THE FOLLOWING

1. Draw a well-labelled diagram of human respiratory system.

5



2. Given below is a square of letters in which are hidden different words related to respiration in organisms. These words may be present in any direction — upwards, downwards, or along the diagonals. Find the words for your respiratory system. Clues about those words are given below the square. 10

S	V	M	P	L	U	N	G	S
C	Z	G	Q	W	X	N	T	L
R	M	A	T	I	D	O	T	C
I	Y	R	X	Y	M	S	R	A
B	R	H	I	A	N	T	A	Y
S	T	P	T	B	Z	R	C	E
M	I	A	M	T	S	I	H	A
S	P	I	R	A	C	L	E	S
N	E	D	K	J	N	S	A	T

- (i) The air tubes of insects
- (ii) Skeletal structures surrounding chest cavity
- (iii) Muscular flow of chest cavity
- (iv) Tiny pores on the surface of leaf
- (v) Small openings on the sides of the body of an insect
- (vi) The respiratory organs of human beings
- (vii) The openings through which we inhale
- (viii) An anaerobic organism
- (ix) An organism with tracheal system.

□□

2. Write an activity to show that inhalation is the major part of breathing.

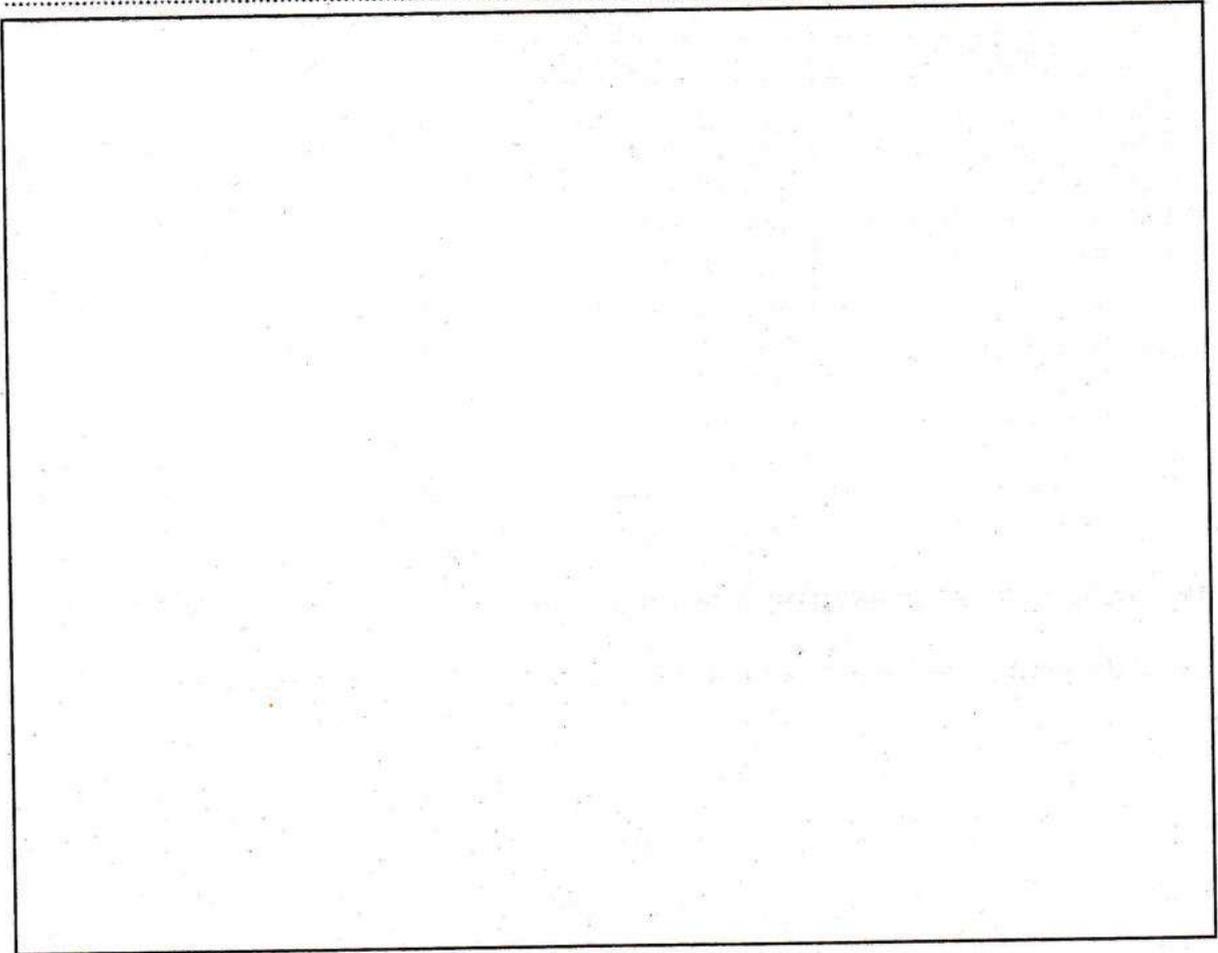
Ans.

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□□

**RESPIRATION IN ORGANISMS
SUBJECT ASSESSMENT
WORKSHEET-71**

Name	Class	Roll No.	Time 50 Min.	Max. Marks 31	Marks Obtained
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SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. What is the breathing rate? Why does it vary?

Ans.

2. Why do runners suffer from muscle cramps? How can they get a relief from the pain?

Ans.

3. Why is breathing called a physical process?

Ans.

ANSWER THE FOLLOWING

1. Give one word for the following.

5

- (a) The process of giving out air rich in carbon dioxide.
- (b) Number of times a normal person breathes in one minute.
- (c) Respiration which takes place in the presence of oxygen.
- (d) This chemical is produced in the muscle cells due to anaerobic respiration.
- (e) The type of respiration which occurs inside the cells.

2. Match the columns.

5

Column A	Column B
(a) Cockroach	(i) Moist skin
(b) Salamander	(ii) Lungs
(c) Plants	(iii) Gills
(d) Fish	(iv) Spiracles
(e) Human beings	(v) Stomata

3. Define the following terms.

5

(a) Aerobic respiration

.....
.....

(b) Anaerobic respiration

.....
.....

(c) Inhalation

.....
.....

(d) Diaphragm

.....
.....

(e) Exhalation

.....
.....

4. State whether the following statements are true or false.

5

- (a) A large amount of energy is released in anaerobic respiration.
- (b) Muscle cramps happen due to the accumulation of lactic acid in muscles.
- (c) The only mode of respiration in frogs is through its moist skin.
- (d) Spiracles are present in earthworms which help them in respiration.
- (e) Insects have a network of air tubes called tracheae for gas exchange.

5. Differentiate between:

5

(a) Aerobic and anaerobic respiration

.....
.....

(b) Respiration and breathing

.....
.....

□□

RESPIRATION IN ORGANISMS
SUBJECT ASSESSMENT
WORKSHEET-72

Name	Class	Roll No.	Time 35 Min.	Max. Marks 19	Marks Obtained
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DO AS DIRECTED

11 × 1 = 11

1. *Amoeba* exchanges gases by body surface.
2. Earthworm respire by
3. Stomata are openings in the leaves of the plants.
4. Frog exchanges gases by skin. (T/F)
5. Roots do not help in respiration in plants. (T/F)
6. Aquatic plants exchange respiratory gases. (T/F)
7. During heavy exercise, the breathing rate of a person slows down. (T/F)
8. Plants carry out photosynthesis only during the day and respiration only at night. (T/F)
9. Frogs breathe through their skins as well as their lungs. (T/F)
10. Fishes have lungs for respiration. (T/F)
11. The size of the chest cavity increases during inhalation. (T/F)

ANALOGY TYPE QUESTIONS

5 × 1 = 5

1. Breathing : Lungs :: Respiration :
2. : Air is taken in and given out :: Respiration : Oxygen is taken in and CO₂ is given out.
3. Stomata : Leaves :: Lenticles :
4. Crab : Gills :: Leech :
5. Trachea : : Lungs : Air bags.

MATCH THE COLUMNS (DOUBLE MATCHING)

3

Column A	Column B	Column C
(A) Breathing	(a) Tiny openings	(i) Present in woody stems
(B) Respiration	(b) Small openings	(ii) Present in leaves
(C) Lenticles	(c) Chemical change	(iii) Energy is released during the process
(D) Stomata	(d) Physical activity	(iv) This process utilises energy

Ans.

RESPIRATION IN ORGANISMS
ENRICHMENT ACTIVITY
WORKSHEET-73

Name	Class	Roll No.	Time 30 Min.	Max. Marks 15	Marks Obtained
------------	-------------	---------------	-----------------	------------------	-------------------

PROJECT REPORT

1. Observe the breathing rate of these animals.
2. Do not disturb them. You need a watch to record the rate of breathing per minute.

Animal	Rate of breathing per minute
1. Cow
2. Buffalo
3. Dog
4. Goat

ACTIVITY-1

Aim: With the help of an activity show that exhaled air has more carbon dioxide.

Materials Required: Two disposable glasses with covers, two straws, limewater.

Procedure: First of all, fill both the disposable glasses with limewater [$\text{Ca}(\text{OH})_2$].

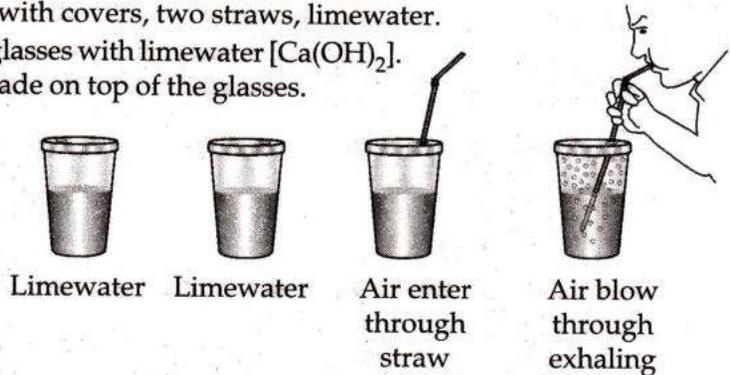
Put straws in both the glasses through hole made on top of the glasses.

Let air enter one of them through the straw.

Blow out some air in the second glass.

Observation: You will see that the limewater turns milky slightly in first glass whereas in second glass, limewater turns milky more due to presence of carbon dioxide in them.

Result: This above observation shows that exhaled air has more carbon dioxide.



ACTIVITY-2

Aim: To show that during the process of aerobic respiration, oxygen is used.

Materials Required: Flask, U-shaped glass tube, a trough, mercury and KOH pellets.

Procedure: • Take a flask. Put some germinating gram seeds in it and close it with a cork.

• Place an inverted U-shaped glass tube in the flask and put the other end of the glass tube in a trough of mercury.

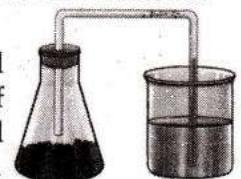
• Leave the apparatus for 4 to 5 hours.

• After a few hours, the level of mercury in the glass tube falls due to the evolution of carbon dioxide gas.

• Add a few pellets of KOH in the glass tube. The level of mercury will quickly reach the normal level.

• Place a similar set-up without using germinating seeds.

Observation: In this activity, the germinating seeds respire and they take in oxygen and give out carbon dioxide. Carbon dioxide being lighter, gets accumulated on the top of the tube and forces the mercury to move down. When KOH is introduced, it absorbs all the carbon dioxide in the glass tube. Thus, the level of mercury comes back to normal.



TRANSPORTATION IN ANIMALS AND PLANTS

SUBJECT ASSESSMENT

WORKSHEET-74

Name

Class

Roll No.

Time
22 Min.Max.
Marks
15Marks
Obtained

POINTS TO REMEMBER

- The **blood** is a liquid, which has cells of various kinds suspended in it.
- The colour of blood is red due to presence of haemoglobin in it.
- In most animals, the blood circulates in the body, distributes food and oxygen to different cells of the body. It also carries waste products to different cells of different parts of the body for excretion.
- Blood consists of plasma, RBC, WBC and platelets.
- The **circulatory system** consists of the **blood vessels** and the **heart**.
- The fluid part of the blood is called **plasma**.
- The White Blood Cells (WBCs) fight against germs that may enter our body.
- The **platelet** is another type of cells found in blood which helps blood to clot.
- In humans, blood flows through **arteries** and **veins** and the heart acts as a **pumping organ**.
- Two kidneys, two ureters, urinary bladder and urethra form the excretory system in humans.
- The human heart beats about 72–80 times per minute in an adult person. This is called the **heart rate**.
- Heart has four chambers. The lower two chambers are known as ventricles and two upper are atria.
- Fishes excrete waste substances which directly dissolve in water whereas birds, insects and lizards excrete uric acid in semi-solid form.
- A lot of water is lost by plants in the form of vapour through **stomata** during **transpiration**.
- **Transpiration** generates a force which pulls up water absorbed by the roots from the soil, to reach stem and leaves.

EXPERIMENT. To study transportation of water through cells by using a potato.

MULTIPLE CHOICE QUESTIONS (MCQs)

15 × 1 = 15

1. In the experiment, transportation of water through cells, the sugar solution and water are kept in:
 - (a) beaker and cavity in potato respectively.
 - (b) both in the cavity in potato.
 - (c) in potato and beaker respectively.
 - (d) none of the above.
2. Why do you use a peeled potato?
 - (a) The potato skin is too thin for water to move across it.
 - (b) The potato skin is too thick for water to move across it.
 - (c) Both of these.
 - (d) None of these.

3. Why do you use sugar solution in the potato?

- (a) To develop the suction pressure (b) To decrease the suction pressure
(c) Remain unchanged (d) None of these.

CHAPTER BASED MCQs

4. Which carry oxygen-rich blood from the heart to all parts of the body?

- (a) Red blood cells (b) White blood cells
(c) Plasma (d) Arteries.

5. Haemoglobin is:

- (a) a yellow pigment. (b) a white pigment.
(c) a red pigment. (d) none of these.

6. Which carry carbon dioxide-rich blood from all parts of the body back to the heart?

- (a) Arteries (b) Veins (c) Plasma (d) RBCs.

7. The upper two chambers of heart are known as:

- (a) Ventricles (b) Arteries (c) Veins (d) Atria.

8. The instrument used to hear the heartbeat, is:

- (a) Telescope (b) Microscope
(c) Stethoscope (d) None of these.

9. The combination of nitrogen and hydrogen produces:

- (a) CO_2 (b) HCl (c) NH_3 (d) HNO_3 .

10. Water absorption through roots can be increased by keeping the plants:

- (a) in the shade. (b) in dim light.
(c) under the fan. (d) covered with a polythene bag.

11. Which tissue of plant transports food?

- (a) Xylem (b) Phloem (c) Leaves (d) Roots.

12. Sweat has:

- (a) Water (b) Salts (c) Urea (d) All of these.

13. The blood vessels which carry impure blood are:

- (a) Capillaries (b) Arteries (c) Veins (d) Heart.

14. Which one of the following is correct?

- (a) Kidney is excretory organ that filters blood to make urine.
(b) Very thin blood vessels are called capillaries.
(c) Transportation of food from leaves to other parts of plants for storage is called translocation.
(d) All of the above.

15. Which one excrete uric acid in semi-solid form?

- (a) Birds (b) Insects (c) Lizards (d) All of these.

□□

**TRANSPORTATION IN ANIMALS AND PLANTS
SUBJECT ASSESSMENT
WORKSHEET-75**

Name	Class	Roll No.	Time 40 Min.	Max. Marks 21	Marks Obtained
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VERY SHORT ANSWER TYPE QUESTIONS (1 MARK)

1. How is clot formed?

Ans.
.....

2. Which nutrients are absorbed by roots from the soil?

Ans.

3. What do you mean by tissue?

Ans.
.....

4. What are the functions of kidneys?

Ans.
.....

5. What are the functions of veins?

Ans.
.....

6. How does pulse occur?

Ans.

7. What are the functions of arteries?

Ans.
.....

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. (a) What is meant by excretion?
(b) What do you mean by vascular tissue?

Ans.
.....
.....
.....

2. (a) What is the major excretory product in humans?
(b) What is the function of sweat?

Ans.
.....
.....
.....

3. Why do the arteries have thick elastic walls?

Ans.
.....
.....
.....

4. (a) Where is heart located?
(b) Which pigment is necessary to provide oxygen efficiently to all the cells of the body?

Ans.
.....
.....
.....

5. What will happen if there are no platelets in the blood?

Ans.
.....
.....
.....

6. Why is transport of materials necessary in a plant or in an animal? Explain.

Ans.
.....
.....
.....

7. What are stomata? Give two functions of stomata.

Ans.
.....
.....
.....



**TRANSPORTATION IN ANIMALS AND PLANTS
SUBJECT ASSESSMENT
WORKSHEET-76**

Name.....	Class.....	Roll No.	Time 40 Min.	Max. Marks 27	Marks Obtained
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ANSWER THE FOLLOWING

1. Match the items of Column A with those in Column B. 4

Column A	Column B
(a) Stomata	(i) Absorption of water
(b) Xylem	(ii) Transpiration
(c) Root hairs	(iii) Transport of food
(d) Phloem	(iv) Transport of water
	(v) Synthesis of carbohydrates

Ans.

2. Why is it necessary to excrete waste products? 2

Ans.

SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. Why do plants absorb a large quantity of water from the soil?

Ans.

2. Write the differences between white blood cells and red blood cells.

Ans.

3. (a) Why do sponges and hydra not have blood?
(b) Which release a lot of water by the process of transpiration?

Ans.
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.....
.....
.....

4. (a) Why do veins have thin walls?
(b) Through which process, water evaporates which is present on the surface of the leaves?

Ans.
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.....
.....

5. Does transpiration serve a useful function in the plants? Explain.

Ans.
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.....

6. Why is blood needed by all the parts of the body?

Ans.
.....
.....
.....
.....

7. Describe the function of the heart.

Ans.
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.....
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**TRANSPORTATION IN ANIMALS AND PLANTS
SUBJECT ASSESSMENT
WORKSHEET-77**

Name.....	Class	Roll No.	Time 35 Min.	Max. Marks 19	Marks Obtained
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ANSWER THE FOLLOWING

1. Give one word for the following statements: 3
 - (a) The fluid, which flows in blood vessels and transports digested food from small intestine to the other parts of the body
 - (b) Arteries are divided into extremely thin tubes on reaching the tissues called
 - (c) An organ which beats continuously to act as a pump for the transporting of blood
2.
 - (a) Which prepare food for the plant by using water and carbon dioxide?
 - (b) Which increase the surface area of the root for the absorption of water and mineral nutrients dissolved in water?
 - (c) Why the water kept in an earthen pot (*matka*) is comparatively cooler? 3

Ans.

.....

.....

.....

.....

3. Draw a well-labelled diagram of circulation of blood. 3

LONG ANSWER TYPE QUESTIONS (5 MARKS)

1. Name the types of blood vessels and write their functions.

Ans.

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**2. (a) What are the substances which are carried by blood plasma in human body?
(b) How can you say that there is double circulation in human heart?**

Ans.

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TRANSPORTATION IN ANIMALS AND PLANTS
SUBJECT ASSESSMENT
WORKSHEET-78

Name	Class	Roll No.	Time 25 Min.	Max. Marks 15	Marks Obtained
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LONG ANSWER TYPE QUESTIONS (5 MARKS)

1. Write an activity which shows that transportation of water is done through cells.

Ans.

.....

.....

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2. Write an activity about how to find out number of beats per minute (pulse rate) in adult human being.

Ans.

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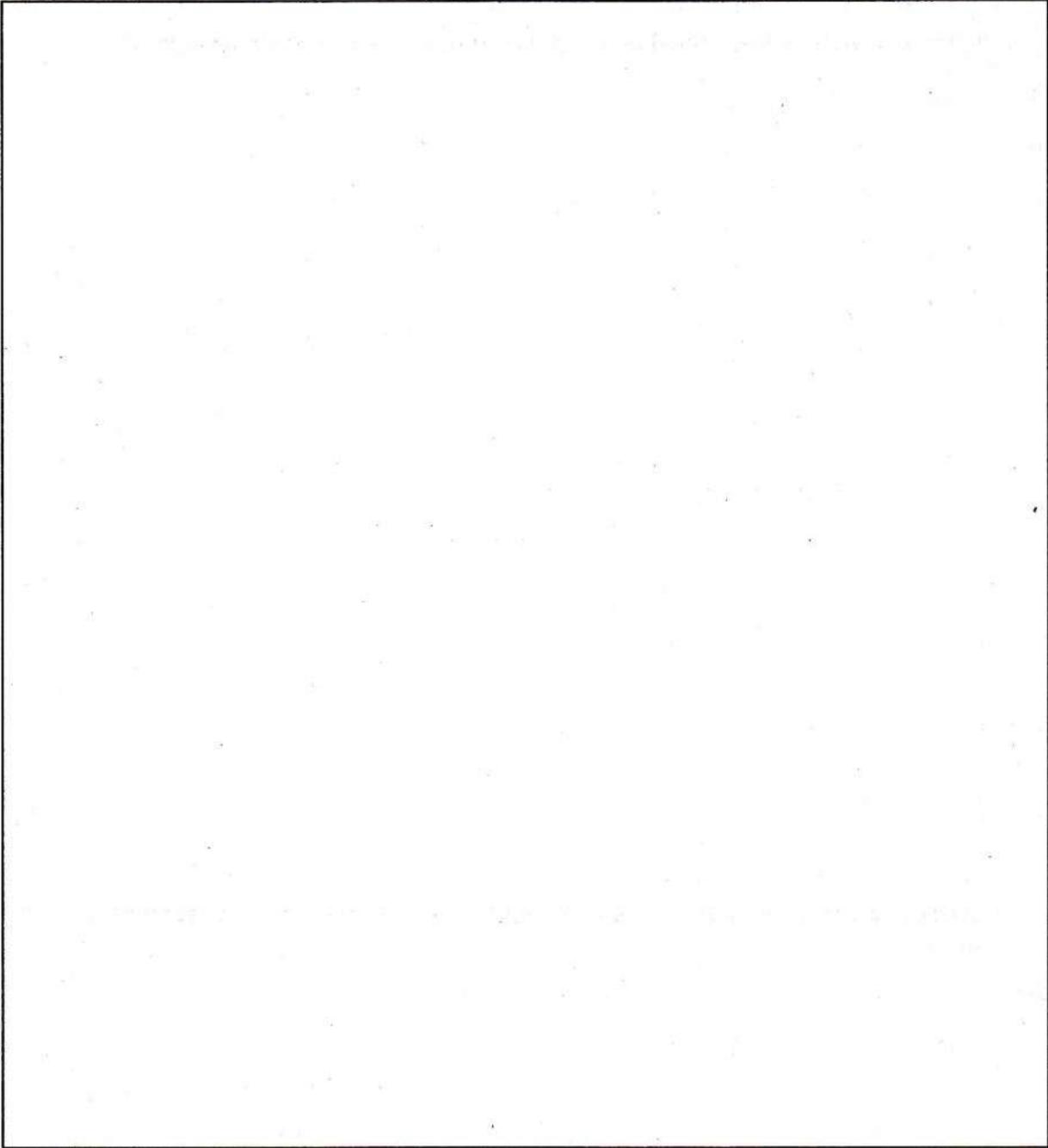
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3. Draw a diagram of the human excretory system and label its various parts.



TRANSPORTATION IN ANIMALS AND PLANTS
SUBJECT ASSESSMENT
WORKSHEET-79

Name..... || Class..... || Roll No. || Time 50 Min. || Max. Marks 28 || Marks Obtained

ANSWER THE FOLLOWING

1. State whether the following statements are correct or incorrect. If incorrect write the correct sentences. 5

(a) White blood cells help to transport oxygen.

Ans.

(b) The solid part of the blood is called plasma.

Ans.

(c) Arteries are those blood vessels which do not have valves.

Ans.

(d) Our heart rate increases while we are resting or sleeping.

Ans.

(e) The white blood cells are also called leucocytes.

Ans.

2. Give one word for the following. 5

(a) The blood vessels which carry blood rich in carbon dioxide.

Ans.

(b) The process by which water is lost from the plants.

Ans.

(c) The special tubes through which food is transported in plants.

Ans.

(d) The phenomenon that controls the body temperature of plants.

Ans.

(e) The protein which absorbs oxygen in the blood.

Ans.

3. Match the columns. 5

Column A	Column B
(a) WBC	(i) Pumping organ
(b) Blood platelets	(ii) Filtration of blood
(c) Nephron	(iii) Blood clotting
(d) Osmosis	(iv) Protects the body from infection
(e) Heart	(v) Semi-permeable membrane

4. Define the following terms.

5

(a) Arteries

Ans.
.....

(b) Capillaries

Ans.
.....

(c) Nephron

Ans.
.....

(d) Plasma

Ans.
.....

(e) Pulse

Ans.
.....

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. Name the tiny filtering unit present in kidneys.

.....
.....

2. What is the significance of transpiration?

.....
.....

3. Who requires dialysis? How is it given?

.....
.....

4. Plants don't use all the water available to them from the soil. Much of it is given off by transpiration. Why do they then take in so much of water from the soil?

.....
.....

□□

TRANSPORTATION IN ANIMALS AND PLANTS SUBJECT ASSESSMENT WORKSHEET-80

Name.....	Class.....	Roll No.	Time 30 Min.	Max. Marks 21	Marks Obtained
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DO AS DIRECTED

16 × 1 = 16

1. Circulatory system consists of the heart and
2. of waste products from the body is called excretion.
3. Salt and urea are removed along with water as
4. The blood from the heart is transported to all parts of the body by the
5. Arteries and veins are joined by a network of
6. The rhythmic contraction and relaxation of the heart is called
7. The main excretory product in human beings is
8. Water reaches great heights in the trees because of suction pull caused by
9. Excretory system of humans consists of two kidneys, two ureters, a urinary bladder, and urethra. (T/F)
10. Solid part of blood is called plasma. (T/F)
11. Blood is red because of haemoglobin present in RBCs. (T/F)
12. Birds, insects and lizards excrete uric acid in semi-solid form. (T/F)
13. Kidneys eliminate the waste materials in the liquid form called blood. (T/F)
14. Fishes excrete waste substances which directly dissolve in water. (T/F)
15. The root hair is in contact with the water present between the soil particles. (T/F)
16. Plants absorb water and minerals by stem. (T/F)

ANALOGY TYPE QUESTIONS

5 × 1 = 5

1. Blood is green : Leech :: Blood is : Crab.
2. Fight against infections and germs : WBCs :: Carry respiratory gases :
3. Pumping organ : : Circulating fluid : Blood.
4. Open circulatory system : Cockroach :: Closed circulatory system :
5. Urine : 95% of water :: Urine : % urea.

TRANSPORTATION IN ANIMALS AND PLANTS ENRICHMENT ACTIVITY WORKSHEET-81

Name	Class	Roll No.	Time 40 Min.	Max. Marks 20	Marks Obtained
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PROJECT REPORT

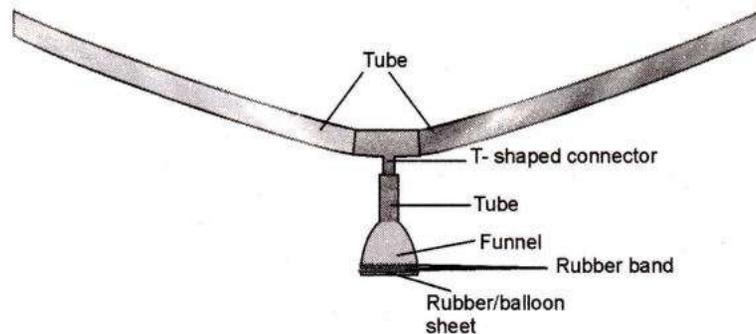
1. Prepare a project report on blood groups and their importance.
2. When a person suffers from chest pain, the doctor immediately takes an ECG. Visit a doctor and get information about ECG. You may even look up an encyclopaedia or the internet.
3. You must have heard about human beings have a closed circulatory system. Some animals have an open circulatory system. Find out the differences between these two and prepare a report.

ACTIVITY-1

Aim: With the help of an activity, how to make a model of stethoscope.

Materials Required: Plastic funnel, balloon, connector, rubber bands, rubber tubes.

Procedure: Take a plastic funnel and fix the stretched balloon sheet with rubber band on its mouth. Fix a small tube to the connector at the back portion of the funnel and then fix the tubes for ear pieces. Use the model of stethoscope to hear the heartbeats.



□□

REPRODUCTION IN PLANTS

SUBJECT ASSESSMENT

WORKSHEET-82

Name	Class	Roll No.	Time 25 Min.	Max. Marks 17	Marks Obtained
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POINTS TO REMEMBER

- The production of new individuals from their parents is known as **reproduction**.
- Most plants have roots, stems and leaves, which are known as **vegetative parts** of plants.
- The flowers perform the function of reproduction in plant. So, we can say that flowers are the **reproductive parts** of plants.
- **There are two ways in which plants reproduce:**
 - (a) **Asexual reproduction** (a plant can give rise to a new plant without seeds), and
 - (b) **Sexual reproduction** (a plant in which new plants are obtained from seeds).
- Sweet potato and dahlia can also give rise to new plants.
- A type of asexual reproduction in which new plants are produced from roots, stems, leaves and buds. As reproduction is through the vegetative parts of the plant, it is called **vegetative propagation**.
- Reproduction in case of fungi occurs by **spore formation**.
- A flower which contains either only the pistil or only the stamens, is called **unisexual flower**.
- Bisexual flowers contain both stamens and pistil, *i.e.*, male and female.
- A **pistil** consists of **stigma, style and ovary**.
- The ovary contains one or more **ovules**. The **female gamete** or the egg is formed in an ovule.
- The male gametes are found inside the pollen grains in flowers.
- The transfer of pollen from the anther to the stigma of a flower is known as **pollination**.
- If the pollen lands on the stigma of the same flower, it is called **self-pollination**.
- The process of fusion of male and female gametes (to form a zygote) is called **fertilisation**.
- The fruits are the ripened ovary. The seeds develop from the ovules. The seed contains an embryo enclosed in a protective seed coat.
- **Dispersal** is the scattering of seeds by agents like wind, water and animals.

Experiment. To study slides of (a) *Amoeba* (b) saprophyte (c) yeast cells (d) stomata and (e) pollen grains.

MULTIPLE CHOICE QUESTIONS (MCQs)

17 × 1 = 17

1. Pseudopodia are found in:

- (a) Stomata
- (c) *Amoeba*

- (b) Yeast
- (d) All of these.

2. Stomata are formed of:

- (a) One guard cell
- (c) Three guard cells

- (b) Two guard cells
- (d) No guard cells.

3. Pollen grains are necessary for:

- (a) Transpiration
- (c) Pollination

- (b) Transportation
- (d) Excretion.

4. The fungus named bread mould is a:
 (a) Mesophyte (b) Saprophyte (c) Hydrophyte (d) Xerophyte.
5. Reproduction by budding is found in:
 (a) Yeast (b) Stomata
 (c) *Amoeba* (d) All of these.
6. The parts of flower that produce pollen grains, are:
 (a) Anthers (b) Sepals
 (c) Petals (d) None of these.
7. Which one of the following is single-celled?
 (a) *Amoeba* (b) Yeast
 (c) Both (a) and (b) (d) None of the.
8. The cottony mass of fungus is called:
 (a) Spores (b) Guard cells
 (c) Hyphae (d) None of these.
9. The process of fusion of male and female gametes is called:
 (a) Fertilisation (b) Pollination
 (c) Reproduction (d) Seed formation.
10. Mature ovary forms the:
 (a) Seed (b) Stamen (c) Pistil (d) Fruit.
11. *Bryophyllum* can be reproduced by its:
 (a) Stem (b) Leaves (c) Root (d) Flower.
12. Zygote develops into an:
 (a) Embryo (b) Stamens (c) Pistil (d) None of these.
13. Pseudopodium helps *Amoeba* in:
 (a) Respiration (b) Locomotion (c) Breathing (d) None of these.
14. Sporangium have:
 (a) Hyphae (b) Guard cells (c) Spores (d) None of these.
15. The cells that surround stoma are:
 (a) Guard cells (b) Prokaryotic cells
 (c) Eukaryotic cells (d) None of these.
16. In asexual reproduction:
 (a) one parent is involved. (b) both parents are involved.
 (c) no parent is involved. (d) all of the above.
17. A modified stem of onion is:
 (a) Bulb (b) Corn (c) Embryo (d) Radicle.

□□

REPRODUCTION IN PLANTS
SUBJECT ASSESSMENT
WORKSHEET-83

Name	Class	Roll No.	Time 40 Min.	Max. Marks 25	Marks Obtained
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VERY SHORT ANSWER TYPE QUESTIONS (1 MARK)

1. What happens when a leaf of *Bryophyllum* (sprout leaf plant) falls on a moist soil?

Ans.

2. What takes place in plants with the help of wind, water and insects?

Ans.

3. How do pollen grains prevent ourselves from drying up?

Ans.

4. How are reproductive parts of a plant, stamens and pistil identified in flowers?

Ans.

5. What are algae?

Ans.

6. From where, fungi are grown on a bread piece?

Ans.

7. Why can pollen grains be carried by wind or water?

Ans.

8. By which method, do moss and ferns reproduce?

Ans.

9. How is zygote formed in sexual reproduction?

Ans.

10. How are seeds and fruits of plants carried away?

Ans.

11. How do same kind of plants grow at different places?

Ans.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. When do cacti (singular : cactus) produce new plants?

Ans.
.....
.....

2. (a) What do you mean by bud?

(b) Which take less time to grow and bear flowers and fruits, plants produced by vegetative propagation or plants produced from seeds?

Ans.
.....
.....

3. Why do spores can survive for a long time?

Ans.
.....
.....

4. (a) By which process, do algae grow and multiply rapidly in the absence of water and nutrients?

(b) Which contains pollen grains that produce male gametes?

Ans.
.....
.....

5. What is the difference between self-pollination and cross-pollination?

Ans.
.....
.....

6. What will happen if all seeds of a plant were to fall at the same place and grow there?

Ans.
.....
.....

7. How are plants benefited by seed dispersal?

Ans.
.....
.....



**REPRODUCTION IN PLANTS
SUBJECT ASSESSMENT
WORKSHEET-84**

Name.....	Class.....	Roll No.	Time 40 Min.	Max. Marks 24	Marks Obtained
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ANSWER THE FOLLOWING

1. Match the items of Column A with those in Column B.

4

Column A	Column B
(a) Bud	(i) Maple
(b) Eyes	(ii) <i>Spirogyra</i>
(c) Fragmentation	(iii) Yeast
(d) Wings	(iv) Potato
	(v) Rose

Ans.

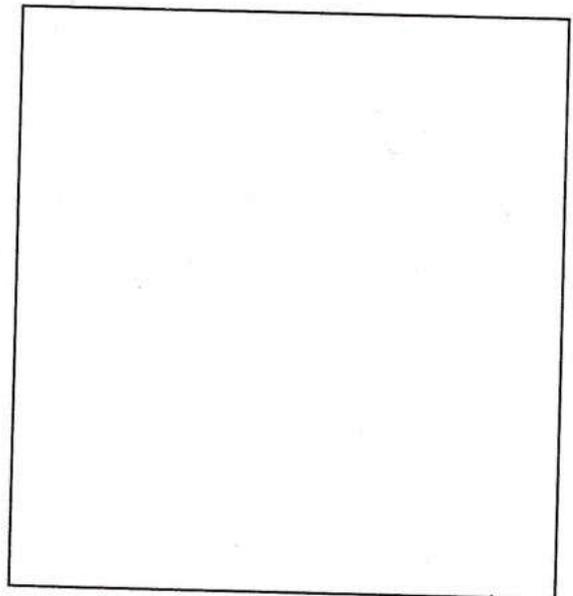
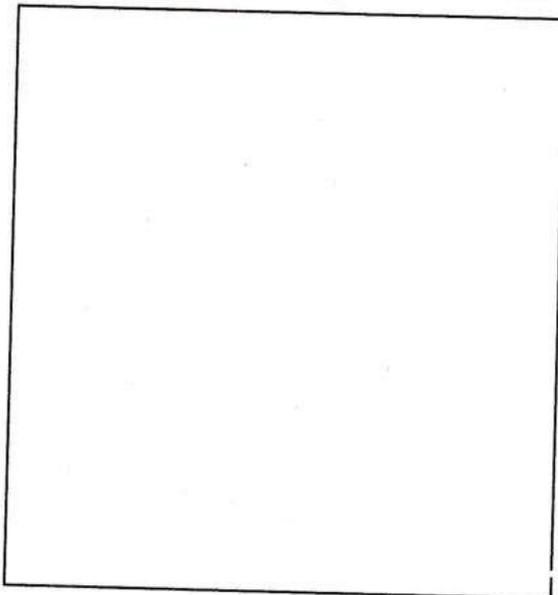
2. (a) By which process yeast is reproduced?
(b) Which buds can also give rise to new plants?

2

Ans.
.....
.....
.....

SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. Sketch the reproductive parts of a flower.



2. What is the advantage of vegetative propagation?

Ans.
.....
.....
.....

3. How does budding act in reproducing yeast?

Ans.
.....
.....
.....

4. Explain what do you understand by sexual reproduction.

Ans.
.....
.....
.....

5. Write short note on vegetative propagation by leaves.

Ans.
.....
.....
.....

6. State the main differences between asexual and sexual reproduction.

Ans.
.....
.....
.....
.....



REPRODUCTION IN PLANTS
SUBJECT ASSESSMENT
WORKSHEET-85

Name	Class	Roll No.	Time 40 Min.	Max. Marks 27	Marks Obtained
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SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. What is the role of fragmentation in algae?

Ans.

.....

.....

.....

2. How does the process of fertilisation take place in flowers?

Ans.

.....

.....

.....

3. (a) Why are flowers generally so colourful and fragrant?
(b) Why all seeds must not be placed at the same place?

Ans.

.....

.....

.....

4. (a) Why are flowers called as reproductive parts of plants?
(b) Write three vegetative parts by which new plants are produced in vegetative propagation.

Ans.

.....

.....

.....

LONG ANSWER TYPE QUESTIONS (5 MARKS)

1. (a) What happens when insects visit flower?
(b) Describe the steps after pollination that lead to the development of seeds and fruits.

Ans.

2. Describe the different methods of asexual reproduction. Give examples.

Ans.

3. Describe the various ways by which seeds are dispersed.

Ans.



REPRODUCTION IN PLANTS

SUBJECT ASSESSMENT

WORKSHEET-86

Name	Class	Roll No.	Time 25 Min.	Max. Marks 20	Marks Obtained
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ANSWER THE FOLLOWING

1. Fill in the blanks.

5

- (a) Production of new individuals from the vegetative part of parent is called
- (b) A flower may have either male or female reproductive parts. Such a flower is called
- (c) The transfer of pollen grains from the anther to the stigma of the same or of another flower of the same kind is known as
- (d) The fusion of male and female gametes is termed as
- (e) Seed dispersal takes place by means of, and

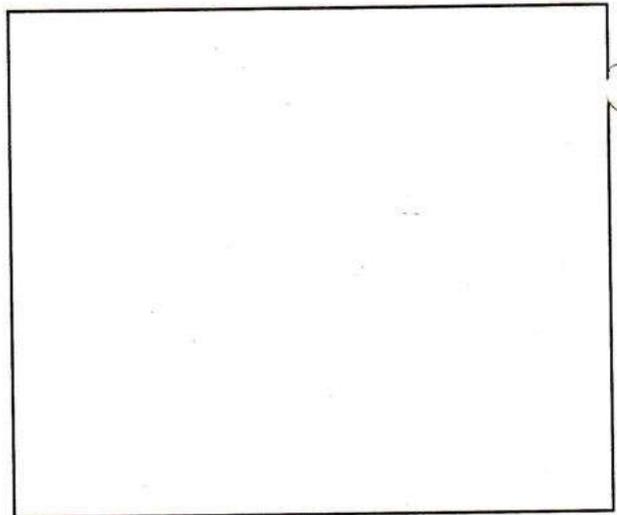
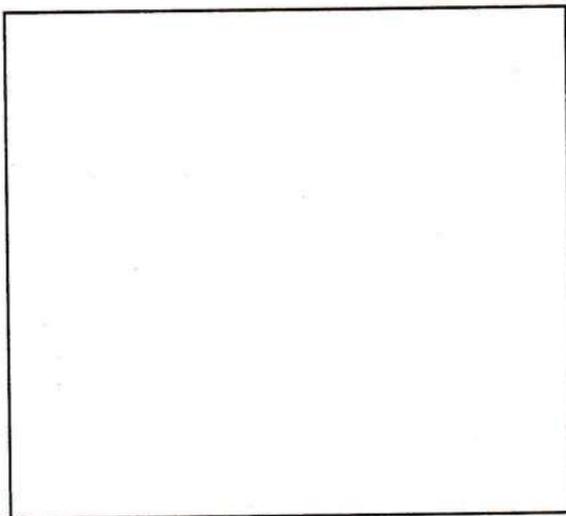
LONG ANSWER TYPE QUESTIONS (5 MARKS)

1. (a) Draw a labelled diagram of fertilisation (zygote formation).
 (b) Name the following:

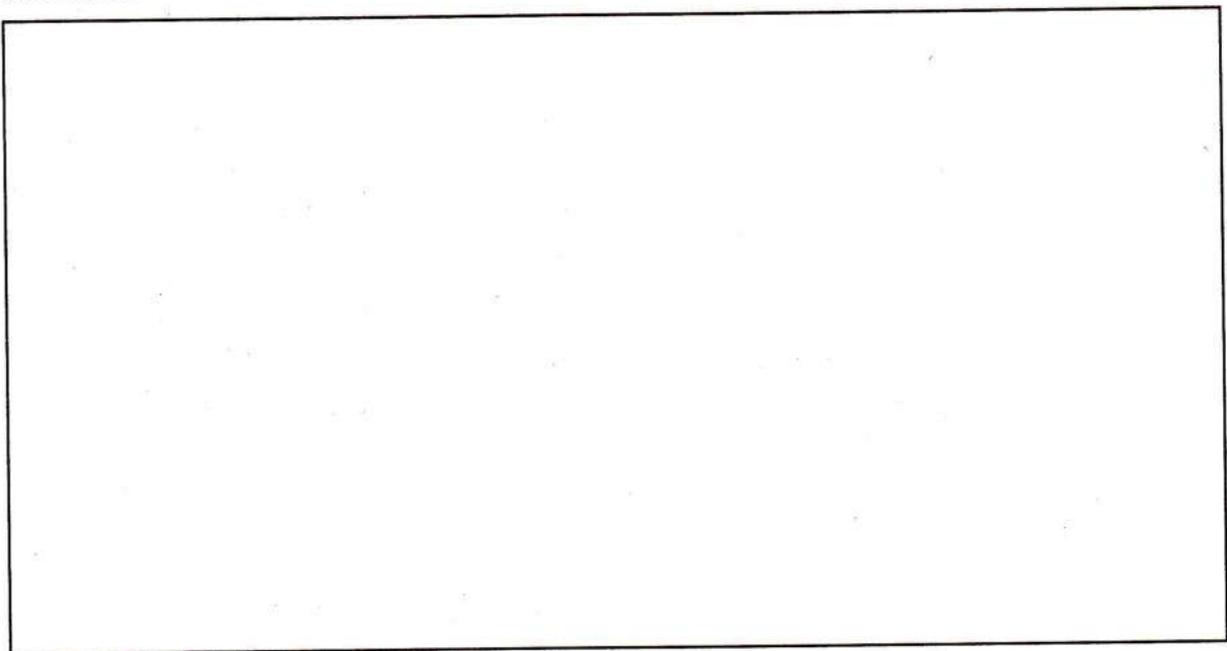
- (i) The reproductive process in plants in which no seeds are used.
- (ii) The reproductive process in which seeds are used.
- (iii) The propagation of plants in which reproduction occurs through the vegetative parts.

2. Write an activity which shows the comparison between wind pollinated and insect pollinated flowers.

Ans.
.....
.....
.....
.....
.....



3. With the help of a well-labelled diagram, explain the male and female reproductive organs of the flower.



**REPRODUCTION IN PLANTS
SUBJECT ASSESSMENT
WORKSHEET-87**

Name	Class	Roll No.	Time 40 Min.	Max. Marks 26	Marks Obtained
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ANSWER THE FOLLOWING

1. Match the columns.

5

Column A	Column B
(a) <i>Rhizopus</i>	(i) water
(b) <i>Hydrilla</i>	(ii) grapes
(c) Corm	(iii) <i>hydra</i>
(d) Layering	(iv) mould
(e) Budding	(v) <i>gladiolus</i>

2. Differentiate between:

5

(a) Unisexual and bisexual flower

Ans.
.....

(b) Wind pollination and water pollination

Ans.
.....

(c) Ovule and ovary

Ans.
.....

(d) Fission and budding

Ans.
.....

(e) Self-pollination and cross-pollination

Ans.
.....

3. Define the following terms.

5

(a) Fertilisation

Ans.
.....

(b) Budding

Ans.

(c) Bisexual flower

Ans.

(d) Zygote

Ans.

(e) Fragmentation

Ans.

4. State whether the following statements are true or false.

8

(a) Producing seeds is a type of vegetative propagation of plants.

()

(b) Many male gametes are formed inside the pollen grains.

()

(c) Only one ovule is present in the ovary.

()

(d) Coconut is dispersed through water.

()

(e) Papaya is a bisexual flower.

()

(f) In plants, there are two modes of reproduction, asexual and sexual.

()

(g) Pollination is of three types.

()

(h) Almonds and walnuts are fleshy and juicy.

()

5. What are the advantages and disadvantages of vegetative propagation?

3

Ans.

□□

REPRODUCTION IN PLANTS

SUBJECT ASSESSMENT

WORKSHEET-88

Name	Class	Roll No.	Time 35 Min.	Max. Marks 21	Marks Obtained
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DO AS DIRECTED

11 × 1 = 11

1. The zygote develops into an
2. flowers contain both stamens and pistil.
3. The egg or female gamete is formed in an
4. Fragmentation is a type of
5. Yeast and bacteria reproduce by
6. *Spirogyra* reproduces by
7. Male and female gametes are not required in
8. is a tuber.
9. Pistil is the male reproductive part of flower. (T/F)
10. Stamens are the male reproductive part of flower. (T/F)
11. Seed dispersal is aided by wind, water and animals. (T/F)

ONE WORDS SUBSTITUTION

5 × 1 = 5

1. The kind of pollination in which pollen lands on the stigma of same flower is called
2. The cell which results after fusion of the gametes is called
3. The process of fusion of male and female gametes is called
4. The flowers which contain either only the pistil or only the stamens are called
5. The female reproductive part which consists of stigma, style and ovary is called

ANALOGY TYPE QUESTIONS

5 × 1 = 5

1. New plants without seeds : Asexual reproduction :: New plants from seeds :
2. Male gametes : Found inside the pollen grains :: : Found in the ovule.
3. Plumule : :: Radicle : Root system.
4. One parent is involved : :: Both parents are involved : Sexual reproduction.
5. Ovary : :: Ovules : Seeds.

REPRODUCTION IN PLANTS ENRICHMENT ACTIVITY WORKSHEET-89

Name	Class	Roll No.	Time 40 Min.	Max. Marks 20	Marks Obtained
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PROJECT REPORT

Prepare a project report about the development of plants from seeds. Write the different stages and time taken to form seed, germination to formation of a plant.

GROUP ACTIVITY

1. Make three or four groups consisting two students in each group. Try to grow plants in school garden by different methods.
2. Organise a science quiz on 'Fruits with or without seeds'.

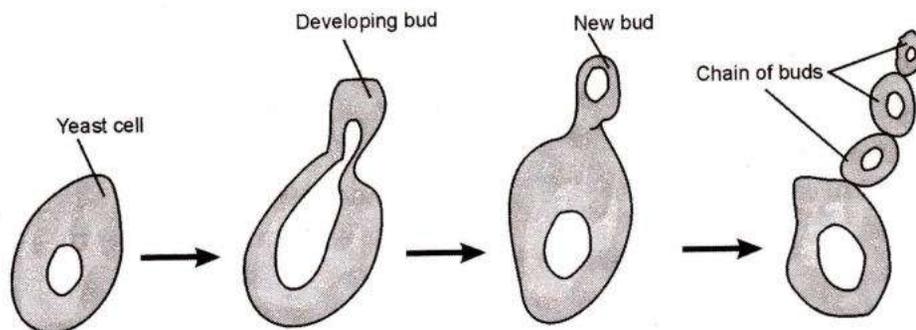
ACTIVITY

Aim: To show reproduction in yeast with the help of budding process.

Materials Required: Yeast powder, container, water, a teaspoonful sugar.

Procedure: Take few amount of yeast powder from a bakery. Take a pinch of yeast and place it in a water filled container. Add a teaspoonful of sugar and shake it to dissolve. Keep it in the warm part of a room. After an hour, put a drop of this liquid on a glass slide and observe under a microscope.

Observation: You will see that new yeast cells are formed. The small bulb-like projection coming out from the yeast cell is called a bud. The bud gradually grows and gets detached from the parent cell and forms a new yeast cell. If this process continues, a large number of yeast cells are produced.



□□

MOTION AND TIME

SUBJECT ASSESSMENT

WORKSHEET-90

Name.....	Class.....	Roll No.	Time 22 Min.	Max. Marks 14	Marks Obtained
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POINTS TO REMEMBER

- The **distance** travelled by objects in a given interval of time, *i.e.*, can help us to decide which one is faster or slower.
- **Speed** can be defined as the distance covered by an object in a unit time or in another way speed can be defined as the distance travelled divided by the time to cover that distance.
- The **unit of speed** is metre per second or ms^{-1} or **m/s**.
- The motion can be of two types: **uniform motion** and **non-uniform motion**.
- If the speed of an object moving along a straight line keeps changing, its motion is said to be **non-uniform**.
- If an object is moving along a straight line with a constant speed, it is said to be in **uniform motion**.
- In case of uniform motion, the **average speed is the same as the actual speed**.
- Time is the definite interval between two events.
- The time between one sunrise and the next is called **day**.
- A **month** is measured from one new moon to the next.
- A **year** is fixed as the time taken by the earth to complete one revolution of the sun.
- All of the clocks make use of some periodic motion. One of the most well-known periodic motions is that of a **simple pendulum**.
- Periodic motion is also known as oscillatory motion.
- Time taken by the **pendulum** to complete one oscillation is called its **time-period**. The basic unit of time is second (s).
- The pulse of a normal healthy adult at rest beats about 72 times in a minute which is about 12 times in 10 seconds.
- **Speedometer** is the device to record the speed of the vehicle directly in km/h.
- **Odometer** is another device to measure the distance travelled by the vehicle.
- Motion of objects can be presented in pictorial form by their distance-time graphs.
- The **distance-time graph** for the motion of an object moving with a constant speed is a straight line.

Experiment. To study the time period of a simple pendulum.

MULTIPLE CHOICE QUESTIONS (MCQs)

14 × 1 = 14

1. Which type of motion is shown by a suspended pendulum?

(a) Oscillatory motion	(b) Rectilinear motion
(c) Circular motion	(d) None of these.
2. **Bob** is a:

(a) Non-metallic ball	(b) Metallic ball
(c) Both of these	(d) None of these.

3. Pendulum is a:

- (a) heavy object attached to a suspended string. (b) light object attached to a suspended string.
(c) both of these (d) none of these.

4. The mean position of the pendulum is:

- (a) the point at which the pendulum rests and shows no motion.
(b) the point at which the pendulum travels and shows no rest.
(c) both of these (d) none of these.

CHAPTER BASED MCQs

5. Which one of these is a scalar quantity?

- (a) Work (b) Displacement (c) Velocity (d) None of these.

6. A clock in which falling sand is used as timing device is called:

- (a) Water clock (b) Candle clock (c) Pendulum clock (d) Sand clock.

7. One mean solar day is equal to how many seconds?

- (a) 80,406 (b) 80,640 (c) 86,400 (d) 84,600.

8. Which of the following are not correct?

- (a) The basic unit of time is second.
(b) Every object moves with a constant speed.
(c) Distance between two cities are measured in kilometres.
(d) The time-period of a given pendulum is not constant.
(e) The speed of a train is expressed in m/h.

9. Which of the following relations is correct?

- (a) Speed = Distance \times Time (b) Speed = $\frac{\text{Distance}}{\text{Time}}$
(c) Speed = $\frac{\text{Time}}{\text{Distance}}$ (d) Speed = $\frac{1}{\text{Distance} \times \text{Time}}$

10. Which clock was not used in ancient times?

- (a) Sand clock (b) Stopwatch (c) Water clock (d) None of these.

11. One century is equal to:

- (a) 100 years (b) 10 years (c) $\frac{1}{100}$ year (d) $\frac{1}{10}$ year.

12. Which one is incorrect among the following statements?

- (a) Distance is the actual distance travelled by an object.
(b) Displacement is the shortest distance between two points.
(c) Time between two successive noons is called solar day.
(d) Second is the CGS unit of time.

13. Which one is correct among the following?

- (a) 1 leap year = 366 days (b) 1 solar year = 365 days
(c) 1 millennium = 1000 years (d) All of these.

14. The motion that repeats itself after regular intervals of time is called:

- (a) Circular motion (b) Periodic motion (c) Rectilinear motion (d) Non-periodic motion.

□□

**MOTION AND TIME
SUBJECT ASSESSMENT
WORKSHEET-91**

Name.....	Class.....	Roll No.	Time 35 Min.	Max. Marks 22	Marks Obtained
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VERY SHORT ANSWER TYPE QUESTIONS (1 MARK)

1. Is the movement of the earth about its axis, uniform motion or non-uniform motion?

Ans.
.....

2. In which type of motion, average speed of an object is used—uniform motion or non-uniform motion?

Ans.
.....

3. Distance travelled by an object between initial position to final position is called what?

Ans.

4. Why speed is called scalar quantity?

Ans.
.....

5. Why displacement is called vector quantity?

Ans.
.....

6. Write all three types of motion.

Ans.

7. Which type of motion defines bullock cart moving on a straight road?

Ans.
.....

8. How can you define 50 kilometres per hour?

Ans.

9. Which type of motion defines a march past of soldiers?

Ans.

10. When does the shadow of an object is the longest and shortest?

Ans.
.....

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. The distance between two stations is 240 km. A train takes 4 hours to cover this distance. Calculate the speed of the train.

Ans.
.....
.....

2. Salma takes 15 minutes from her house to reach her school on a bicycle. If the bicycle has a speed of 2 m/s, calculate the distance between her house and the school.

Ans.
.....
.....

3. A car moves with a speed of 40 km/h for 15 minutes and then with a speed of 60 km/h for the next 15 minutes. What is the total distance covered by the car?

Ans.
.....
.....

4. (a) Which is used for measuring the distance travelled by the vehicle?
(b) What are meant by nanosecond and microsecond?

Ans.
.....
.....

5. (a) Define speed. What is the unit of speed?
(b) What is called the bob of the pendulum?

Ans.
.....
.....

6. A simple pendulum takes 32 s to complete 20 oscillations. What is the time-period of the pendulum?

Ans.
.....
.....



MOTION AND TIME
SUBJECT ASSESSMENT
WORKSHEET-92

Name	Class	Roll No.	Time 35 Min.	Max. Marks 18	Marks Obtained
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SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. Write the type of motion of the following:

- (a) Hands of an athlete in a race
- (b) Pedal of a bicycle in motion
- (c) Motion of a swing
- (d) Motion of a pendulum

2. (a) How can you calculate total distance covered?
(b) Change 320 km/h into m/s.

Ans.

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.....

3. What is the difference between non-uniform and uniform motion?

Ans.

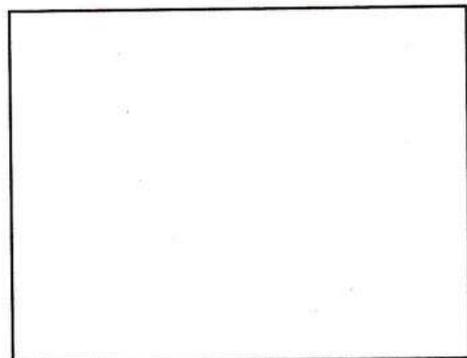
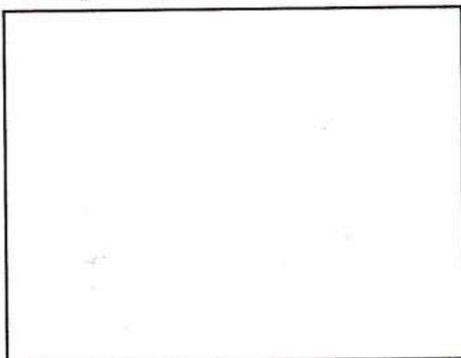
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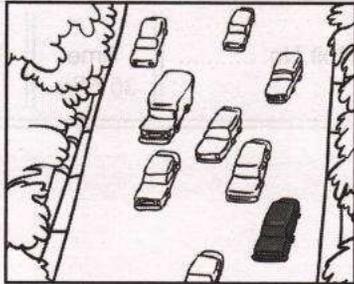
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SHORT ANSWER TYPE QUESTIONS (3 MARKS)

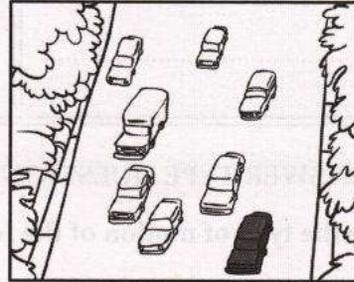
1. Show the shape of distance-time graph for the motion in the following cases:
(a) A car moving with a constant speed.
(b) A car parked on a side road.



2. Suppose the two photographs, shown in Fig. (1) and Fig. (2), had been taken at an interval of 10 seconds. If a distance of 100 metres is shown by 1 cm in these photographs, calculate the speed of the grey car.



(1)



(2)

Ans.

3. Write three main differences between distance and displacement.

Ans.

4. Write three main differences between speed and velocity.

Ans.



MOTION AND TIME
SUBJECT ASSESSMENT
WORKSHEET-93

Name	Class	Roll No.	Time 40 Min.	Max. Marks 28	Marks Obtained
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SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. Classify the following as motion along a straight line, circular or oscillatory motion:

- (a) Motion of your hands while running.
- (b) Motion of a horse pulling cart on a straight road.
- (c) Motion of a child in a merry go-round.
- (d) Motion of a child on a see-saw.
- (e) Motion of the hammer of an electric bell.
- (f) Motion of a train on a straight bridge.

2. (a) In case of uniform motion, why is average speed same as the actual speed?
(b) Why do all clocks make use of some periodic motion?

Ans.
.....
.....
.....

3. (a) What do you understand by a simple pendulum?
(b) Define oscillatory motion.

Ans.
.....
.....
.....

4. (a) Name the scientist who experimented with the various kinds of pendulum.
(b) Why is time measured by quartz clocks much more accurate than that by the clocks available earlier?

Ans.
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.....
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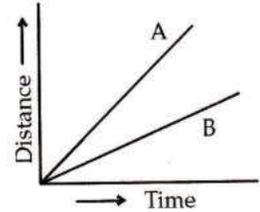
5. (a) How do you decide, which object moves faster or slower?
 (b) How does pendulum complete one oscillation?

Ans.

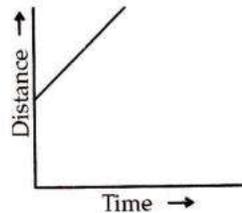
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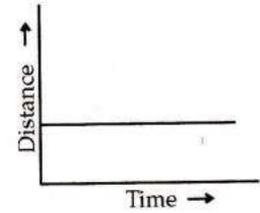
6. (a) Given Figure shows the distance-time graph for the motion of two vehicles A and B. Which one of them is moving faster?



- (b) Which of the following distance-time graphs shows a truck moving with speed which is not constant?



(i)



(ii)

Ans.

.....

ANSWER THE FOLLOWING

1. Match the items of Column A with those in Column B.

10

Column A	Column B
(a) Simple pendulum	(i) in case of uniform motion
(b) Speed	(ii) measures distance travelled by vehicles
(c) Average speed is same as the actual speed	(iii) second
(d) Odometer	(iv) m/s
(e) Speedometer	(v) is called oscillation
(f) Basic unit of time	(vi) gives the speed of a vehicle at any instant of time
(g) Basic unit of speed	(vii) is a straight line
(h) To and fro motion of a pendulum	(viii) periodic motion
(i) Basic unit of displacement	(ix) measures the speed of vehicles
(j) Distance-time graph for the motion of an object moving with constant speed.	(x) m

□□

MOTION AND TIME
SUBJECT ASSESSMENT
WORKSHEET-94

Name	Class	Roll No.	Time 35 Min.	Max. Marks 20	Marks Obtained
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ANSWER THE FOLLOWING

1. Mark True (T) or False (F) against each statement. 5
- (a) Mean solar day is the SI unit of time. ()
 - (b) Sand clock can work only during day. ()
 - (c) A continuous change in the position of body relative to other bodies is called mechanical motion. ()
 - (d) Sundial is a device used for measuring time by measuring the length of the shadow during daytime. ()
 - (e) One solar year and one lunar year have equal number of days. ()

LONG ANSWER TYPE QUESTIONS (5 MARKS)

1. The odometer of a car reads 57321.0 km when the clock shows the time 08:30 AM. What is the distance covered by the car, if at 08:50 AM, the odometer reading has changed to 57336.0 km? Calculate the speed of the car in km/min during this time. Express the speed in km/h also.

Ans.

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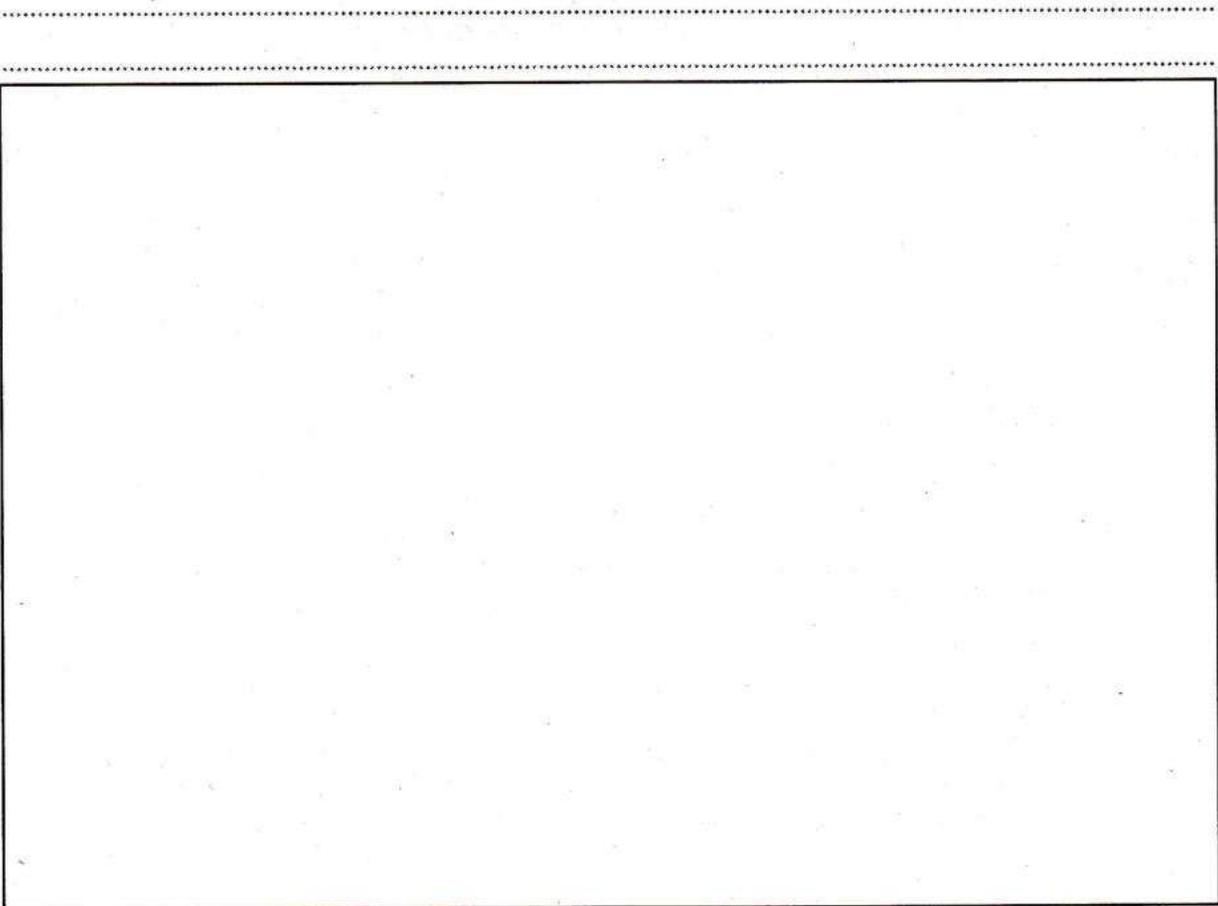
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2. (a) A car covers 40 km in first hour of its journey, 20 km in next hour and 30 km in third hour. Calculate its average speed.
- (b) Draw distance-time graph for uniform motion.

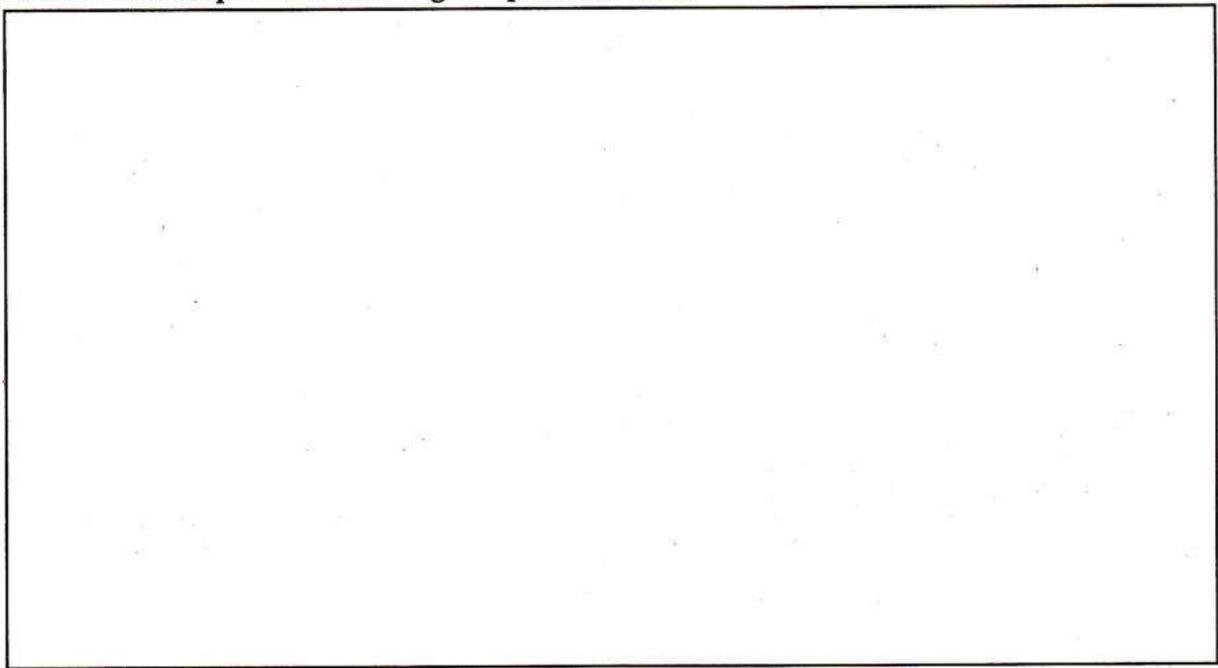
Ans.

.....

.....



3. Draw a labelled pie chart showing composition of air.



□□

MOTION AND TIME
SUBJECT ASSESSMENT
WORKSHEET-95

Name	Class	Roll No.	Time 40 Min.	Max. Marks 23	Marks Obtained
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ANSWER THE FOLLOWING

1. State whether the following statements are correct or incorrect. If incorrect write the correct sentences. 5

(a) Second is a standard unit for measuring distance.

Ans.

(b) One millennium is equal to 1000 years.

Ans.

(c) A sundial is used to record speed.

Ans.

(d) If the distance-time graph of an object is depicted as a straight line, then the object is travelling at a uniform speed.

Ans.

(e) An odometer shows the distance travelled by the vehicle.

Ans.

2. Match the columns. 5

Column A	Column B
(a) Speedometer	(i) Rest position
(b) Line graph	(ii) One year
(c) Simple pendulum	(iii) Speed of vehicle
(d) 365 ¼ days	(iv) x and y axes
(e) Mean position	(v) Time period

3. Define the following terms. 5

(a) Periodic motion

Ans.
.....

(b) Speedometer

Ans.
.....

(c) Uniform motion

Ans.
.....

(d) Time period

Ans.
.....

(e) Oscillation

Ans.
.....

4. Differentiate between:

2

(a) Uniform and non-uniform motion

.....
.....

(b) Speed and average speed

.....
.....

5. A car travels a distance of 320 km in 6 hours. Find its speed in km/h and m/s.

3

Ans.
.....
.....
.....
.....

6. A train is travelling at a uniform speed of 140 km/h. How long will it take to cover a distance of 560 km?

3

Ans.
.....
.....
.....
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□□

MOTION AND TIME SUBJECT ASSESSMENT WORKSHEET-96

Name	Class	Roll No.	Time 35 Min.	Max. Marks 18	Marks Obtained
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NUMERICAL QUESTIONS:(3 MARKS)

$4 \times 3 = 12$

Numerical 1: A simple pendulum takes 64 seconds to complete 25 oscillations. What is the time period of the pendulum?

Ans.
.....
.....

Numerical 2: The bob of a simple pendulum takes 0.5 second to go from its extreme position to its mean position. Calculate its time period.

Ans.
.....
.....

Numerical 3: Rohita and Rohan took 35 seconds and 40 seconds, respectively, to reach the finishing line while participating in a race. Who do you think ran faster and who was slower?

Ans.
.....
.....

Numerical 4: A school bus covers a distance of 6 kilometres in 10 hours. Calculate its speed.

Ans.
.....
.....

DO AS DIRECTED

$6 \times 1 = 6$

1. Distance travelled by a moving body in unit time is called
2. A pendulum has a period of 2 seconds.
3. Displacement can be whereas distance travelled can never be
4. Sundials work 2.4 hours a day. (T/F)
5. National physical laboratory is situated in Mumbai. (T/F)
6. Rest and motion are relative terms. (T/F)

MOTION AND TIME
ENRICHMENT ACTIVITY
WORKSHEET-97

Name	Class	Roll No.	Time 40 Min.	Max. Marks 20	Marks Obtained
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SUGGESTED ACTIVITY

Take a stick. Fix it in open. Measure the length of shadow at different intervals of time.

PROJECT IDEAS

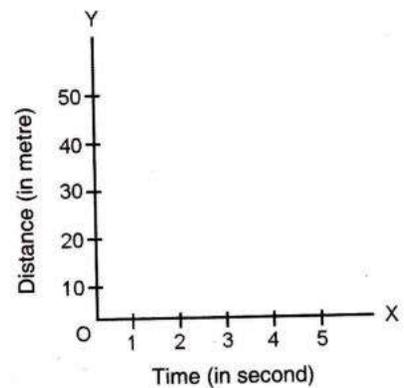
To make a sand clock.

ACTIVITY

Aim: To plot the distance versus time graph for uniform motion.

Materials Required: Graph paper and pencil.

Procedure: Take the speed at which the body moves as 10 m/s. Calculate the distance travelled by the body at the end of 1, 2 and 3 seconds, etc. Take time on the X-axis and distance travelled on the Y-axis. Plot the distance versus time graph on a centimetre graph sheet, taking 1 cm = 1 sec. Repeat step for a speed of 50 m/s and 5 m/s on the same graph sheet. Observe the graph obtained for different speeds.



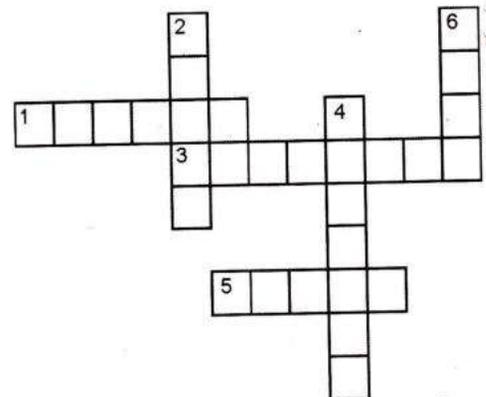
CROSSWORD PUZZLE

Across

- A change in the position of the body with respect to time.
- A motion related with ceiling fan.
- A special type of clock.

Down

- A device used to measure time.
- The scientist who patented the first pendulum clock.
- 3600 seconds = 1



□□

ELECTRIC CURRENT AND ITS EFFECTS

SUBJECT ASSESSMENT

WORKSHEET-98

Name	Class	Roll No.	Time 22 Min.	Max. Marks 13	Marks Obtained
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POINTS TO REMEMBER

- Some common electric components can be represented by symbols. Using these symbols, an electric circuit can be represented by a **circuit diagram**.
- Combination of two or more cells is known as **battery**.
- The wires used to connect the various components in a circuit are represented by **lines**.
- Positive terminal of one cell is connected to the negative terminal of the next cell.
- The bulb glows only when the switch is in the '**ON**' position.
- In the bulb, there is a thin wire called the filament, which glows when an electric current passes through it. When the bulb gets fused, its filament is broken.
- When an electric current flows through a wire, the wire gets heated. It is called **heating effect of current**. This effect has many applications.
- A coil of wire of electric heater is called element.
- Electric circuits can be **open** or **closed**. In an open circuit, no current passes through any part of the circuit. In a closed circuit, current flows through the circuit.
- Electrical heating appliances contain coil of wire. This coil of wire is called **elements**.
- The amount of heat produced in a wire depends on its material, length and thickness.
- Wires made from some special materials melt quickly and break when large electric currents are passed through them. These wires are used for making **electric fuses**. A fuse is thus a safety device which prevents damage to electrical circuit and possible fire.
- When an electric current flows through a wire, it behaves like a **magnet**.
- A current carrying coil of an insulated wire wrapped around a piece of iron is called an **electromagnet**.
- Magnetic effect was first observed by a scientist called **Hans Christian Oersted**.
- **Electromagnets** are used in many devices including electric bell and electromagnetic cranes.
- Generator is a device which produces electricity.

MULTIPLE CHOICE QUESTIONS (MCQs)

13 × 1 = 13

1. The unbroken path through which the current can flow is called:

(a) Electric circuit	(b) Cell
(c) Battery	(d) None of these.
2. Amount of charge flowing or present on a body is measured in:

(a) ampere	(b) coulomb
(c) volt	(d) none of these.
3. A combination of more than one cell is called:

(a) Current	(b) Electric circuit
(c) Battery	(d) None of these.

4. Cells are made up of:

- (a) Electrolyte
- (c) Both of these

- (b) Two rods
- (d) None of these.

5. The heating element in heater, toaster, etc., is made of an alloy:

- (a) Tungsten
- (c) Steel

- (b) Nichrome
- (d) Brass.

6. Electromagnets are used in:

- (a) Electric bells
- (c) Electromagnetic cranes

- (b) Telephone speaker
- (d) All of these.

7. When we bring a magnetic compass near current carrying wire:

- (a) it moves magnetic needle towards north.
- (b) it deflects magnetic needle of the compass.
- (c) it has no effect on magnetic compass.
- (d) it moves magnetic needle towards south.

8. Nichrome is an alloy of:

- (a) Nickel and cobalt
- (c) Nickel and chromium

- (b) Cobalt and chromium
- (d) None of these.

9. Electric current is the flow of:

- (a) Protons
- (b) Electrons

- (c) Neutrons
- (d) None of these.

10. Electromagnetic induction was first discovered by:

- (a) Michael Faraday
- (c) Hans Christian Oersted

- (b) Benjamin Franklin
- (d) William Sturgeon.

11. The main effects of electricity are:

- (a) Heating effect
- (c) Magnetic effect

- (b) Chemical effect
- (d) All of these.

12. The fuse is:

- (a) conductor with low melting point.
- (b) insulator with low melting point.
- (c) conductor with high melting point.
- (d) insulator with high melting point.

13. Which one of the following statement is incorrect?

- (a) Electricity is invisible form of energy.
- (b) The path of flow of current is electric circuit.
- (c) SI unit of charge is volt.
- (d) Electric generators work on the principle of electromagnetic induction.

□□

ELECTRIC CURRENT AND ITS EFFECTS
SUBJECT ASSESSMENT
WORKSHEET-99

Name	Class	Roll No.	Time 35 Min.	Max. Marks 22	Marks Obtained
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VERY SHORT ANSWER TYPE QUESTIONS (1 MARK)

1. What do the longer line and the shorter line represent in the symbol of electric cell?

Ans.

2. Name some devices which use batteries.

Ans.

3. Who was the first person who noticed the deflection of compass needle every time, when the current was passed through the wire?

Ans.

4. When does electric current behave like a magnet?

Ans.

5. Which are used by doctors to take out small pieces of magnetic material that have accidentally fallen in the eye?

Ans.

6. Why Compact Fluorescent Lamps (CFLs) are more beneficial instead of an electric bulb?

Ans.

7. Why wire may even melt and break?

Ans.

8. Does a stationary charge produce a magnetic field?

Ans.

9. Which metal is used for heating the element in an electric iron?

Ans.

10. What do you mean by electric circuit?

Ans.
.....
.....

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. (a) Do you think an electromagnet can be used for separating plastic bags from a garbage heap? Explain.
(b) What happens when electric current is passed through geysers' element?

Ans.
.....
.....

2. When the current is switched on through a wire, a compass needle kept nearby gets deflected from its north-south position. Explain.

Ans.
.....
.....

3. (a) What are the factors on which the amount of heat produced in a wire depends?
(b) Name any two effects of electric current.

Ans.
.....
.....

4. Why are Miniature Circuit Breakers (MCBs) increasingly being used in place of fuses?

Ans.
.....
.....

5. How is short circuit caused?

Ans.
.....
.....

6. Why some special materials made wires are used for making electric fuses?

Ans.
.....
.....



**ELECTRIC CURRENT AND ITS EFFECTS
SUBJECT ASSESSMENT
WORKSHEET-100**

Name	Class	Roll No.	Time 28 Min.	Max. Marks 19	Marks Obtained
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ANSWER THE FOLLOWING

1. Fill in the blanks. 4

- (a) Longer line in the symbol for a cell represents its terminal.
- (b) The combination of two or more cells is called a
- (c) When current is switched 'ON' in a room heater, it
- (d) The safety device based on the heating effect of the electric current is called a

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

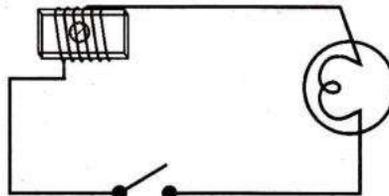
1. (a) What is meant by magnetic effect of current?
(b) What is the SI unit of current?

Ans.
.....
.....
.....

2. (a) Why do we generally represent an electric circuit by its circuit diagram?
(b) What is filament?

Ans.
.....
.....
.....

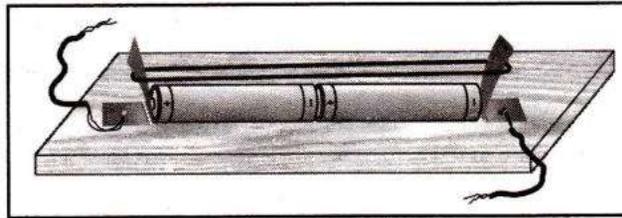
3. Will the compass needle show deflection when the switch in the circuit shown (in figure) is closed?



Ans.
.....

SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. Zubeda made an electric circuit using a cell holder shown in Fig., a switch and a bulb. When she put the switch in the 'ON' position, the bulb did not glow. Help Zubeda in identifying the possible defects in the circuit.

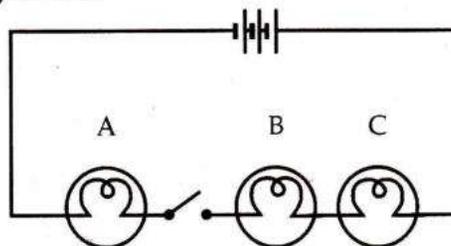


Ans.
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.....
.....

2. An electrician is carrying out some repairs in your house. He wants to replace a fuse by a piece of wire. Would you agree? Give reasons for your response.

Ans.
.....
.....
.....

3. In the circuit shown in Fig. below.



- (a) Would any of the bulb glow when the switch is in the 'OFF' position?
(b) What will be the order in which the bulbs A, B and C will glow when the switch is moved to the 'ON' position?

Ans.
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.....
.....

□□

**ELECTRIC CURRENT AND ITS EFFECTS
SUBJECT ASSESSMENT
WORKSHEET-101**

Name	Class	Roll No.	Time 40 Min.	Max. Marks 22	Marks Obtained
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ANSWER THE FOLLOWING

- 1. Mark 'T' if the statement is True and 'F' if it is False. Rewrite the False statements. 4**
- (a) To make a battery of two cells, the negative terminal of one cell is connected to the negative terminal of the other cell. ()
 - (b) When the electric current through the fuse exceeds a certain limit, the fuse wire melts and breaks. ()
 - (c) An electromagnet does not attract a piece of iron. ()
 - (d) An electric cell has an electromagnet. ()

Ans.

.....

.....

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SHORT ANSWER TYPE QUESTIONS (3 MARKS)

- 1. Draw the symbols to represent the following components of electrical circuits: connecting wires, switch in the 'OFF' position, bulb, cell, switch in the 'ON' position and battery.**
- Ans.**
-
-
-
-
- 2. (a) Why does a glowing electric bulb become warm?**
(b) Why is fuse used in electric circuit?

Ans.

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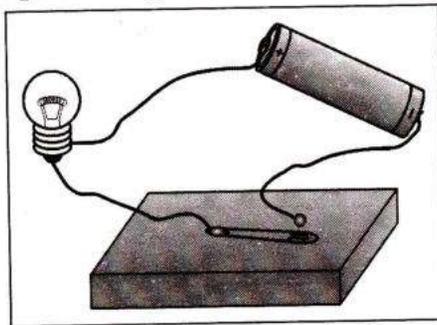
3. Write the differences between open and closed circuit.

Ans.

4. (a) Define fuse.
(b) Mention any two effects of electric current.

Ans.

5. (a) Draw the circuit diagram to represent the circuit shown in Fig. below.
(b) Which are also used to separate magnetic material from the junk?



6. Draw the labelled diagram of Miniature Circuit Breakers (MCBs).

Ans.



ELECTRIC CURRENT AND ITS EFFECTS
SUBJECT ASSESSMENT
WORKSHEET-102

Name	Class	Roll No.	Time 35 Min.	Max. Marks 20	Marks Obtained
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LONG ANSWER TYPE QUESTIONS (5 MARKS)

1. What do you mean by electric circuit? What are various elements of electric circuit? Write their symbols.

Ans.

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.....

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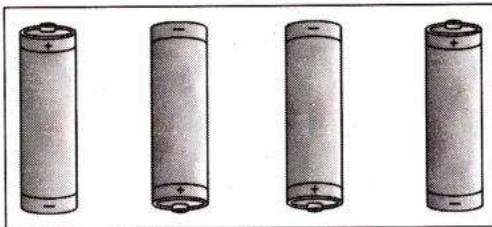
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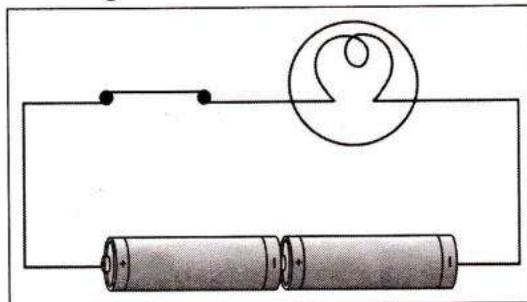
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2. (a) Fig. (a) part shows four cells fixed on a board. Draw lines to indicate how will you connect their terminals with wires to make a battery of four cells.

(b) The bulb in the circuit shown in Fig. (b) does not glow. Can you identify the problem? Make necessary changes in the circuit to make the bulb glow.



(a)



(b)

Ans.

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.....

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ELECTRIC CURRENT AND ITS EFFECTS
SUBJECT ASSESSMENT
WORKSHEET-103

Name	Class	Roll No.	Time 50 Min.	Max. Marks 31	Marks Obtained
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ANSWER THE FOLLOWING

1. Define the following terms. 5

(a) Electric fuse

.....

(b) Electric circuit

.....

(c) Electromagnet

.....

(d) Filament

.....

(e) Solenoid

.....

2. Give one word for the following. 5

(a) The continuous path in which electricity flows.

.....

(b) A coil of wire in electrical appliances which heats up when the current flows.

.....

(c) The source of electric current in a circuit.

.....

(d) The filament of bulb is made of this material.

.....

(e) This is used in place of a fuse wire nowadays.

.....

3. Fill in the blanks. 5

(a) The strength of an electromagnet can be increased by the number of turns in the coil.

(b) Two or more cells join together form a

(c) The core of an electromagnet is made from

(d) A diagram of an electric circuit described by using symbols of the components used in it is called a diagram.

(e) In an electric bell, it is the that strikes the gong.

4. Match the following.

5

Column A	Column B
(a) Cell	(i) Breaks when excess current flows
(b) MCB	(ii) Electric bell
(c) Fuse	(iii) No current flows
(d) Electromagnet	(iv) Source of electric current
(e) Open circuit	(v) Heating effect of current

5. Give reasons for the following.

5

(a) An electric current does not flow in a circuit when the switch is in an open mode.

Ans.

(b) An electric bulb feels hot to touch after it has been on for some time.

Ans.

(c) Fuses are a necessary evil.

Ans.

(d) The wire of an electric fuse is made up of a material that melts easily.

Ans.

6. What is an electromagnet? List its uses.

3

Ans.

7. What is a solenoid? How can you increase its strength?

3

Ans.

□□

ELECTRIC CURRENT AND ITS EFFECTS

SUBJECT ASSESSMENT

WORKSHEET-104

Name	Class	Roll No.	Time 25 Min.	Max. Marks 16	Marks Obtained
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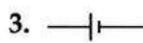
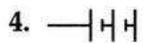
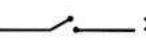
DO AS DIRECTED

6 × 1 = 6

1. Tungsten is used for making filament of
2. The direction of flow of conventional current is from to
3. The direction of flow of electrons is considered from to
4. Fuse is a safety device. (T/F)
5. Mica, rubber and plastics are conductors. (T/F)
6. Bakelite or plastic is used to make switches. (T/F)

ANALOGY TYPE QUESTIONS

5 × 1 = 5

1. Electric current : ampere :: Potential difference :
2. Switch is in the 'ON' position : Closed circuit :: : Open circuit.
3.  : ::  : Electric bulb.
4.  : :: : Wire.
5.  : switch ::  : switch.

ONE WORDS SUBSTITUTION

5 × 1 = 5

1. The metal which is the best conductor of electricity is called
2. The scientist who discovered the relation between electricity and magnetism is
3. The circuit which is incomplete is called
4. The circuit which is complete, *i.e.*, from positive terminal to negative terminal, is called
5. The effect through which wire gets hot when an electric current passes through it, is called

ELECTRIC CURRENT AND ITS EFFECTS

ENRICHMENT ACTIVITY

WORKSHEET-105

Name	Class	Roll No.	Time 30 Min.	Max. Marks 10	Marks Obtained
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PROJECT

Prepare a project report on making four electromagnets with 20, 40, 60 and 80 turns. Connect them one by one to a battery of 2 cells. Bring the electromagnet near a box of pins. Count the number of pins attracted by it. Compare the strengths of the electromagnets.

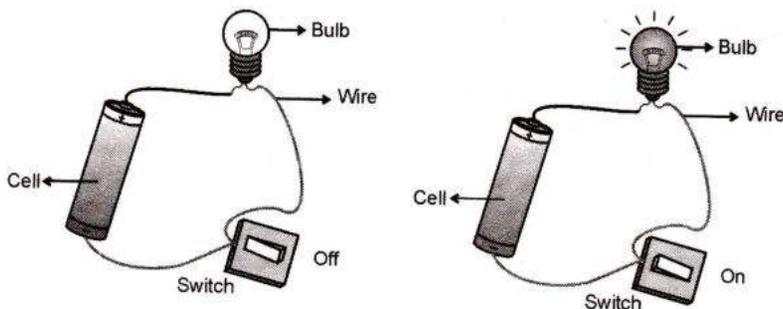
ACTIVITY

Aim: With the help of an activity, show how to make an electric circuit and how it works.

Materials Required: Holder, small torch bulb, dry cell and its holder, key or switch, connecting wire.

Procedure: Take a bulb and fit it in holder. You will find two screws at the two ends of holder. Connect them with the wire, the battery and switch.

Observation/Result: When you switch 'ON', the circuit will be complete and the bulb will start to glow.



□□

LIGHT

SUBJECT ASSESSMENT

WORKSHEET-106

Name

Class

Roll No.

Time
25 Min.Max.
Marks
15Marks
Obtained

POINTS TO REMEMBER

- Light is a form of energy which causes the sensation of vision. **Light** travels along a straight line.
- An object which emits light is called source of light.
- Any shiny or a polished surface acts as a **plane mirror**.
- Any polished or a shiny surface can change the direction of light that falls on it, this phenomenon is called **reflection of light**.
- **Rectilinear propagation of light**. Light travels in straight line.
- A **real image** is the one which can be obtained on screen.
- A **virtual image** is one which cannot be obtained on screen.
- The characteristics of the image formed in a **plane mirror** are: (i) they are erect (ii) they are of the same size as the object, (iii) they are at the same distance from the mirror (behind the mirror) as the object is in front of it (iv) they are virtual images.
- In an image formed by a mirror, the left side of the object is seen on the right side in the image, and the right side of the object appears to be on the left side in the image is known as **lateral inversion**.
- The image formed in a concave mirror is **real** and **inverted** (upside down). But, when the object is placed very close to the mirror, the image formed is **virtual, erect** and **magnified**.
- The **convex** mirror always forms **virtual images**, which are **erect** and **smaller** in size than the object.
- The image formed by a **convex lens** is **real** and **inverted**. When the object is placed very close to the lens, the image formed is virtual, erect and magnified. When it is used to see objects in magnified form, the convex lens is called **magnifying glass**.
- A **concave lens** always forms **erect, virtual** and **smaller image** than the object.
- Uses of **concave mirror**: (i) Doctors use this mirror for examining eyes, nose, ears and throat, (ii) Dentists use it to see an enlarge image of the teeth, and (iii) it is used as the reflectors of torches, headlights of cars and scooters, etc.
- The lenses which are seemingly thicker in the middle than at the edges, are **convex lenses**.
- The lenses which are seemingly thinner in the middle than at the edges, are **concave lenses**.
- **White light** is composed of seven colours, e.g., violet, indigo, blue, green, yellow, orange and red. Seven clours of rainbow is the natural example of this.

EXPERIMENT 1. To study the reflection of light from a mirror.

MULTIPLE CHOICE QUESTIONS (MCQs)

15 × 1 = 15

1. Which one of the following is incorrect?

- (a) The plane mirror reflects the light rays.
- (b) A paper or board cannot reflect the light rays like mirror.
- (c) Speed of light is 3×10^8 m/s.
- (d) Light travels in zig-zag line.

EXPERIMENT 2. To show the focus of sunrays to a bright spot.

2. The magnifying glass is also called:

- (a) Lens (b) Concave lens (c) Convex lens (d) None of these.

3. Convex lens is also called:

- (a) Converging lens (b) Diverging lens (c) Both (a) and (b) (d) None of these.

4. Convex lens focusses or converges the:

- (a) Rays (b) Focus (c) Spot (d) Sun.

CHAPTER BASED MCQs

5. A substance which transmits most of the light rays incident on it, is called:

- (a) Transparent (b) Translucent (c) Opaque (d) None of these.

6. The speed of light is:

- (a) same in all media. (b) greatest in vacuum.
(c) greater than in vacuum. (d) less than speed of sound.

7. The mirror used as rear view mirror in cars is:

- (a) Convex (b) Concave (c) Plane (d) None of these.

8. An image obtained on screen is:

- (a) Virtual (b) Erect
(c) Both (a) and (b) (d) None of these.

9. Prabhash is observing his image in a plane mirror. The distance between the mirror and his image is 4 m. If he moves 1 m towards the mirror, then the distance between Prabhash and his image will be:

- (a) 3 m (b) 5 m (c) 6 m (d) 8 m.

10. The rear view mirror of a car is a plane mirror. A driver is reversing his car at a speed of 2 m/s. The driver sees in his rear view mirror, the image of a truck approaching behind his car. The speed at which the image of truck appears to approach the driver will be:

- (a) 1 m/s (b) 2 m/s (c) 4 m/s (d) 8 m/s.

11. Image formed by plane mirror is always:

- (a) Real (b) Inverted
(c) Virtual and enlarged (d) Virtual and of same size.

12. A spherical mirror having reflecting surface on the outside, is a:

- (a) Plane mirror (b) Convex mirror
(c) Concave mirror (d) Either concave or convex.

13. If you stand in front of a plane mirror and scratch your left cheek, your image:

- (a) scratches its left cheek. (b) scratches its right cheek.
(c) scratches both cheeks one by one. (d) does not scratch at all.

14. Light obtained from sun is:

- (a) Red (b) Blue (c) White (d) Black.

15. Which mirror always produces virtual image?

- (a) Plane mirror (b) Convex mirror (c) Concave mirror (d) Both (a) and (b).

□□

LIGHT

SUBJECT ASSESSMENT WORKSHEET-107

Name.....	Class.....	Roll No.	Time 40 Min.	Max. Marks 24	Marks Obtained
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VERY SHORT ANSWER TYPE QUESTIONS (1 MARK)

1. Which is the most important and natural source of light for our planet?

Ans.

2. Write some artificial sources of light.

Ans.

3. What do you mean by rectilinear propagation of light?

Ans.

4. How much time does light take to reach the earth from sun?

Ans.

5. An image of a pencil is observed on a plane mirror. The distance between the mirror and the image is 15 m. If the pencil is moved $2\frac{1}{2}$ m towards the mirror, then what would be the distance between the image and the pencil?

Ans.

6. What is the characteristic of image formed by a concave lens?

Ans.

7. What kind of surface acts as a mirror?

Ans.

8. When does rainbow usually appear?

Ans.

9. How is the rainbow seen in the sky with many colours?

Ans.

10. Which lens is used to read very small print?

Ans.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. Give one use each of a concave and a convex mirror.

Ans.

2. What is a virtual image? Give one situation where a virtual image is formed.

Ans.

3. (a) Which mirror can produce a virtual image larger than the object?
(b) Which mirror is used by drivers to see the traffic behind them while driving?

Ans.

4. What is a real image? Give one situation where a real image is formed.

Ans.

5. Define concave and convex mirrors.

Ans.

6. (a) Which mirror acts as reflectors of torches, headlights of cars and scooters?
(b) Can the image of an object formed by a plane mirror be obtained on screen?

Ans.

7. What do you understand by Newton's disc?

Ans.

□□

**LIGHT
SUBJECT ASSESSMENT
WORKSHEET-108**

Name	Class	Roll No.	Time 40 Min.	Max. Marks 22	Marks Obtained
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SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. State two differences between a convex and a concave lens.

Ans.

.....

.....

2. (a) Which type of lens is also known as magnifying glass?
 (b) Which mirrors are used for examining eyes, ears, nose, throat and also see an enlarged image of the teeth?

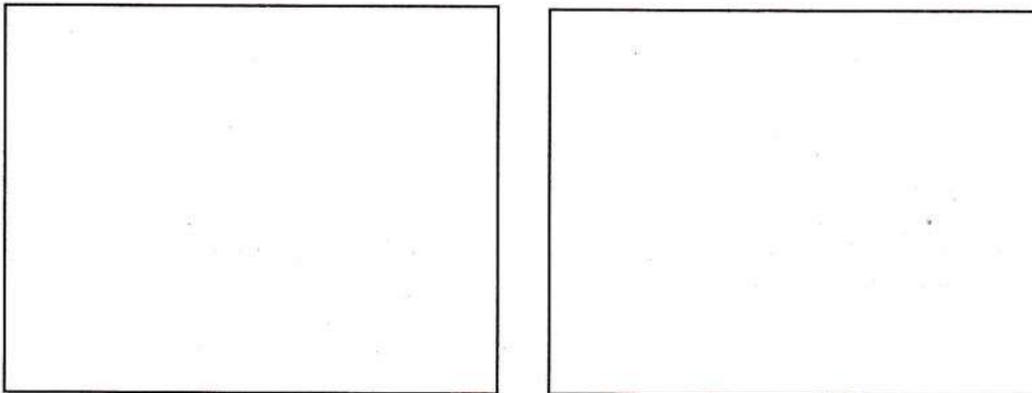
Ans.

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SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. (a) Draw a concave and a convex lens.
 (b) What happens when light is reflected from the surface of a Compact Disk (CD)?



Ans.

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2. (a) Why are convex lenses called magnifying glass?
(b) Why is it not possible to see the candle flame through a bent pipe?

Ans.
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3. Why are the size of images of all objects appear smaller than the objects in the side mirrors of the scooter or a car?

Ans.
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.....

4. (a) Why are concave and convex mirrors called spherical mirrors?
(b) Which colour has the highest dispersion of light?

Ans.
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5. When the concave mirror is focussed on small piece of paper, why does it start burning?

Ans.
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.....

6. (a) Which spherical mirror forms generally a real image but occasionally a virtual image?
(b) State three uses of plane mirror.

Ans.
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LIGHT
SUBJECT ASSESSMENT
WORKSHEET-109

Name	Class	Roll No.	Time 35 Min.	Max. Marks 27	Marks Obtained
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SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. Find out the letters of English alphabet or any other language known to you in which the image formed in a plane mirror appears exactly like the letter itself. Discuss your findings.

Ans.

2. (a) Write the name of primary colours. How can other colours be obtained?
 (b) Which colour has the highest wavelength?

Ans.

3. Why convex lens is called converging and concave lens is called diverging lens?

Ans.

4. (a) How can you say that sunlight consists of seven colours?
 (b) What is used to observe the body parts of a cockroach or an earthworm?

Ans.

ANSWER THE FOLLOWING

1. Match the items of Column A with those in Column B.

10

Column A	Column B
(a) Plane mirror	(i) Used as a magnifying glass
(b) A convex mirror	(ii) Can form image of objects spread over a large area
(c) A convex lens	(iii) Used by dentists to see enlarged image of teeth
(d) A concave mirror	(iv) The image is erect and smaller in size than the object
(e) A concave lens	(v) The image is erect and of the same size as the object
(f) Bouncing back of light	(vi) Convex mirror
(g) Inner surface of cut ball	(vii) Reflection of light
(h) Outer surface of cut ball	(viii) Concave mirror
(i) Property of light	(xi) VIBGYOR
(j) The seven colours of rainbow	(x) Light travels along a straight line

Ans.

2. Mark 'T' if the statement is True and 'F' if it is False in given brackets. Rewrite the False statements.

5

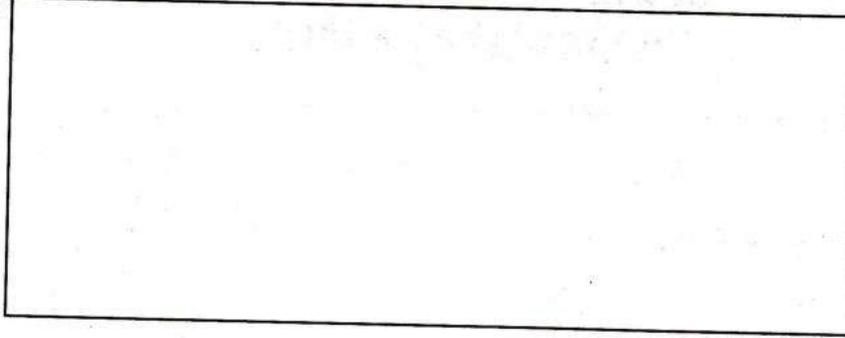
- (a) We can obtain an enlarged and erect image by a convex mirror. ()
- (b) A concave lens always forms a virtual image. ()
- (c) We can obtain a real, enlarged and inverted image by a concave mirror. ()
- (d) A real image cannot be obtained on a screen. ()
- (e) A concave mirror always forms a real image. ()

Ans.

.....

□□

(b)

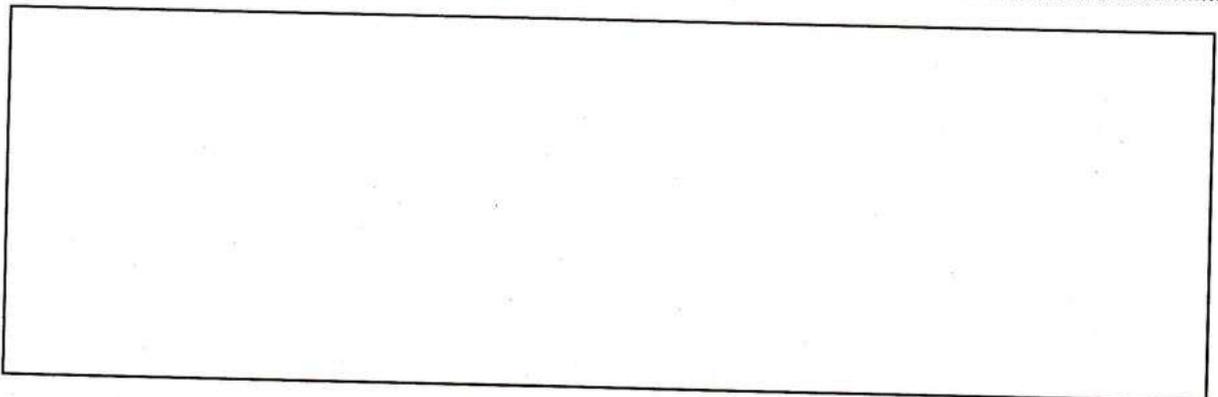


3. Define light, reflection and image. Differentiate between regular and irregular reflection of light.

Ans.
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4. Write an activity in regard to refraction of light that what happens when pencil is immersed in water.

Ans.
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□□

LIGHT SUBJECT ASSESSMENT WORKSHEET-111

Name	Class	Roll No.	Time 50 Min.	Max. Marks 26	Marks Obtained
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ANSWER THE FOLLOWING

1. Define the following words.

5

(a) Convex mirror

.....

(b) Real image

.....

(c) Erect image

.....

(d) Dispersion

.....

(e) Virtual image

.....

2. Match the columns.

5

Column A	Column B
(a) Lateral inversion	(i) Concave mirror
(b) Concave lens	(ii) Used in periscope
(c) Plane mirror	(iii) VIBGYOR
(d) Dispersion of white light	(iv) Diverging lens
(e) Car headlight	(v) Plane mirror

3. Give reasons for the following.

3

(a) Old people wear spectacles having convex lenses.

.....

.....

(b) A concave mirror is used as a dentist's mirror.

.....

.....

(c) We cannot see a light source through a bent tube.

.....
.....

4. Differentiate between:

5

(a) Concave and convex mirror

.....
.....

(b) Real and virtual image

.....
.....

(c) Concave and convex lens

.....
.....

(d) Reflection and refraction

.....
.....

(e) Mirror and lens

.....
.....

5. Fill in the blanks.

5

(a) The mirror in which right of an object appears left of the image and left of an object appears right is called

(b) Image formed by a convex is always virtual and smaller in size.

(c) An image formed by a concave cannot be obtained on a screen.

(d) We cannot see light of a candle through a bent pipe, because light travels in a

(e) The mirror in which image is formed at the same distance behind the mirror as the object is placed in front of it, is called

6. What do you mean by the lateral inversion of image? Explain the situations when this property is useful for us.

3

Ans.

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LIGHT SUBJECT ASSESSMENT WORKSHEET-112

Name	Class	Roll No.	Time 30 Min.	Max. Marks 16	Marks Obtained
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DO AS DIRECTED

$6 \times 1 = 6$

1. Reflected light from a surface where it falls, is called of light .
2. A is a curved piece of transparent material.
3. The image formed by plane mirror is the mirror when the object is placed in front of mirror.
4. An image formed on a screen is called real image. (T/F)
5. Virtual image is inverted. (T/F)
6. Convex mirror is used as a side view mirror. (T/F)

ANALOGY TYPE QUESTIONS

$5 \times 1 = 5$

1. Concave mirror : Eye examining :: : Street light reflector.
2. Concave lens : Converging lens :: : Diverging lens.
3. The inner surface of spoon acts as : :: Outer surface of spoon acts as :
4. Polished surface of concave mirror : Outer part :: Polished : Inner part.
5. Convex mirror : As rear view mirror in bus :: : Used as a shaving mirror.

ONE WORDS SUBSTITUTION

$5 \times 1 = 5$

1. The kind of mirror used in reflecting telescope is called
2. The kind of light composed of seven colours is known as
3. The lens which always forms erect, virtual and smaller image than the object is called
4. The mirror which always forms erect, virtual and smaller image than the object is called
5. The lens which can form real and inverted image is called

LIGHT ENRICHMENT ACTIVITY WORKSHEET-113

Name	Class	Roll No.	Time 40 Min.	Max. Marks 20	Marks Obtained
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PROJECT

1. Make a project report on Newton's colour disc and see white light when it is rotated.
2. To observe shadow and take a $\frac{1}{2}$ m stick. Fix it in open ground or in open space. Observe the length and position of shadow at different times of day.

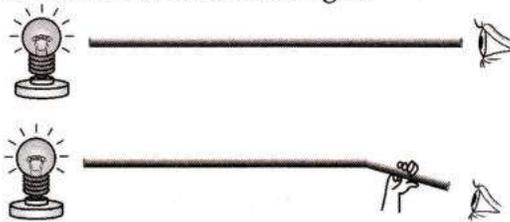
ACTIVITY-1

Aim: To verify that light travels in straight lines.

Materials Required: A short length of a flexible rubber tube, a light bulb.

Procedure: Hold the rubber tube straight and point one open end to the source of light. Put your eye to the other hole. Now, bend the tube and look through the hole.

Observation/Result: You will observe that when the tube is held straight, you can see the source of light, but when the tube is bent, you cannot see the source of light.



ACTIVITY-2

Aim: To study the characteristics of the image formed by the plane mirror.

Materials Required: A large sized plane mirror and object

Procedure: (A) For erect image: Stand in front of the plane mirror. Observe your image in the mirror. Is the image formed in the mirror upright or upside down?

Observation: The image formed is upright. Thus, the image formed by the plane mirror is erect.

(B) For same size: Stand in front of the plane mirror. Now check, if the size of the image of your face or hand is smaller or bigger or of the same size as yours.

Observation: The image formed by a plane mirror is of the same size as that of the object.

(C) Image is formed at the same distance behind the mirror as the object is in front of the mirror: Stand in front of the plane mirror. Now move closer to the mirror. Does your image also move? Repeat the same by moving away from the mirror.

Observation: The image moves in the same way as the object moves, that is, if you move closer it moves close and if you move far it also does the same.

(D) Image formed is laterally inverted: Stand in front of the plane mirror. Now, move your left arm and touch your left ear. Now, observe which hand your image lifts to touch the ear.

Observation: The image lifts the right hand to touch the right ear. The right appears left and the left appears right in the plane mirror. Thus, the image formed in the plane mirror is laterally inverted and this phenomenon is called **lateral inversion**.

WATER: A PRECIOUS RESOURCE

SUBJECT ASSESSMENT

WORKSHEET-114

Name	Class	Roll No.	Time 25 Min.	Max. Marks 16	Marks Obtained
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POINTS TO REMEMBER

- **Water** is the most essential resource. It is the most essential for all living beings. If there is no water, there will be no life on earth.
- **Water exists in three forms: solid, liquid and vapour.**
- Water has not been evenly distributed on our planet. Much of it has resulted from human activities.
- **Water Day** is celebrated every year on 22nd March to attract the attention of everybody towards the importance of conserving water.
- Though water is maintained by the **water cycle**, yet there is an acute scarcity of water in many parts of the globe. It is due to increasing population, agricultural activities, industries and mismanagement. All these have resulted in the depletion of water table and water shortage.
- **Water table** is the upper limit of underground water. The water table varies from place to place, and it may even change at a given place.
- The process of seeping of water into the ground is called **infiltration**.
- At places, the groundwater is stored between layers of hard rock below the water table. This is known as **aquifer**.
- We need to be worried about the wastage during the supply of water through pipes, the leaking taps in buildings and other places. Unnecessary use of water and overdrawn from groundwater should be avoided. Recharge of water to the ground should be increased.
- **Rainwater harvesting** should be used to recharge the groundwater.
- The need of hour is that everybody should use water economically.
- **Drip irrigation** process of watering the plant should be started in the farms.
- Plants will ultimately dry up if there is no water for few days.

MULTIPLE CHOICE QUESTIONS (MCQs)

$16 \times 1 = 16$

1. World water day is celebrated on:

(a) 21st March	(b) 22nd March
(c) 23rd March	(d) None of these.
2. Which year was observed as the International Year of Freshwater?

(a) 2005	(b) 2006
(c) 2003	(d) 2004.
3. The process of seeping of water into the ground is called:

(a) Water table	(b) Water cycle
(c) Infiltration	(d) Aquifer.
4. The form of water found at the poles of the earth and glaciers is:

(a) Liquid	(b) Solid
(c) Gaseous	(d) None of these.

5. **The causes for water shortage are:**
 (a) rapid growth of industries. (b) increasing population.
 (c) growing irrigation requirements. (d) all of these.
6. **The solid part of earth is called:**
 (a) Atmosphere (b) Lithosphere (c) Hydrosphere (d) All of these.
7. **The percentage of freshwater on the earth for human use is:**
 (a) 30% (b) 3% (c) 0.3% (d) 0.03%.
8. **Which one of the following is incorrect?**
 (a) Large oceans found on earth form about 97 per cent of all water found on earth.
 (b) Scarcity of water affects only animals.
 (c) Humus is formed after the decay of dead plants.
 (d) Water covered part of the earth is called hydrosphere.
9. **Which one of the following is not responsible for water shortage?**
 (a) Rapid growth of industries (b) Increasing population
 (c) Heavy rainfall (d) Mismanagement of water resources.
10. **The total water:**
 (a) in the lakes and rivers of the world remains constant.
 (b) under the ground remains constant.
 (c) in the seas and oceans of the world remains constant.
 (d) none of these.
11. **Water:**
 (a) is in only solid form. (b) is in only liquid form.
 (c) is in only gaseous form. (d) is in all three forms.
12. **Agriculture needs:**
 (a) Water (b) Plants (c) Trees (d) Farmer.
13. **Which one is correct among the following?**
 (a) Narrow tubings are used in drip irrigation.
 (b) Rainwater can be used to recharge the groundwater through rainwater harvesting.
 (c) With the help of aquifer, groundwater is stored between layers of hard rock below the water table at particular place.
 (d) All of these.
14. **The upper limit of groundwater is called:**
 (a) Water cycle (b) Rainwater harvesting
 (c) Water table (d) Drip irrigation.
15. **Water present between the rocks below the water table is called:**
 (a) Water harvesting (b) Water cycle (c) Groundwater (d) None of these.
16. **Water cycle is also known as:**
 (a) Water table (b) Underground water
 (c) Hydrological cycle (d) None of these.



WATER: A PRECIOUS RESOURCE
SUBJECT ASSESSMENT
WORKSHEET-115

Name	Class	Roll No.	Time 40 Min.	Max. Marks 23	Marks Obtained
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VERY SHORT ANSWER TYPE QUESTIONS (1 MARK)

1. Why is water day celebrated every year?

Ans.

2. How much amount of water was recommended by the United Nations for drinking, washing, cooking and maintaining proper hygiene per person per day?

Ans.

3. Why was year 2003 observed as the International Year of Freshwater?

Ans.

4. Where is liquid form of water present?

Ans.

5. Which keeps the total amount of water on the earth constant even when the whole world is using it?

Ans.

6. What does the moisture in the soil found near a water body indicate while digging a hole in the ground?

Ans.

7. What do you mean by water cycle?

Ans.

8. Which factors are responsible for the depletion of water table?

Ans.

9. In which area of Gujarat, the only source of freshwater lies underground?

Ans.

10. By which process, groundwater gets recharged?

Ans.

11. What is meant by aquifer?

Ans.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. Why has water shortage become a matter of concern throughout the world?

Ans.
.....
.....

2. Why there is an acute shortage of water in summers?

Ans.
.....
.....

3. (a) What are the causes of water shortage?
(b) What is meant by *bawris*?

Ans.
.....
.....

4. (a) How much per cent of the earth's surface is covered with water?
(b) What is freshwater?

Ans.
.....
.....

5. (a) What is the ultimate source of water?
(b) What do you mean by drip irrigation?

Ans.
.....
.....

6. There are ten tubewells in a lane of fifty houses. What could be the long-term impact on the water table?

Ans.
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WATER: A PRECIOUS RESOURCE
SUBJECT ASSESSMENT
WORKSHEET-116

Name	Class	Roll No.	Time 40 Min.	Max. Marks 26	Marks Obtained
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SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. Write two ways through which we can adopt to minimise the wastage of water.

Ans.

2. (a) What is the main reason of uneven distribution of water?
 (b) Why do plants need water?

Ans.

3. Write the consequences if water is not available to plants.

Ans.

4. (a) Why do plants wilt and ultimately dry-up?
 (b) What is meant by rainwater harvesting?

Ans.

SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. Explain how groundwater gets recharged.

Ans.

2. Why the most of the water available on the earth is not fit for drinking?

Ans.
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3. Write three differences between groundwater and rainwater.

Ans.
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4. We are living in an area where there is plenty of rainfall, yet there is shortage of water. Why?

Ans.
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5. Why is drip irrigation process known as the most economic process of irrigation?

Ans.
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6. Why is rainwater harvesting so essential?

Ans.
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WATER: A PRECIOUS RESOURCE
SUBJECT ASSESSMENT
WORKSHEET-117

Name	Class	Roll No.	Time 35 Min.	Max. Marks 28	Marks Obtained
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ANSWER THE FOLLOWING

1. Fill in the blanks.

3

- (a) People obtain groundwater through and
- (b) The water bearing layer of the earth is called
- (c) The process of water seepage into the ground is

2. Mark 'T' if the statement is True and 'F' if it is False in given brackets. Rewrite the False statements.

3

- (a) The freshwater stored in the ground is much more than that present in the rivers and lakes of the world. ()
- (b) Water shortage is a problem faced only by people living in rural areas. ()
- (c) Water from rivers is the only source for irrigation in the fields. ()

Ans.

3. Write the appropriate word in Column A related with water cycle which is given in Column B in jumbled forms.

7

Column A	Column B
(a)	(i) Rudgon rawet
(b)	(ii) Atooniaervp
(c)	(iii) Acestoonnid
(d)	(iv) Duclos
(e)	(v) Tspratniaoinr
(f)	(vi) Aitfinlronit
(g)	(vii) Ntciepirtaipo

4. Match the items of Column A with those in Column B.

10

Column A	Column B
(a) Infiltration	(i) Present in air around
(b) Gaseous form of water	(ii) Traditional way of collecting water
(c) Aquifer	(iii) The upper limit of water layer between rocks
(d) Water cycle	(iv) Most economic process of irrigation of field
(e) Water table	(v) Arveri, Ruparel, Sarsa, Bhagani and Jahazwali
(f) <i>Bawris</i>	(vi) If they are not watered few days
(g) Drip irrigation	(vii) The process of seeping of water into ground
(h) Plants wilt	(viii) A process of various ways in which water circulates in the universe
(i) The five dried-up rivers	(xi) Agricultural activities and increasing population
(j) Two factors responsible for depletion of water table	(x) Storage of groundwater between layers of hard rock below the water table.

Ans.

5. Explain the factors responsible for the depletion of water table.

5

Ans.



WATER: A PRECIOUS RESOURCE
SUBJECT ASSESSMENT
WORKSHEET-118

Name	Class	Roll No.	Time 35 Min.	Max. Marks 20	Marks Obtained
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LONG ANSWER TYPE QUESTIONS (5 MARKS)

1. You have been asked to maintain a garden. How will you minimise the use of water?

Ans.

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2. (a) How do urban areas get water?
(b) Mention some examples of flowing or running water.
(c) What happens to plants during scarcity of water?

Ans.

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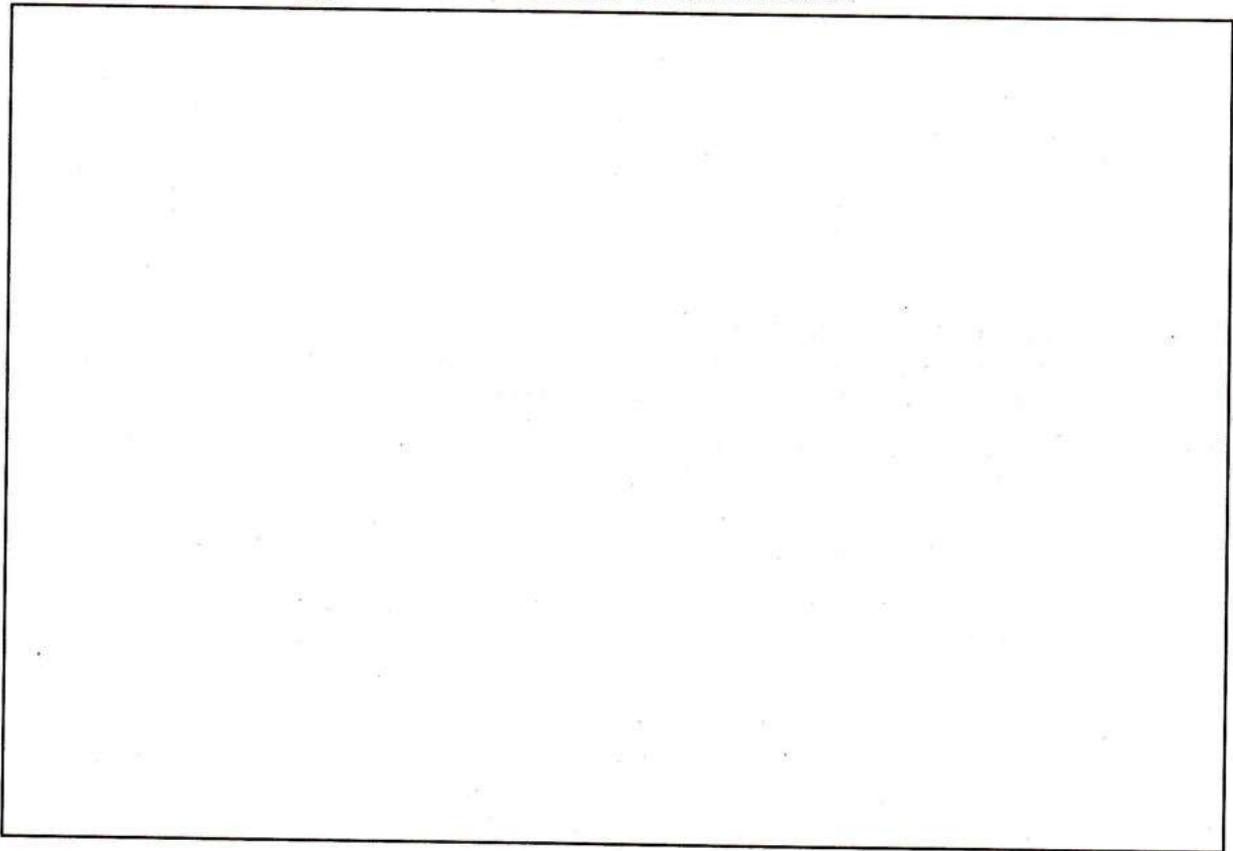
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3. Write an activity to show that earth appears blue from space.

Ans.

4. Make a sketch showing groundwater and water table and label it.



WATER: A PRECIOUS RESOURCE
SUBJECT ASSESSMENT
WORKSHEET-119

Name	Class	Roll No.	Time 50 Min.	Max. Marks 27	Marks Obtained
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ANSWER THE FOLLOWING

1. State whether the following statements are true or false.

5

- (a) Most of the freshwater is locked as ice in the polar regions.
- (b) There is no need to conserve water.
- (c) 97 per cent of the water on the Earth is freshwater.
- (d) Use of motorised pumps lowers the level of the water table.
- (e) Only 10 per cent of the fresh water is available for use.

2. Define the following Terms:

5

(a) Aquifer

Ans.

(b) Water table

Ans.

(c) Drip irrigation

Ans.

(d) Ground water

Ans.

(e) Infiltration

Ans.

3. Match the columns.

Column A	Column B
(a) Sewage	(i) Leads to scarcity of water
(b) Freshwater	(ii) Water vapour
(c) Condensation	(iii) Pollution of water sources
(d) Drought	(iv) Aquifer
(e) Evaporation	(v) Cooling of cloud to form rain

4. Give reasons for the following

3

(a) Rainwater harvesting should be made mandatory in our country.

Ans.
.....

(b) Shortage of water for plants can eventually wipe out all life from the Earth.

Ans.
.....

5. Differentiate between precipitation and condensation.

3

Ans.
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6. List the uses of dams.

3

Ans.
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7. State major categories where water is used by us. Which category involves the maximum usage of water in India and why?

3

Ans.
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WATER: A PRECIOUS RESOURCE
SUBJECT ASSESSMENT
WORKSHEET-120

Name	Class	Roll No.	Time 30 Min.	Max. Marks 16	Marks Obtained
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Draw an outline diagram of a rainwater harvesting system.

5

DO AS DIRECTED

6 × 1 = 6

1. Water in ground is called
2. Running water is found in
3. is responsible for the climate of a place.
4. Deep bored handpumps are the source of salty water. (T/F)
5. Plants wilt during scarcity of water. (T/F)
6. Domestic water supplied to homes is from municipality in cities. (T/F)

ANALOGY TYPE QUESTIONS

5 × 1 = 5

1. Lithosphere : Solid part :: : Gaseous envelope part.
2. All water on earth : 20 L :: Freshwater :
3. Fog : Gaseous form of water :: Glacier :
4. Freshwater for human use : 0.03% :: Freshwater in the form of icecaps or glaciers or trapped in soil :
5. Water movement through the gaps between soil particles : :: Seeping of water into the lower layer of ground: Infiltration.

WATER: A PRECIOUS RESOURCE
ENRICHMENT ACTIVITY
WORKSHEET-121

Name	Class	Roll No.	Time 40 Min.	Max. Marks 20	Marks Obtained
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PROJECT

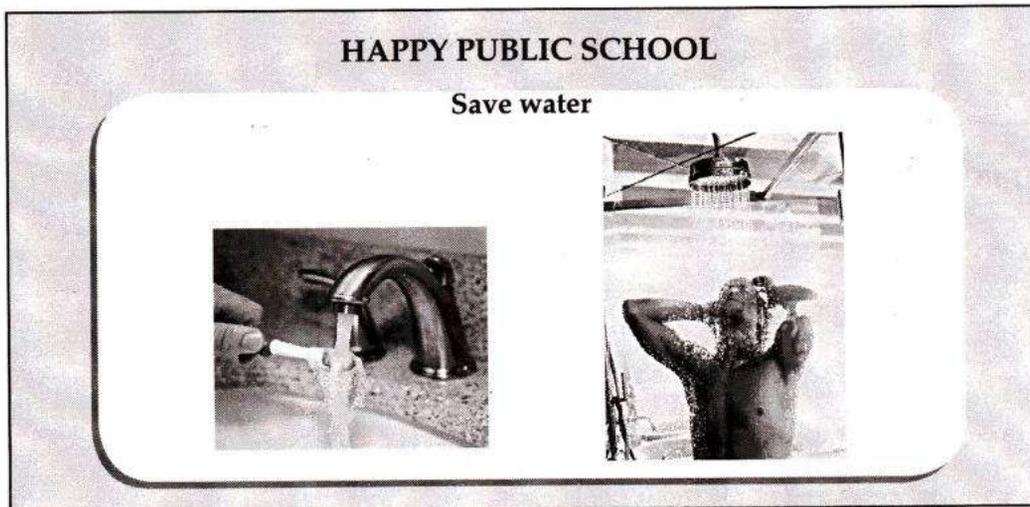
Prepare a project report on conservation of water at home and in the school carried out through campaign. Design posters to remind other importance of water resources.

SYMPOSIUM

1. Find various types of water resources in India on map of India.
2. Water availability in different parts of India on map of India.

POSTERS

Make posters on 'Save water'



□□

FORESTS: OUR LIFELINE

SUBJECT ASSESSMENT

WORKSHEET-122

Name	Class	Roll No.	Time 30 Min.	Max. Marks 15	Marks Obtained
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POINTS TO REMEMBER

- **Forests** are important resources and comprise of animals, plants and microorganisms.
- We get various products from the forests surrounding us.
- **Regulative, productive and accessory** functions are performed by the forests.
- In a forest, trees form the uppermost layer, followed by shrubs. The herbs form the lowest layer of vegetation. Different layers of vegetation provide food and shelter for animals, birds and insects.
- All components of the forests are interdependent on each other.
- The forests keep on growing and changing and can regenerate.
- **Forests** maintain the level of **oxygen and carbon dioxide** in nature.
- In the forest, there is an interaction between soil, water, air and living organisms.
- Forests influence the **air quality, water cycle and climate**.
- Forests protect the soil from **erosion**.
- **Soil** helps forests to grow and regenerate.
- **Forests** are the lifeline for the forest-dwelling communities.
- **Deforestation** can endanger our life and environment. Think, what we can do to protect and preserve our forests.

MULTIPLE CHOICE QUESTIONS (MCQs)

15 × 1 = 15

1. **Branchy part of a tree above the stem is known as:**

(a) Herb	(b) Shrub
(c) Crown	(d) None of these.
2. **The branches of the tall trees that look like a roof over the other plants in the forest are called:**

(a) Crown	(b) Canopy
(c) Shrub	(d) None of these.
3. **Trees release water vapour into the air through:**

(a) Transpiration	(b) Sublimation
(c) Evaporation	(d) Transportation.
4. **Which maintain the balance of oxygen and carbon dioxide in the atmosphere?**

(a) Water	(b) Forests
(c) Air	(d) None of these.
5. **Plants release oxygen through the process of:**

(a) Transpiration	(b) Transportation
(c) Photosynthesis	(d) None of these.

6. Which one food chain is correct among the following?

- (a) Insects > Grass > Frog > Eagle > Snake
- (b) Grass > Insects > Frog > Snake > Eagle
- (c) Frog > Snake > Grass > Insects > Eagle
- (d) Eagle > Snake > Grass > Insects > Frog.

7. Honey is:

- (a) Forest product
- (b) Factory product
- (c) Home product
- (d) None of these.

8. Which one of the following is not a forest product?

- (a) Timber
- (b) Soil
- (c) Lac
- (d) Fodder.

9. Which of the following is not a forest product?

- (a) Gum
- (b) Plywood
- (c) Sealing wax
- (d) Kerosene.

10. Which of the following statements is not correct?

- (a) Forests protect the soil from erosion.
- (b) Plants and animals in a forest are not dependent on one another.
- (c) Forests influence the climate and water cycle.
- (d) Soil helps forests to grow and regenerate.

11. Natural vegetation grows without:

- (a) Interference of human
- (b) Soil
- (c) Water
- (d) Plants.

12. There are:

- (a) two types of forests.
- (b) five types of forests.
- (c) four types of forests.
- (d) seven types of forests.

13. The decayed product of dead plants and other wastes is called:

- (a) Food chain
- (b) Crown
- (c) Canopy
- (d) Humus.

14. Rain clouds are formed from:

- (a) Water
- (b) Air
- (c) Forests
- (d) None of these.

15. Which one of the following is correct?

- (a) Paper industry depends on forests.
- (b) Roots of plants and trees hold soil particles.
- (c) Forests purify air and water.
- (d) All of these.

□□

**FORESTS: OUR LIFELINE
SUBJECT ASSESSMENT
WORKSHEET-123**

Name	Class	Roll No.	Time 40 Min.	Max. Marks 24	Marks Obtained
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VERY SHORT ANSWER TYPE QUESTIONS (1 MARK)

1. How are floods caused?

Ans.

2. What is the drawback of deforestation?

Ans.

3. Why there is an increase in earth's temperature?

Ans.

4. Which are the major source of getting medicinal plants, timber and many other useful products?

Ans.

5. Which also acts as a natural absorber of rainwater?

Ans.

6. Which helps forests to grow and regenerate?

Ans.

7. List five products we get from forests.

Ans.

8. Which helps water to seep down into the ground?

Ans.

9. What also provides nutrients to the seedlings to grow?

Ans.

10. What do a large numbers of herbivores mean?

Ans.

11. What are the ultimate source of food for all animals?

Ans.

12. Name some animals which live in the deeper areas of the forest.

Ans.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. (a) What is obtained when microorganisms act upon the dead plants?
(b) Which protect the soil from erosion?

Ans.

2. What are decomposers? Name any two of them.

Ans.

3. (a) Which provide food and shelter for animals, birds and insects?
(b) What does forest comprise?

Ans.

4. How do clouds form?

Ans.

5. (a) By which source, climate, water cycle and air quality are influenced?
(b) Which provide oxygen for animal respiration?

Ans.

6. Why do tribals mostly depend on the forests?

Ans.



**FORESTS: OUR LIFELINE
SUBJECT ASSESSMENT
WORKSHEET-124**

Name	Class	Roll No.	Time 40 Min.	Max. Marks 24	Marks Obtained
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ANSWER THE FOLLOWING

1. Fill in the blanks. 3

- (a) The insects, butterflies, honeybees and birds help flowering plants in
- (b) A forest is a purifier of and
- (c) The decaying leaves and animal droppings in a forest enrich the

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. Why forests are called lungs of living and non-living beings?

Ans.

2. "What happens if an animal dies in the forest?"

Ans.

3. Write one use of lac and one use of medicinal plants.

Ans.

SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. Explain why there is no waste in a forest.

Ans.

2. Explain how forests prevent floods.

Ans.
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.....
.....

3. Why should we worry about the conditions and issues related to forests far from us?

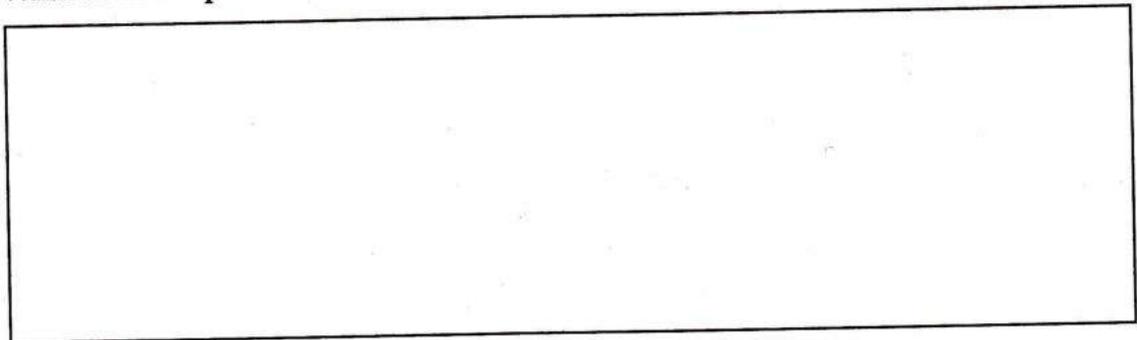
Ans.
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4. What will happen if there are no trees?

Ans.
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5. (a) Draw a labelled diagram of balance of oxygen and carbon dioxide.
(b) What do decomposers do in the forests?

Ans.



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FORESTS: OUR LIFELINE
SUBJECT ASSESSMENT
WORKSHEET-125

Name	Class	Roll No.	Time 35 Min.	Max. Marks 19	Marks Obtained
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SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. Why must we conserve our forests?

Ans.

2. (a) What is a food chain?
 (b) Where can many food chains be found?

Ans.

3. Why does water not stagnant in forests?

Ans.

LONG ANSWER TYPE QUESTIONS (5 MARKS)

1. (a) Explain how animals dwelling in the forest help it grow and regenerate.
 (b) Why forests and animals are interdependent?

Ans.

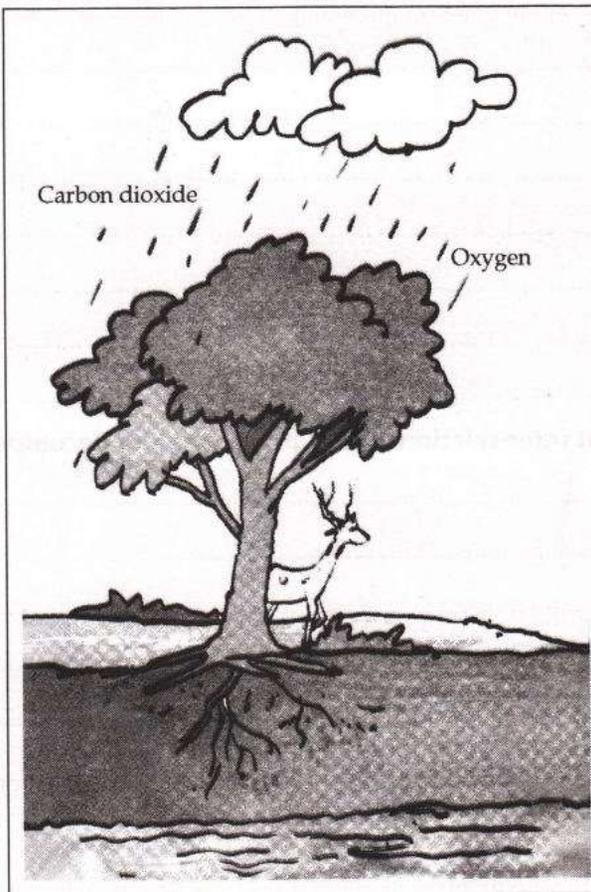
FORESTS: OUR LIFELINE
SUBJECT ASSESSMENT
WORKSHEET-126

Name	Class	Roll No.	Time 35 Min.	Max. Marks 20	Marks Obtained
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LONG ANSWER TYPE QUESTIONS (5 MARKS)

1. In Fig. given below the artist has forgotten to put the labels and directions on the arrows. Mark the directions on the arrows and label the diagram using the following labels:

Clouds, rain, atmosphere, carbon dioxide, oxygen, plants, animals, soil, roots, water table.



2. (a) List five benefits of forests.
- (b) What do mushroom and other microorganisms take as their food?
- (c) What does presence of humus ensure?

Ans.

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3. (a) Why are forests on verge of disappearance?
(b) Where is there an interaction between soil, water, air and living organisms.
(c) Why the forest is a dynamic living entity?

Ans.

4. Write an activity about inter-relationship of plant, soil and decomposers in a forest.

Ans.



FORESTS: OUR LIFELINE
SUBJECT ASSESSMENT
WORKSHEET-127

Name..... || Class..... || Roll No. || Time 50 Min. || Max. Marks 29 || Marks Obtained

ANSWER THE FOLLOWING

1. Define the following words.

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(a) Canopy

.....

(b) Humus

.....

(c) Decomposers

.....

(d) Deforestation

.....

(e) Soil erosion

.....

2. Match the columns.

5

Column A	Column B
(a) Afforestation	(i) Prevent soil erosion
(b) Vanmahotsav	(ii) Used in periscope
(c) Roots	(iii) Planting trees
(d) Pine	(iv) Planting new seedlings on a particular day
(e) Food web	(v) Oil

3. Give one word for the following.

5

(a) The layer of the forest where only the tallest trees can reach.

.....

(b) The lowermost layer of the forest.

.....

(c) All animals and plants together in an area.

.....

(d) The second layer of the forest which spreads like an umbrella.

.....

(e) The third layer of the forest which has vines and dense vegetation.

.....

4. State whether the following statements are true or false. 5

(a) Paper is produced from wood. ()

(b) Forests increase air pollution. ()

(c) All medicinal products are derived from plants. ()

(d) Loss of forest area results in the destruction of the water cycle. ()

(e) Seed dispersal is not important for plants. ()

5. How are soil conservation, forest conservation and wildlife conservation related to each other? 3

3

Ans.

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6. What steps have been taken to conserve forests? 3

3

Ans.

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7. How are plants responsible for maintaining a oxygen and carbon dioxide balance in nature? 3

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Ans.

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FORESTS: OUR LIFELINE

SUBJECT ASSESSMENT

WORKSHEET-128

Name.....	Class.....	Roll No.	Time 35 Min.	Max. Marks 20	Marks Obtained
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DO AS DIRECTED**7 × 1 = 7**

1. Wild animals live in
2. Plants add to purify dirty air.
3. Different layers of crown in the forest are called
4. The upper part of trees called crown acts as speed breakers for fast winds. (T/F)
5. Forests occupy $\frac{1}{5}$ th of the geographical area of our country. (T/F)
6. The animal dung is converted into a useful substance called fertiliser. (T/F)
7. Forest helps to reduce noise pollution. (T/F)

ANALOGY TYPE QUESTIONS**5 × 1 = 5**

1. Oils : For paint industry :: Catechu :
2. Lac : : Medicinal plants : Veterinary use.
3. Tall trees having thick stem : : The lowest layer of trees : Herbs.
4. Forests : Water vapour :: Rain clouds :
5. During photosynthesis plants intake : : Give out :

MATCH THE COLUMNS**8 × 1 = 8**

Column A	Column B
(a) Humus	(i) Grass → insect → frog → snake → eagle
(b) Decaying animal's dungs also provide	(ii) Crown of the tree
(c) Larger number of herbivores means	(iii) Live in the deeper areas
(d) The dense bushes and tall grasses	(iv) Canopy
(e) An example of food chain	(v) Decomposed plants and animal tissues converted
(f) Tall trees look like a roof over the other plants in the forest	(vi) Provide animals with food and shelter
(g) Branch part of a tree above the stem	(vii) Increased availability of food for carnivores
(h) Animals like boar, bison, jackal	(viii) Nutrients to the seedlings to grow

**FORESTS: OUR LIFELINE
ENRICHMENT ACTIVITY
WORKSHEET-129**

Name.....	Class.....	Roll No.	Time 40 Min.	Max. Marks 22	Marks Obtained
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PROJECT REPORT

Name the type of forest present in your state. Collect a picture of the type of forest in your forest. Paste in your scrapbook. Collect a few items or pictures that are forest products.

ACTIVITY

What will happen if forests disappear? Briefly explain about the consequences.

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WASTEWATER STORY SUBJECT ASSESSMENT WORKSHEET-130

Name	Class	Roll No.	Time 22 Min.	Max. Marks 15	Marks Obtained
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POINTS TO REMEMBER

- The black-brown water after use in bathing, cleaning and washing goes down the drains from sinks, showers, laundries, etc., is **dirty water** and is known as **wastewater**. This water could be reused.
- **Sewage** is wastewater extracted from homes and industries and causes water and soil pollutions.
- **Sewage** is a liquid waste which causes water and soil pollutions. The wastewater is treated in a **sewage treatment plant**. The treatment plants reduce pollutants in wastewater to a level where nature can take care of it. After treatment, the water is discharged into a water body. **Sludge** and **biogas** are by-products of wastewater treatment.
- Dried sludge is used as manure.
- The place, where underground sewerage systems and refuse disposal systems are not available, the low cost onsite sanitation system can be adopted.
- The treatment of sewage consists of three steps after removing solid impurities—**neutralisation** with lime, **decomposition** of organic matter with the help of bacteria and **chlorination**.
- Chlorine and ozone are used to disinfect water.
- A proper **drainage** system is very important for safe disposal of sewage.
- **Open drain system** is a breeding place for flies, mosquitoes and organisms which cause diseases.
- Cholera and typhoid are caused by bacteria.
- We should not defecate in the open. It is possible to have safe disposal of excreta by low cost methods.
- We should not scatter litter everywhere. If there is no dustbin in sight, we should carry the litter and throw it in the dustbin.
- Adopting good sanitation practices should be our way of life.

MULTIPLE CHOICE QUESTIONS (MCQs)

15 × 1 = 15

1. The tenure for "water for life" is:

(a) 2006–2016	(b) 2005–2015
(c) 2007–2017	(d) 2008–2018.
2. Eucalyptus trees have the capacity to:

(a) release water quickly.	(b) absorb water quickly.
(c) both of these.	(d) none of these.
3. Which one is correct among the following?

(a) Water after use is wastewater.
(b) Sewerage is network of pipes to take out sewage.
(c) Sludge is solid wastes that settle at the bottom in a settling tank.
(d) All of these.

4. Sewage is a:

- (a) Liquid waste (b) Solid waste (c) Gaseous waste (d) None of these.

5. By-products of wastewater treatment are:

- (a) Sludge (b) Biogas (c) Both of these (d) None of these.

6. Sewage is a liquid waste which causes:

- (a) Air and water pollution (b) Water and soil pollution
(c) Air and soil pollution (d) None of these.

7. Which one is correct among the following statements?

- (a) Wastewater having dissolved and suspended impurities is called contaminants.
(b) Cleaning of water is a process of removing pollutants before it enters a waterbody.
(c) Wastewater is treated in a sewage treatment plant.
(d) All of these.

8. The hole at the bottom of sink or the pipe that carries the dirty water away is called:

- (a) Drain (b) Sewage
(c) Sludge (d) None of these.

9. The water that is fit for use and very difficult to get is called:

- (a) Clean water (b) Wastewater
(c) Groundwater (d) None of these.

10. The water day is celebrated every year on:

- (a) 22nd March (b) 25th March
(c) 23rd March (d) None of these.

11. The bacteria which do not require oxygen is called:

- (a) Anaerobic bacteria (b) Aerobic bacteria
(c) Both of these (d) None of these.

12. The water-borne diseases are:

- (a) Cholera (b) Typhoid
(c) Dysentery (d) All of these.

13. The physical process of cleaning the sewage involves:

- (a) Filtration (b) Sedimentation
(c) Skimming (d) All of these.

14. Which one is odd among the following?

- (a) Typhoid (b) Cholera
(c) Phosphorus (d) Dysentery.

15. Which one is nutrient among the following?

- (a) Animal dung (b) Human faeces
(c) Nitrates (d) Nitrogen.

□□

**WASTEWATER STORY
SUBJECT ASSESSMENT
WORKSHEET-131**

Name	Class	Roll No.	Time 40 Min.	Max. Marks 23	Marks Obtained
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VERY SHORT ANSWER TYPE QUESTIONS (1 MARK)

1. What is the reason behind increasing scarcity of freshwater?

Ans.
.....

2. Which process of wastewater treatment is commonly known as "sewage treatment"?

Ans.

3. What is meant by sewerage?

Ans.
.....

4. Define the term 'contaminants'.

Ans.
.....

5. Why should sewage be treated before being discharged in a water body?

Ans.
.....

6. What is meant by vermi-composting toilet?

Ans.

7. Which removes the floatable solid like oil and greases?

Ans.

8. Define the term 'sludge'.

Ans.

9. Through which water pollution and soil pollution may be caused?

Ans.

10. Which disposal systems are being encouraged to improve sanitation nowadays?

Ans.

11. Why most of the diseases are caused by using open drain system?

Ans.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. Why should we plant eucalyptus trees all along sewage ponds?

Ans.
.....
.....

2. Why should paints, solvents and insecticides be not released in the drain? Explain.

Ans.
.....
.....

3. (a) Which is a source of water for wells, tubewells, springs and many rivers?
(b) Which emits foul smell?

Ans.
.....
.....

4. (a) Through which, dirty water is drained?
(b) Which drains carry water to sewer system?

Ans.
.....
.....

5. What is meant by wastewater treatment plant?

Ans.
.....
.....

6. (a) What is meant by cleaning of water?
(b) How hepatitis is caused?

Ans.
.....
.....

□□

**WASTEWATER STORY
SUBJECT ASSESSMENT
WORKSHEET-132**

Name	Class	Roll No.	Time 40 Min.	Max. Marks 30	Marks Obtained
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ANSWER THE FOLLOWING

- 1. Fill in the blanks.** 4
- (a) Drains get blocked by and
- (b) Wastewater is treated in
- (c) trees release pure water vapour into the atmosphere.
- (d) The activated sludge is about water.

- 2. Explain the function of bar screen in a wastewater treatment plant.** 2

Ans.

- 3. Explain the relationship between sanitation and disease.** 2

Ans.

- 4. Mark True (T) or False (F) against each statement. Rewrite the False statements.** 4

- (a) All drains must be connected to sewer system. ()
- (b) Dirty water should be kept in houses. ()
- (c) Water must be wasted. ()
- (d) Sewer system is available in cities and towns. ()

Ans.

SHORT ANSWER TYPE QUESTIONS (3 MARKS)

- 1. Why should oils and fats not be released in the drain? Explain.**

Ans.

2. (a) Why a proper drainage system is very important?
(b) Why there a change is observed in the appearance of the liquid after aeration?

Ans.

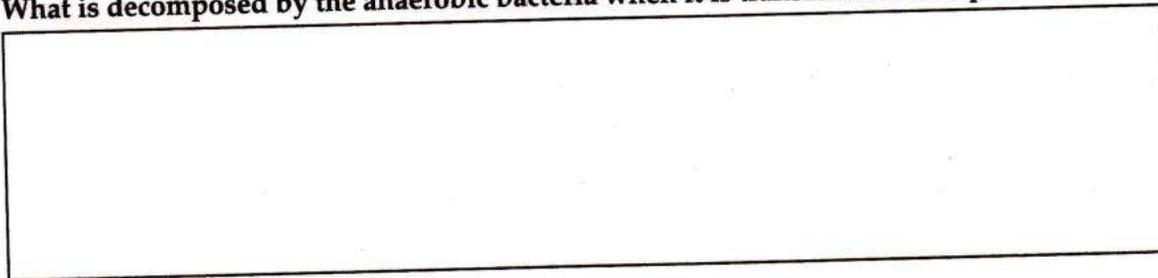
3. (a) Name the diseases that spread due to pollution of groundwater.
(b) Why is it possible to have safe disposal of excreta by low cost methods?

Ans.

4. Why do some organisations offer hygienic onsite human waste disposal technology?

Ans.

- 5 (a) Draw a diagram of filtration process.
(b) What is decomposed by the anaerobic bacteria when it is transferred to a separate tank?



Ans.

6. Explain why discharge untreated sewage into rivers and seas is harmful.

Ans.



**WASTEWATER STORY
SUBJECT ASSESSMENT
WORKSHEET-133**

Name.....	Class.....	Roll No.	Time 40 Min.	Max. Marks 17	Marks Obtained
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SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. "Untreated human excreta is a health hazard". Explain.

Ans.

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2. (a) Why are manholes located in a sewage?
(b) Why is clean water a basic need for human beings?

Ans.

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3. Write short note on vermi-composting toilet.

Ans.

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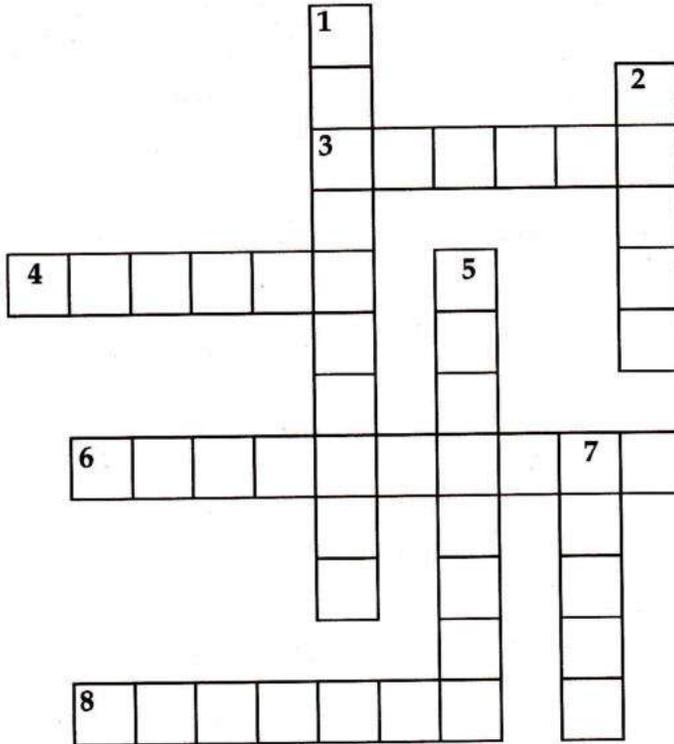
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PUZZLE

1. Here is a crossword puzzle: Good luck!

8



Across

- (3) Liquid waste products.
- (4) Solid waste extracted in sewage treatment.
- (6) A word related to hygiene.
- (8) Waste matter discharged from human body.

Down

- (1) Used water.
- (2) A pipe carrying sewage.
- (5) Micro-organisms which cause cholera.
- (7) A chemical to disinfect water.

□□

**WASTEWATER STORY
SUBJECT ASSESSMENT
WORKSHEET-134**

Name	Class	Roll No.	Time 40 Min.	Max. Marks 30	Marks Obtained
------------	-------------	---------------	-----------------	---------------------	-------------------

ANSWER THE FOLLOWING

1. Match the items of Column A with those in Column B.

10

Column A	Column B
(a) Chemicals like paints, insecticides, etc.	(i) Organic impurities
(b) Tea leaves and solid food wastes	(ii) Contaminants
(c) Eucalyptus trees	(iii) 50 m to 60 m
(d) Open drains	(iv) In toilets
(e) Dirty water	(v) Should not be thrown in the sink, but it should be thrown in dustbins
(f) Period 2005–2015	(vi) Kill microbes that help to purify water
(g) The sewage water has dissolved and suspended impurities called	(vii) Absorb all surplus wastewater rapidly
(h) Human faeces	(viii) Must be covered
(i) Distance between two continuous manholes	(ix) International Decade for action on water for life
(j) Foul waste is generated	(x) Wastewater

LONG ANSWER TYPE QUESTIONS (5 MARKS)

1. Describe the steps involved in getting purified water from wastewater.

Ans.

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WASTEWATER STORY SUBJECT ASSESSMENT WORKSHEET-135

Name

Class

Roll No.

Time
40 Min.Max.
Marks
24Marks
Obtained

ANSWER THE FOLLOWING

1. Define the following words.

5

(a) Aeration

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(b) Sewer

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(c) Sanitation

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(d) Sludge

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(e) Contaminant

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.....

2. Match the columns.

5

Column A	Column B
(a) Sludge	(i) Sewer system
(b) Tertiary treatment	(ii) Digestion of organic waste
(c) Scum	(iii) Disinfection of water
(d) Microorganisms	(iv) Floats on the top
(e) Manhole	(v) Settles down of the tank

3. State whether the following statements are true or false.

5

(a) Wastewater can be used efficiently to reduce pollution.

(b) Biogas is used to convert waste in rural areas.

- (c) Cities do not have wastewater treatment plants.
- (d) Lack of sanitation practices may lead to diseases.
- (e) Industrial waste may contain harmful chemicals.

4. Explain the sewer system.

3

Ans.

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5. How does a septic tank function?

3

Ans.

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6. Describe the problems faced due to improper management of sewage.

3

Ans.

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□□

**WASTEWATER STORY
SUBJECT ASSESSMENT
WORKSHEET-136**

Name	Class	Roll No.	Time 40 Min.	Max. Marks 16	Marks Obtained
------------	-------------	---------------	-----------------	---------------------	-------------------

DO AS DIRECTED 6 × 1 = 6

- system is available in cities and towns.
- Closed drains carry water to system.
- overflows from open drains.
- Standing dirty water emits foul smell. (T/F)
- All drains must be connected to sewer system. (T/F)
- Drainage system is needed for carrying the dirty water from the houses. (T/F)

ANALOGY TYPE QUESTIONS 5 × 1 = 5

- Urine : :: Metals : Inorganic.
- Solid waste : Tea leave :: Chemical :
- Sullage water : Kitchen :: Foul waste :
- Sewage : Liquid wastewater :: Sludge :
- On-site human waste disposal technology : Biogas plant :: Vermicomposting toilet :

MATCH THE COLUMNS (DOUBLE MATCHING) 5

Column A	Column B	Column C
(A) Physical process of cleaning the sewage	(a) Microbial process	(i) Disinfected water can be used for drinking
(B) Biological process	(b) Chlorination	(ii) Clarified water from sewage
(C) Chemical process	(c) Settling	(iii) Biogas is released

Ans.

WASTEWATER STORY ENRICHMENT ACTIVITY WORKSHEET-137

Name	Class	Roll No.	Time 40 Min.	Max. Marks 20	Marks Obtained
------------	-------------	---------------	-----------------	---------------------	-------------------

PROJECT REPORT

Talk to your close friends and other elderly people in the neighbourhood. Find out the sewage disposal systems available to them. You can also write letters to people living in far off places to get more information. Prepare a brief report on the information you collected.

VISIT TO WASTEWATER TREATMENT PLANT

Make a visit along with your classmates and teachers to see how wastewater treatment plant works.

Record in your notepad:

Place Date Time

Name of the official at the plant Guide/Teacher

ACTIVITY-1

Aim: To trace the route of dirty water in house.

S. No.	Sources of dirty water	Dirty water goes to
1.	Washbasin
2.	Bathroom
3.	Kitchen sink
4.	Terrace
5.	Toilet pot
6.	Veranda

ACTIVITY-2

Aim: To determine whether the tap water supplied to your house is contaminated or pure.

Materials Required: Glass beaker

Procedure: • Take a 100 mL beaker and fill it with tap water.

• Observe the colour and odour of the water.

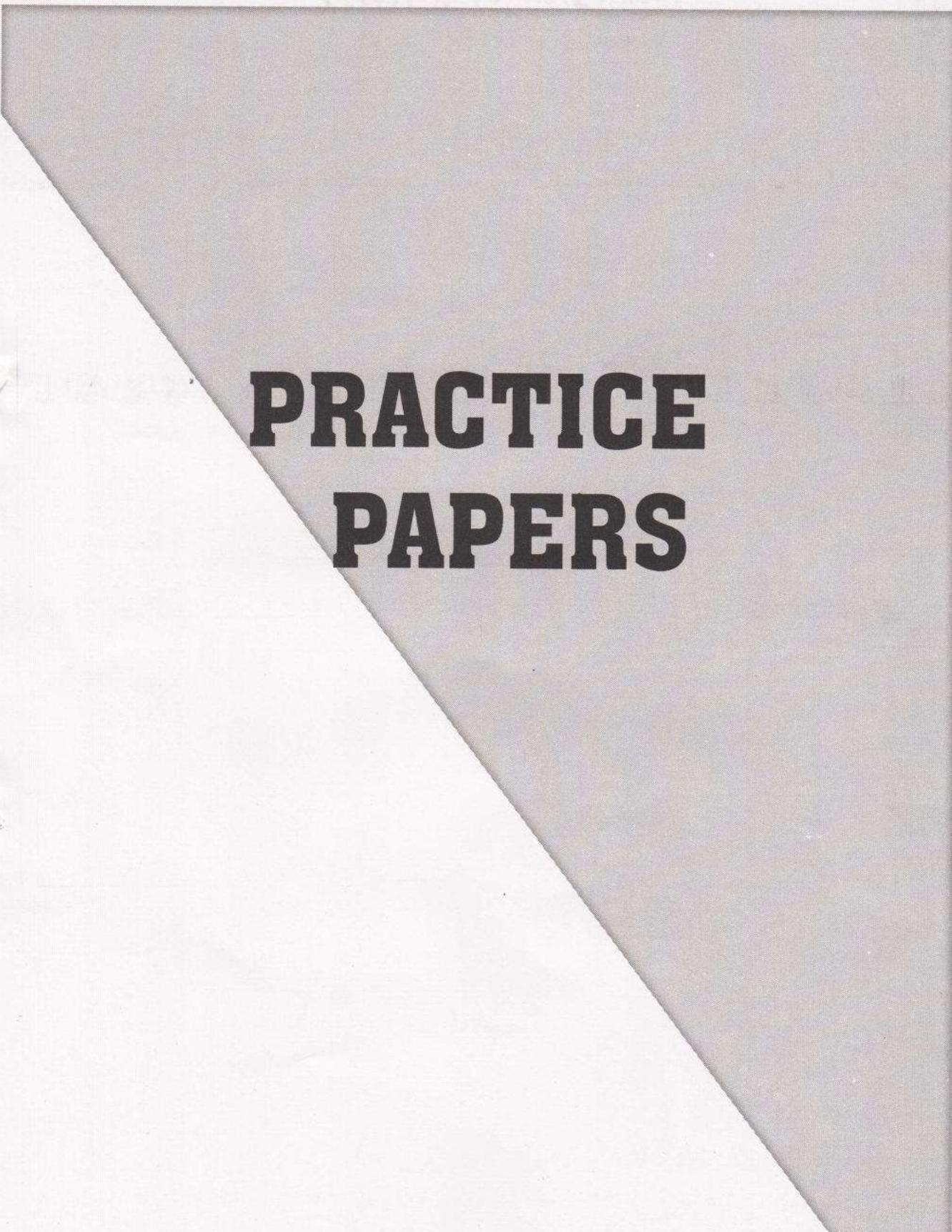
Observation: 1. Is the colour of the water blackish, yellow or transparent?

2. Does this water have a smell?

3. Can you see particles floating on the water?

If the answer to any of the above question is yes, then register a complaint with the local Municipal Corporation.

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**PRACTICE
PAPERS**

PRACTICE PAPER-1

Name	Class	Roll No.	Time 3 Hrs.	Max. Marks 80	Marks Obtained
------------	-------------	---------------	----------------	---------------------	-------------------

General Instructions:

1. Attempt all questions.
2. Do not write anything on the question paper.
3. All the answers must be correctly numbered as in the question paper and written in the answer sheet provided to you.
4. Attempt all questions in each section before going on to the next section.
5. Read each question carefully and follow the instructions.

SECTION-A (PHYSICS)

1. Answer the following questions:

3 × 1 = 3

(a) What is the normal temperature of the human body?

Ans.

(b) What do you mean by insulators?

Ans.

(c) What happens to air pressure when speed of wind is increased?

Ans.

2. Identify the type of the motion.

4 × ½ = 2

(a) Motion of your hands while running

.....

(b) Motion of a child in a merry-go-round

.....

(c) Motion of a train on a straight bridge

.....

(d) Motion of a child on a see-saw.

.....

3. The distance between two stations is 240 km. A train takes 4 hours to cover this distance. Calculate the speed of the train. 2

Ans.

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4. (a) When the current is switched 'ON' through a wire, a compass needle kept nearby gets deflected from its north-south position. Explain. 2

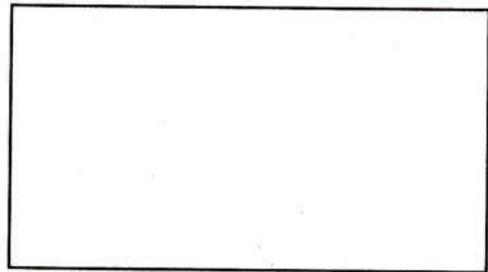
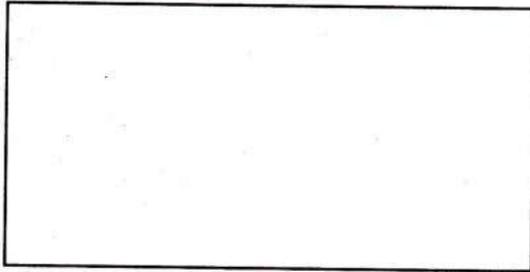
Ans.

.....

.....

(b) Draw a convex lens and a concave lens.

2



5. (a) Why do we feel comfortable in light-coloured clothes in summer?

2

Ans.
.....
.....

(b) Write an activity to show that why it is more comfortable to wear dark-coloured clothes in the winter.

2

Ans.
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.....

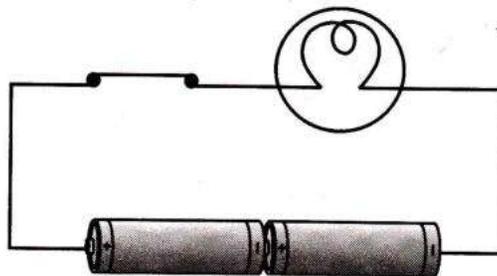
6. (a) Name any two effects of electric current.

1

Ans.

(b) The bulb in the circuit shown in Fig. does not glow. Can you identify the problem? Make necessary changes in the circuit to make the bulb glow.

2



Ans.
.....
.....

7. Find out the letters of English alphabet or any other language known to you in which the image formed in a plane mirror appears exactly like the letter itself. Discuss your findings.

3

Ans.
.....
.....
.....

8. Fill in the blanks.

4 × ½ = 2

- (a) is called the eye of the storm.
(b) Earth revolving around the sun is an example of motion.
(c) The image formed by a plane mirror is erect, virtual and is of the as the object.
(d) A lens always forms erect, virtual and smaller image than the object.

9. Match the items of Column A with those in Column B.

4 × ½ = 2

Column A	Column B
(a) Coil of wire of electric heater	(i) Typhoon
(b) Combination of two or more cells	(ii) Oscillatory motion
(c) Periodic motion is also called	(iii) Element
(d) Cyclone is known in Japan	(iv) Battery

Ans.

SECTION-B (CHEMISTRY)

1. Answer the following questions:

3 × 1 = 3

- (a) What is the chemical name of vitamin C?

Ans.

- (b) In which change, no new substance is formed?

Ans.

- (c) Which constituents should be responsible for rusting?

Ans.

2. What happens when:

2 × 2 = 4

- (a) Carbon dioxide is passed through limewater? Write the involved equation also.

Ans.

- (b) Vinegar is added to baking soda? Write the involved equation also.

Ans.

3. Name the acid present in the following:

4 × ½ = 2

- (a) Tamarind

.....

(b) Amla

(c) Lemon

(d) Spinach.

4. (a) Explain why an antacid tablet is taken when we suffer from acidity.

2

Ans.

(b) What is acid rain? Write any two harmful effects of it.

2

Ans.

5. Classify the changes involved in the following processes as physical or chemical changes: $4 \times \frac{1}{2} = 2$

(a) Photosynthesis

(b) Burning of coal

(c) Beating aluminium to make aluminium foil

(d) Dissolving sugar in water.

6. Tick the correct answer.

$2 \times 1 = 2$

(a) Heat from sun reaches us by the process of:

(i) conduction

(ii) convection

(iii) radiation

(iv) none of these.

(b) Blue vitriol is:

(i) magnesium sulphate

(ii) copper sulphate

(iii) iron sulphate

(iv) none of these.

7. True (T) or False (F) statements.

$3 \times 1 = 3$

(a) The air trapped in fur and feathers keep the animals warm.

()

(b) All metals are good conductors of heat.

()

(c) The chemical name of table salt is magnesium chloride.

()

SECTION-C (BIOLOGY)

1. Answer the following questions:

$4 \times 1 = 4$

(a) What are nutrients?

Ans.

(b) Name two organisms which suck the nectar of plants, infants of human and many other animals feed on mother's milk.

Ans.

(c) What is done after scouring?

Ans.

(d) What is obtained from the fleece (hair) of sheep or yak?

Ans.

2. Which part of the digestive canal is involved in:

4 × ½ = 2

(a) Absorption of food

(b) Killing of bacteria

(c) Complete digestion of food

(d) Formation of faeces?

3. (a) Why does an athlete breathe faster and deeper than usual after finishing the race? 2

Ans.

(b) What will happen if there are no platelets in the blood? 2

Ans.

4. (a) What makes the blood red? 1

Ans.

(b) What are stomata? Give two functions of stomata. 2

Ans.

5. Indicate the type of climate of the following areas: 4 × 1 = 4

(a) Jammu and Kashmir

(b) Kerala

(c) Rajasthan

(d) North-east India

6. (a) Explain how groundwater is recharged. 2

Ans.

(b) What would happen if forests disappear? 3

Ans.

7. (a) Explain the functions of bar screens in a wastewater plant.

2

Ans.

(b) List five products that we get from forests.

1

Ans.

8. Tick the correct answer.

4 × ½ = 2

(a) Nutrients are substances present in:

- (i) water
- (ii) food
- (iii) plant
- (iv) nutrition.

(b) Food is absorbed by villi in

- (i) large intestine
- (ii) small intestine
- (iii) liver
- (iv) stomach.

(c) Which soil holds less water?

- (i) Sandy soil
- (ii) Clayey soil
- (iii) Loamy soil
- (iv) None of these.

(d) Plants exchange gases through:

- (i) stem
- (ii) leaves
- (iii) stomata
- (iv) none of these.

9. Match the items of Column A with those in Column B.

6 × ½ = 3

Column A	Column B
(a) Biological fuel	(i) Binary fission
(b) Transportation of food	(ii) Glucose
(c) <i>Amoeba</i>	(iii) Phloem
(d) Yeast	(iv) Hydrosphere
(e) The solid part of the earth	(v) Lithosphere
(f) The water covered part is called	(vi) Budding

Ans.

10. Fill in the blanks.

5 × 1 = 5

- (a) *Rhizopus* is a
- (b) teeth are used for biting and cutting.
- (c) enzyme is present in saliva.
- (d) Grafting is done in plant.
- (e) *Spirogyra* reproduces by method.

□□

PRACTICE PAPER-2

Name || Class || Roll No. || Time 3 Hrs. || Max. Marks 80 || Marks Obtained

Note: See Practice Paper-1 for General Instructions.

SECTION-A (PHYSICS)

1. Answer the following questions:

(a) Which instrument is used to determine the hotness of an object? 1

Ans.

(b) Which type of motion defines motion of a swing? 1

Ans.

(c) What is the use of maximum-minimum thermometer? 1

Ans.

2. A simple pendulum takes 60 seconds to complete 20 oscillations. What is the time-period of the pendulum? 2

Ans.

.....

.....

3. Convert the following into seconds: $2 \times 1 = 2$

(a) 5 nanosecond

Ans.

(b) 10 microsecond

Ans.

4. Tick the correct answer. $4 \times \frac{1}{2} = 2$

(a) One century is equal to:

(i) 100 years

(ii) 10 years

(iii) 1/100 years

(iv) 1/10 years.

(b) The SI unit of current is:

(i) ampere

(ii) pascal

(iii) newton

(iv) coulomb.

(c) Nichrome is an alloy of:

(i) nickel and chromium

(ii) cobalt and nickel

(iii) steel and aluminium

(iv) none of these.

(d) The instrument by which speed of wind is measured is:

- (i) Anemometer
- (ii) Barometer
- (iii) Lactometer
- (iv) Hygrometer.

5. (a) State two differences between a convex and a concave lens. 2

Ans.
.....
.....

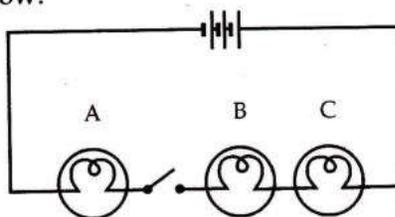
(b) Suveer is observing his image in a plane mirror. The distance between the mirror and his image is 4 m. If he moves 2 m towards the mirror, then find the distance between suveer and his image. 2

Ans.
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6. (a) List any four precautions that should be taken while using a clinical thermometer. 2

Ans.
.....
.....

(b) In the circuit shown in Fig. below. 3



- (i) Would any of the bulbs glow when the switch is in the 'OFF' position?
- (ii) What will be the order in which the bulbs A, B and C will glow when the switch is moved to the 'ON' position?

Ans.
.....
.....

7. (a) List any two examples of radiation. 1

Ans.

(b) If a rocket has a speed of 10 km/s and a tortoise has a speed of 8 cm/s, then how fast is the rocket compared to the tortoise? 2

Ans.
.....
.....

8. Fill in the blanks.

$4 \times \frac{1}{2} = 2$

- (a) Red, blue and green are called colours.
- (b) One leap year is equal to days.
- (c) Tungsten is used for making filament of
- (d) Fast moving air produces

9. State True (T) or False (F) against the following statements:

$4 \times \frac{1}{2} = 2$

- (a) Hot air is lighter than cold air. ()
- (b) Light travels in zigzag line. ()
- (c) Band of seven colours is called spectrum. ()
- (d) Real image cannot be obtained on screen. ()

SECTION-B (CHEMISTRY)

1. Answer the following questions:

$3 \times 1 = 3$

- (a) What is meant by shearing?

Ans.
.....

- (b) Why a turmeric stain on a white shirt is turned to red when it is washed with soap?

Ans.
.....

- (c) What is the chemical formula of rust?

Ans.
.....

2. Name the following:

$4 \times \frac{1}{2} = 2$

- (a) Best topsoil for growing plants
- (b) Name of cyclone in American continent
- (c) Process by which plants produce their food
- (d) Chemical name of calamine.

3. What do indicators do when added to a solution containing acidic or basic substance? Name some naturally occurring indicators.

2

Ans.
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4. Describe how crystals of copper sulphate are prepared.

3

Ans.
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5. (a) Aashish conducted an experiment in the field related to the rate of percolation. He observed that it took 40 min. for 200 ml of water to percolate through the soil sample. Calculate the rate of percolation.

2

Ans.
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(b) List three differences between clayey soil and sandy soil.

3

Ans.
.....
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6. State True (T) or False (F) against the following statements. Rewrite the False statements. $5 \times 1 = 5$

- (a) The most common silk moth is the mulberry silk moth. ()
- (b) Silk fibres are made of a protein. ()
- (c) Bases turn blue litmus red. ()
- (d) Burning of magnesium ribbon is a chemical change. ()
- (e) The chemical formula of limewater is CaO. ()

Ans.
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SECTION-C (BIOLOGY)

1. Answer the following questions:

4 × 1 = 4

(a) What is the ultimate source of energy for all living organisms?

Ans.

(b) Name the pores through which leaves exchange gases.

Ans.

(c) Which type of teeth is used for piercing and tearing?

Ans.

(d) By which, all the changes in weather are driven?

Ans.

2. Name the following:

4 × ½ = 2

(a) Organism used for making wine and beer

.....

(b) The body part gets filled with air

.....

(c) The fluid part of the blood

.....

(d) Cells which fight against germs.

.....

3. There are ten tubewells in a lane of fifty houses. What could be the long-term impact on the water table?

2

Ans.

4. (a) What are decomposers? Name any two of them. What do they do in the forest?

3

Ans.

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.....
(b) What is meant by weather at that place?

1

Ans.
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5. (a) Why do organisms need to take food?

2

Ans.
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(b) What are villi? What are their location and functions?

3

Ans.
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(c) How do elephants living in the tropical rainforest adapt themselves?

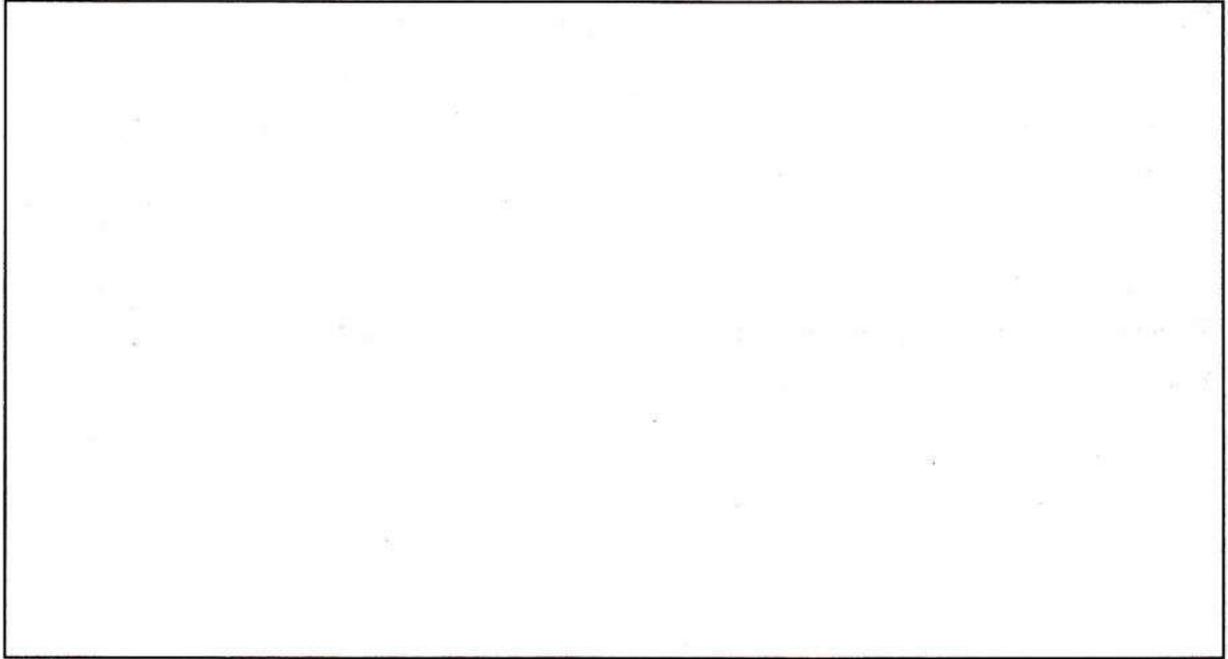
3

Ans.
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6. (a) Draw a well-labelled diagram of tracheal system.

2

Ans.



(b) Through which, urine goes into the urinary bladder?

1

Ans.
.....

7. Tick the correct answer.

4 × ½ = 2

(a) During ingestion process, the food is:

(i) digested

(ii) absorbed

(iii) taken in

(iv) removed.

(b) Heterotrophic nutrition is found in:

(i) green plants

(ii) non-green plants

(iii) mango tree

(iv) banana tree.

(c) Pollen grains are produced from:

(i) stigma

(ii) style

(iii) ovary

(iv) none of these.

(d) Which organ of the circulatory system pumps blood?

(i) Lungs

(ii) Kidney

(iii) Heart

(iv) Blood.

8. Mark True (T) or False (F) against each statement.

4 × ½ = 2

(a) Parasites are dead organisms that live on plants.

()

(b) Roots of plants and trees hold soil particles.

()

(c) Large oceans found on earth are about 97%.

()

(d) Yeast cell reproduces by binary fission.

()

9. Write an activity to show that water moves across the egg membrane.

3

Ans.
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10. State the main differences between asexual and sexual reproduction.

5

Ans.
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PRACTICE PAPER-3

Name	Class	Roll No.	Time 3 Hrs.	Max. Marks 80	Marks Obtained
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Note: See Practice Paper-1 for General Instructions.

SECTION-A (PHYSICS)

1. Answer the following questions:

$2 \times 1 = 2$

(a) What is the range of clinical thermometer?

Ans.

(b) How does air move?

Ans.

2. Name the following:

$4 \times \frac{1}{2} = 2$

(a) Object moving along a straight line keeps changing

.....

(b) Object moving along a straight line with a constant speed

.....

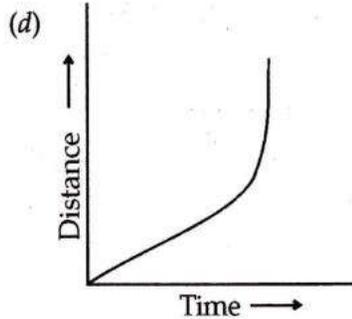
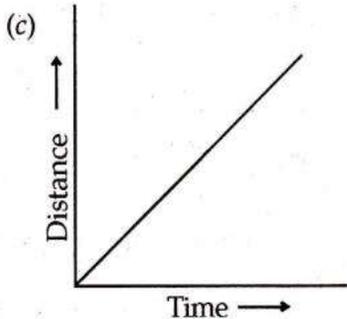
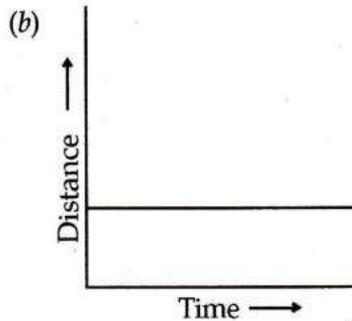
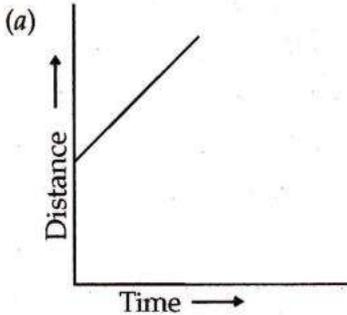
(c) To change km/h into m/s, the number multiplied with km/h is

.....

(d) To change m/s into km/h, the number multiplied with m/s is

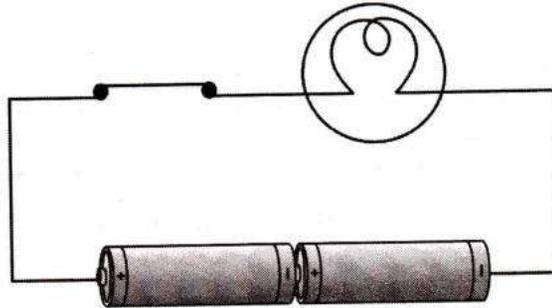
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3. Which of the following distance-time graphs shows a truck moving with speed which is not constant? 2



Ans.

4. (a) The bulb in the circuit shown in Fig. below does not glow. Can you identify the problem? Make necessary changes in the circuit to make the bulb glow. 2



Ans.
.....
.....

- (b) Find out the letters of English alphabet or any other language known to you in which the image formed in a plane mirror appears exactly like the letter itself. Discuss your findings. 3

Ans.
.....
.....
.....

- (c) What happens to image when you see any object in the side mirror of scooter and a car? 1

Ans.
.....

5. (a) A car moves with a speed of 60 km/h for 15 minutes and then with a speed of 90 km/h for the next 15 minutes. What is the total distance covered by the car? 2

Ans.
.....
.....

- (b) Surbhi takes 30 minutes from her house to reach her school on a bicycle. If the bicycle has a speed of 3 m/s, calculate the distance between her house and the school. 2

Ans.
.....
.....

6. (a) In places of hot climate, it is advised that the outer walls of houses should be painted by white colour. Explain. 2

Ans.

- (b) Give two examples of conductors and insulators of heat. 1

Ans.

7. Match the items of Column A with those in Column B. $4 \times \frac{1}{2} = 2$

Column A	Column B
(a) Wind carrying water vapour bring	(i) the circuit is complete
(b) Light travels along	(ii) the circuit is incomplete
(c) When the switch is in the 'ON' position	(iii) rain
(d) When the switch is in the 'OFF' position	(iv) straight lines

Ans.

8. Tick the correct answer. $4 \times \frac{1}{2} = 2$

- (a) A clinical thermometer reads between:
 (i) 35°C to 42°C (ii) 36°C to 45°C (iii) 34°C to 45°C (iv) 45°C to 48°C.
- (b) Simple pendulum is an example of:
 (i) Periodic motion (ii) Circular motion (iii) Straight motion (iv) None of these.
- (c) Name the first person who noticed the deflection of compass needle whenever the current was passed through the wire:
 (i) Hans Christian Oersted (ii) Newton
 (iii) Rutherford (iv) Chadwick.
- (d) Which mirrors are used by dentists to see an enlarged image of the teeth?
 (i) Plane mirrors (ii) Concave mirrors (iii) Convex mirrors (iv) None of these.

9. State True (T) or False (F) against the following statements: $4 \times \frac{1}{2} = 2$

- (a) Convex lenses are used in spectacles, telescopes and microscopes. ()
- (b) The wire gets hot when an electric current passes through it. This is called chemical effect of the electric current. ()
- (c) Galileo Galilie said that time-period of a given pendulum is constant. ()
- (d) Air expands on cooling and contracts on heating. ()

SECTION-B (CHEMISTRY)

1. Answer the following questions:

2 × 1 = 2

(a) Name the bacterium by which fatal blood disease, sorter's disease is caused?

Ans.

.....

(b) Define acids with example.

Ans.

.....

2. Name the following:

4 × ½ = 2

(a) Soil having the highest percolation rate of water

.....

(b) Soil having least percolation rate of water

.....

(c) Soil used for growing cotton

.....

(d) Soil used for growing wheat, gram and paddy.

.....

3. (a) How would you show that setting of curd is a chemical change?

2

Ans.

.....

.....

.....

.....

(b) Given below is a sequence of steps in the processing of wool. Which are the missing steps? Add them.

2

Shearing,, sorting,

4. (a) Define galvanisation. Why iron pipes are galvanised which are used in our homes to carry water?

2

Ans.

.....

.....

.....

(b) **Fill in the blanks.**

4 × ½ = 2

(i) is obtained from the fleece (hair) of sheep or yak.

(ii) Acids are in taste.

(iii) Acid turns litmus red.

(iv) The new substances are produced in changes.

5. (a) Explain why rusting of iron objects is faster in coastal areas than in deserts.

3

Ans.
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.....
.....

(b) Why calamine solution is applied on the skin when an ant bites?

2

Ans.
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.....

6. Match the items of Column A with those in Column B.

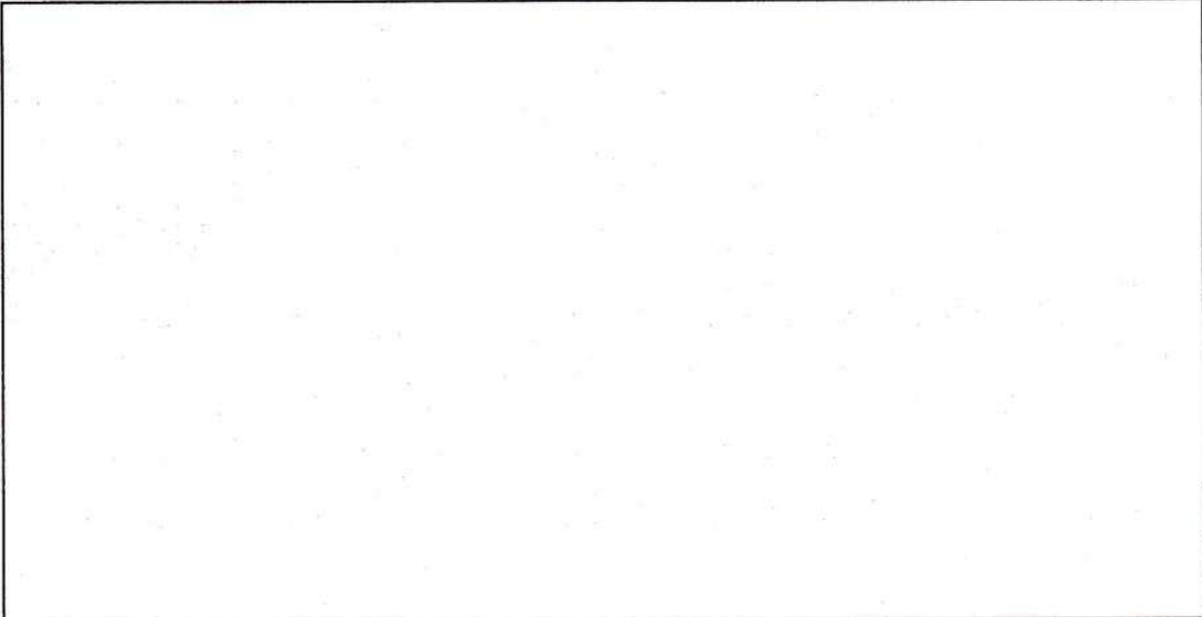
$4 \times \frac{1}{2} = 2$

Column A	Column B
(a) The under fur of kashmiri goat is	(i) Thermometer
(b) Temperature is measured by a device called	(ii) Insulators
(c) The materials which allow heat to pass through them	(iii) Conductors
(d) The materials which do not allow heat to pass through them	(iv) Soft

Ans.

7. Draw a well-labelled diagram of the process of neutralisation.

1

Ans. 

SECTION-C (BIOLOGY)

1. Answer the following questions:

2 × 1 = 2

(a) What are meant by heterotrophs?

Ans.
.....

(b) Which are necessary to carry out for the process of photosynthesis?

Ans.
.....

2. Name the following:

4 × ½ = 2

(a) Process of taking food into the body

.....

(b) Used in the digestion of fats

.....

(c) One animal living in the polar regions

.....

(d) Insects having a network of air tubes

.....

3. (a) Why is it necessary to excrete waste products?

2

Ans.
.....
.....

(b) What will happen if all seeds of a plant were to fall at the same place and grow there?

3

Ans.
.....
.....

4. You have been asked to maintain a garden. How will you minimise the use of water?

3

Ans.
.....
.....
.....

5. (a) Explain the role of forest in maintaining the balance between oxygen and carbon dioxide in the forest.

2

Ans.
.....
.....
.....

(b) Why should oils and fats not be released in the drain? Explain.

3

Ans.

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.....
.....
.....

6. (a) What are the percentages of oxygen and carbon dioxide in inhaled and exhaled air?

3

Ans.

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.....

(b) True (T) or False (F) statements. Rewrite the False statements.

4 × 1 = 4

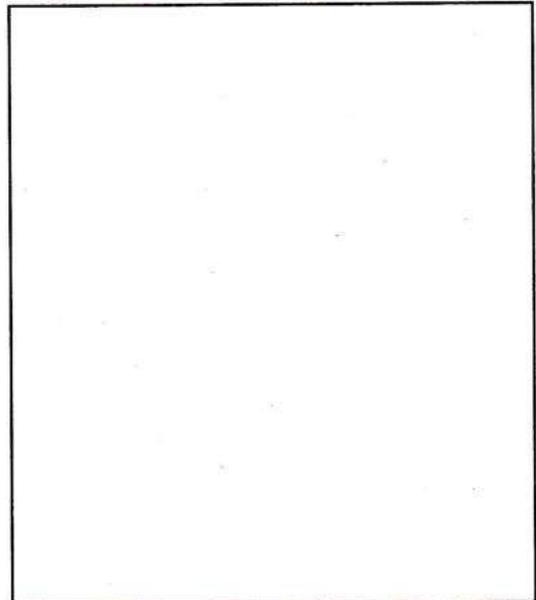
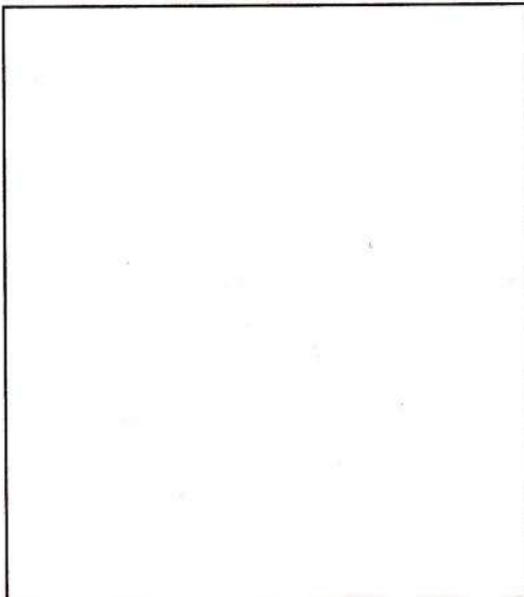
- (i) Plants do not need water for photosynthesis. ()
- (ii) The scars are also called eyes of the potato. ()
- (iii) The major excretory product in humans is urea. ()
- (iv) Anther contains pollen grains which produce female gametes. ()

Ans.

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.....

7. (a) Draw a well-labelled diagram of stamen and pistil.

3



(b) Write an activity to show that green leaf is needed for photosynthesis.

3

Ans.

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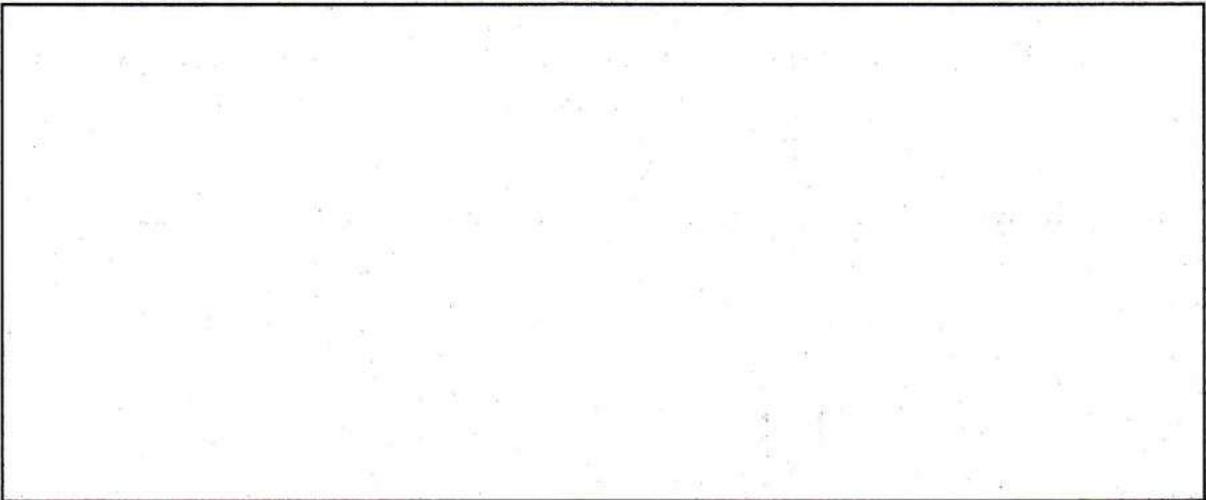
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8. State the main differences between asexual and sexual reproduction.

5

Ans.

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PRACTICE PAPER-4

Name	Class	Roll No.	Time 3 Hrs.	Max. Marks 80	Marks Obtained
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Note: See Practice Paper-1 for General Instructions.

SECTION-A (PHYSICS)

1. Answer the following questions:

3 × 1 = 3

(a) What is the range of a laboratory thermometer?

Ans.
.....

(b) What is the name of cyclone in American continent?

Ans.
.....

(c) Name the thin wire which is present in bulb.

Ans.
.....

2. Name the following:

4 × ½ = 2

(a) Change of direction by a mirror

(b) Image formed on a screen

(c) Mirror used as side view mirror

(d) A coil of wire contained by room heater.

3. What is meant by conduction? In which form of matter, heat is transferred by the process of conduction?

2

Ans.
.....
.....
.....

4. Fill in the blanks.

4 × ½ = 2

(a) light is composed of seven colours.

(b) mirror is used for examining eyes, ears, nose and throat.

(c) Displacement has both direction and

(d) air rises up.

5. (a) An electrician is carrying out some repairs in your house. He wants to replace a fuse by a piece of wire. Would you agree? Give reasons for your response. 3

Ans.
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.....

(b) A simple pendulum takes 42 s to complete 10 oscillations. What is the time-period of the pendulum? 2

Ans.
.....
.....
.....

6. (a) What is real image? Give one situation where real image is formed. 2

Ans.
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(b) Write an activity to show that number of images are formed when two mirrors are inclined at an angle. 3

Ans.
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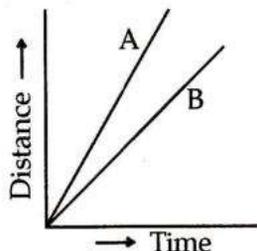
(c) A cyclist moves 100 m in 10 seconds. What is the speed of the cyclist? 1

Ans.
.....

7. (a) What is the SI unit of speed? 1

Ans.

(b) Fig. given below shows the distance-time graph for the motion of two vehicles A and B. Which one of them is moving faster? 2



Ans.

(c) Explain why holes are made in hanging banners and hoardings. 2

Ans.

SECTION-B (CHEMISTRY)

1. Answer the following questions: 2 × 1 = 2

(a) What is meant by sericulture?

Ans.

(b) Which solutions do not change the colour of either red or blue litmus?

Ans.

2. Name the following: 4 × ½ = 2

(a) Substance turns blue litmus red

(b) Substance turns red litmus blue

(c) Substances are bitter in taste

(d) Substances are sour in taste

3. (a) Explain how painting of an iron gate prevents it from rusting. 3

Ans.

(b) Explain why rusting of iron objects is faster in coastal areas than in deserts.

3

Ans.
.....
.....
.....

4. (a) How is clayey soil useful for crops?

2

Ans.
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.....
.....

(b) Explain how soil is formed.

2

Ans.
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.....

5. (a) Describe how crystals of copper sulphate are prepared.

3

Ans.
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(b) State True (T) or False (F) against the following statements:

6 × ½ = 3

- (i) The silk yarn is obtained from the cocoon of the silk moth. ()
- (ii) Indicators are used to test whether a substance is acidic or basic. ()
- (iii) A new substance formed in neutralisation reaction is an acid. ()
- (iv) The most commonly used natural indicator is litmus. ()
- (v) Setting of curd from milk is a physical change. ()
- (vi) Limewater is obtained when calcium hydroxide is dissolved in water. ()

SECTION-C (BIOLOGY)

1. Answer the following questions:

3 × 1 = 3

(a) Who discovered the circulation of blood?

Ans.

(b) What are the components of blood?

Ans.
.....

(c) By which factors, forests are influenced?

Ans.

2. Name the following:

4 × ½ = 2

(a) Organisms made of tiny units

.....

(b) Cell, enclosed by a thin outer boundary

.....

(c) A parasitic plant with yellow, slender and tubular stem

.....

(d) A plant that has both autotrophic and heterotrophic mode of nutrition

.....

3. (a) Distinguish between a parasite and a saprotroph.

2

Ans.
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.....
.....
.....

(b) Fill in the blanks.

4 × ½ = 2

(i) is the process by which the organism obtains and utilises its food.

(ii) Green plants obtain their food by nutrition.

(iii) Tongue is present in

(iv) Stomata are openings in the leaves of plants.

4. (a) Why do we get instant energy from glucose?

2

Ans.
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.....

(b) Explain, with examples, why do we find animals of certain kind living in particular climatic conditions.

3

Ans.
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.....
5. (a) List the similarities and differences between aerobic and anaerobic respiration. 3

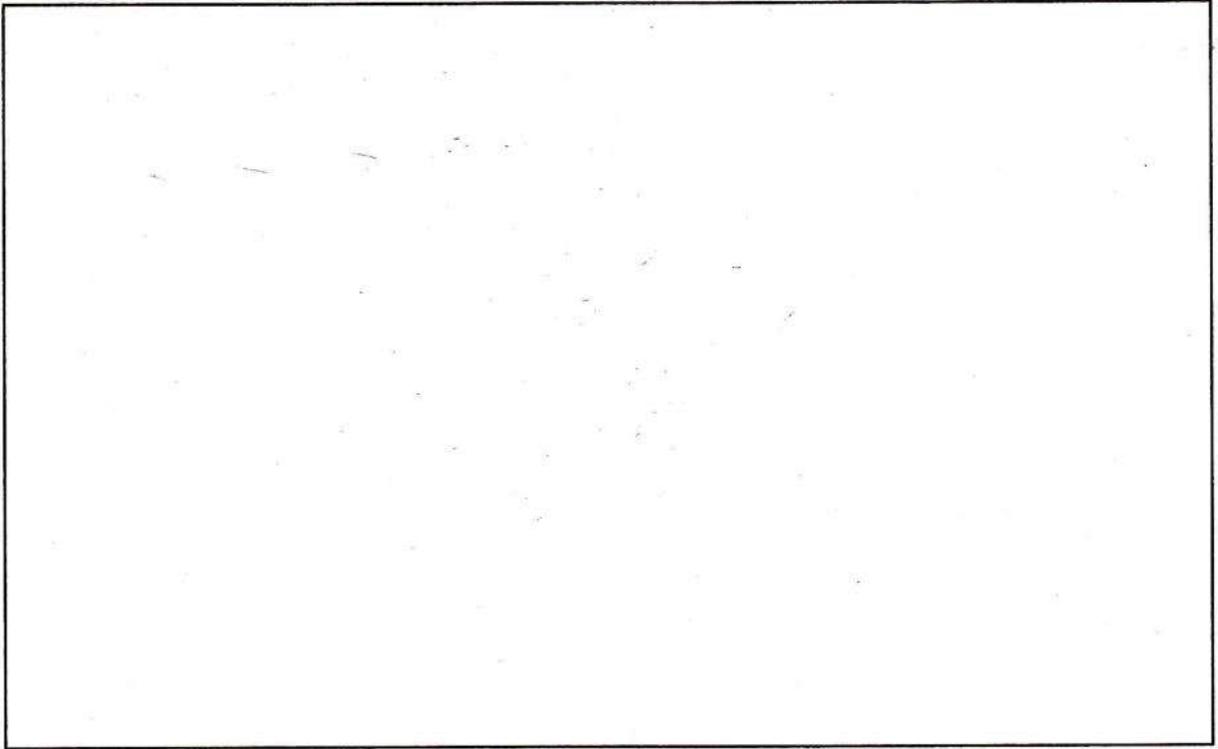
Ans.
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(b) Explain about sexual reproduction. 3

Ans.
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6. (a) Write an activity to show the reproduction in yeast by budding. 5

Ans.
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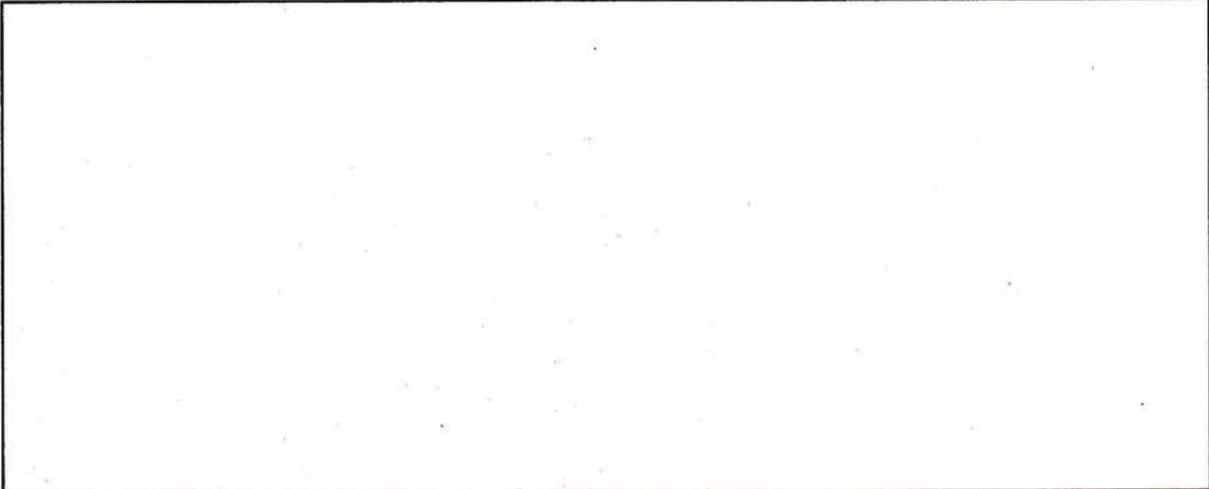
(b) Explain why there is a need of variety of animals and plants in a forest.

3

Ans.
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.....

7. Draw a labelled diagram of *Amoeba*.

2

Ans. 

PRACTICE PAPER-5

Name	Class	Roll No.	Time 3 Hrs.	Max. Marks 80	Marks Obtained
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Note: See Practice Paper-1 for General Instructions.

SECTION-A (PHYSICS)

1. Answer the following questions:

$2 \times 1 = 2$

(a) What is meant by convection?

Ans.
.....

(b) What does air behave after heating and cooling?

Ans.
.....

2. Name the following:

$4 \times \frac{1}{2} = 2$

(a) Combination of two or more cells

.....

(b) Scientist who noticed the deflection of compass needle

.....

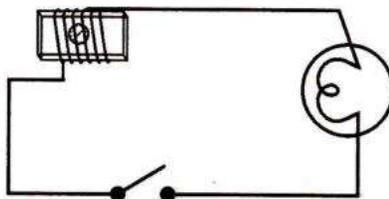
(c) Coils used to separate magnetic material from the junk

.....

(d) The element by which filament is made of

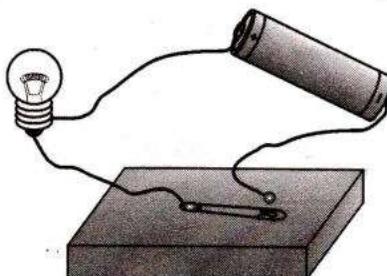
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3. (a) Will the compass needle show deflection when the switch in the circuit shown in Fig. is closed? 2



Ans.
.....
.....

(b) Draw the circuit diagram to represent the circuit shown in Fig. given below. 2



Ans.
.....
.....

4. Why do drivers use convex mirror to see the traffic behind them? 2

Ans.
.....
.....

5. (a) True (T) or False (F) statements. Rewrite the False statements. 4 × 1 = 4

- (i) Sand clock can work only during day. ()
- (ii) A pendulum is a heavy mass suspended from the string. ()
- (iii) Solar cells convert electrical energy into light energy. ()
- (iv) The image formed is real in plane mirror. ()

Ans.
.....
.....
.....

(b) Show the shape of the distance-time graph for the motion in the following cases: 2

- (i) A car moving with a constant speed
- (ii) A car parked on a roadside.

Ans.
.....
.....
.....

6. (a) Look at the Fig. given below and mark where the heat is being transferred by conduction, by convection and by radiation. 2



(b) Match the items of Column A with those in Column B.

$4 \times \frac{1}{2} = 2$

Column A	Column B
(a) In cinema hall	(i) concave mirror
(b) Bulging out surface is called	(ii) real image can be obtained on screen
(c) Bent in surface is called	(iii) pole
(d) Mid-point of spherical mirror	(iv) convex mirror

Ans.

7. (a) What planning is required in advance to deal with the situation created by a cyclone? 2

Ans.

(b) Does transpiration serve any useful function in the plants? Explain. 3

Ans.

SECTION-B (CHEMISTRY)

1. Answer the following questions: $3 \times 1 = 3$

(a) What do you mean by scouring?

Ans.

(b) Is sodium hydroxide a soap?

Ans.

(c) What is the chemical name of table salt?

Ans.

2. Write chemical name of the following:

4 × ½ = 2

(a) Window cleaner

(b) Vinegar

(c) Limewater

(d) Quicklime.

3. (a) Explain why burning of wood and cutting it into small pieces are considered as two different types of changes. 2

Ans.
.....
.....
.....

(b) Ammonia is found in many household products, such as window cleaners. It turns red litmus blue. What is its nature? 2

Ans.
.....
.....
.....

4. (a) Out of the following, which two terms are related to silk production? 2
Sericulture, floriculture, moriculture, apiculture and silviculture.

Ans.

(b) Name the source from which litmus is obtained. What is the use of this solution? 3

Ans.
.....
.....
.....

5. (a) Explain why factory waste is neutralised before disposing it into the water bodies. 3

Ans.
.....
.....
.....

(b) Match the items of Column A with those in Column B.

$6 \times \frac{1}{2} = 3$

Column A	Column B
(a) Weavers weave silk threads into	(i) land breeze
(b) The range of laboratory thermometer is	(ii) sea breeze
(c) The air from the sea is called	(iii) physical change
(d) The air from the land is called	(iv) chemical change
(e) No new substance is formed	(v) -10°C to 110°C
(f) New substance is formed	(vi) silk cloth

Ans.

SECTION-C (BIOLOGY)

1. Answer the following questions:

$3 \times 1 = 3$

(a) What is meant by autotrophic nutrition?

Ans.

(b) Which is surrounded by a jelly-like substance, cytoplasm?

Ans.

(c) Which are surrounded by guard cells?

Ans.

2. Name the following:

$4 \times \frac{1}{2} = 2$

(a) Vessels which carry carbon dioxide-rich blood

.....

(b) Vessels which carry oxygen-rich blood

.....

(c) Reproductive parts of a plant

.....

(d) Parts of plant having roots, stems and leaves.

.....

3. (a) How does the process of fertilisation take place in flowers?

3

Ans.

(b) Explain the differences between self-pollination and cross-pollination.

3

Ans.

4. (a) Explain how forests prevent floods.

2

Ans.

(b) What is sludge? Explain how it is treated.

3

Ans.

5. How would you test the presence of starch in leaves?

3

Ans.

6. Tick the correct answer.

4 × ½ = 2

(a) Natural vegetation grows without:

- (i) interference of human
- (ii) soil
- (iii) water
- (iv) plants.

(b) Freshwater for human use on earth is:

- (i) 30%
- (ii) 3%
- (iii) 0.3%
- (iv) 0.03%.

(c) Sweat has:

- (i) Water
- (ii) Salts
- (iii) Urea
- (iv) All of these.

(d) Carnivores are:

- (i) autotrophs
- (ii) heterotrophs
- (iii) both of these
- (iv) none of these.

7. (a) Where is the bile produced? Which component of the food does it digest?

2

Ans.

.....

.....

.....

.....

(b) Why do we often sneeze when we inhale a lot of dust-laden air?

2

Ans.

.....

.....

.....

.....

8. State True (T) or False (F) against the following statements. Rewrite the False statements. 5 × 1 = 5

- (a) Parasites are dead organisms that live on plants. ()
- (b) Canines are used for grinding the food. ()
- (c) Glucose is also called the biological fuel. ()
- (d) Liver pumps blood into the blood capillaries. ()
- (e) Fruit is a ripened zygote. ()

Ans.

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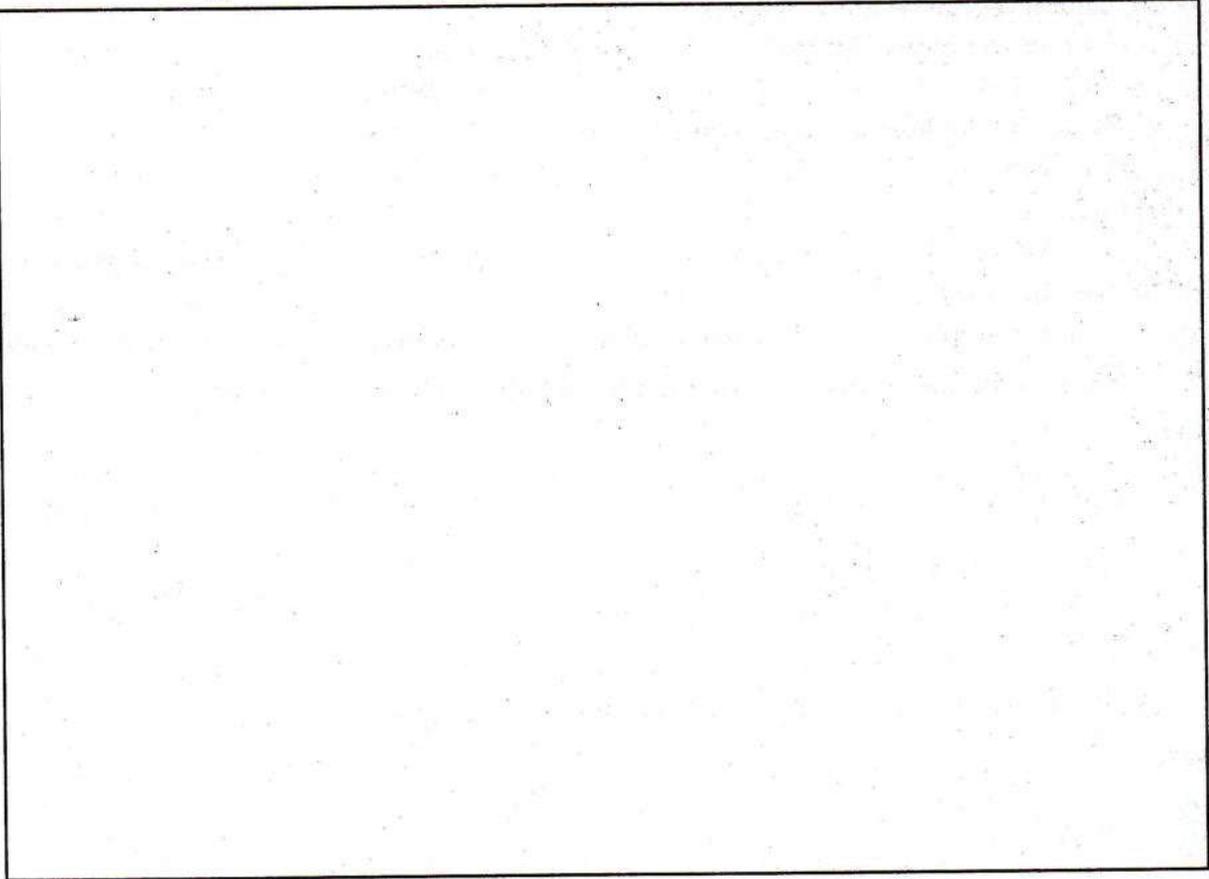
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9. Draw a labelled diagram of circulatory system.

5

Ans.



□□