

Strictly in accordance with the latest CBSE syllabus



Me 'n' MineTM

VIII

Pullout Worksheets

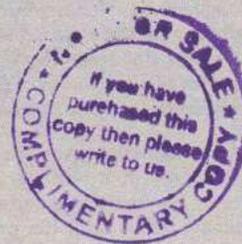
SCIENCE

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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SCIENCE

PULLOUT WORKSHEETS

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

CROP PRODUCTION AND MANAGEMENT

SUBJECT ASSESSMENT

WORKSHEET-1

Name	Class.....	Roll No.....	Time 22 Min.	Max. Marks 15	Marks Obtained
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POINTS TO REMEMBER

- It is clear that all living organisms require food.
- Animals including human beings cannot make their own food like the plants, so they get their food from certain **agricultural practices**.
- Living organisms like plants make their food themselves.
- When same kind of plants are grown and cultivated at one place on large-scale, then they are called **crop**.
- Preparation of soil should be necessary for growing crop.
- Temperature, humidity and rainfall are necessary for growing crops.
- The plants that are grown for useful products are called **crop plants**.
- The **food crops** which are used for producing food grains, *i.e.*, rice, maize, wheat, millet, etc., are also the parts of food crops.
- The plants that are grown for producing products (*i.e.*, source of income or economy) are known as **cash crops**. Sugar cane and oil seeds are the examples of the cash crops.
- Honey is obtained from honeybees.
- Different types of crops are *cereals*, *vegetables* and *fruits*.
- Regarding temperature, humidity and rainfall, crops are categorised into three groups on the basis of seasons. These are: (i) *Kharif* crops, (ii) *Rabi* crops and (iii) *Zayed* crops.
- *Kharif* crops are sown in rainy season, *e.g.*, rice.
- *Rabi* crops are sown in winter season, *e.g.*, wheat.
- *Zayed* crops are sown in summer season, *e.g.*, watermelon.
- Manure is an organic substance, obtained from decomposition of plant or animal wastes.
- Out of three types, *kharif* and *rabi* are the main crops.
- When same field is used for growing of another crop alternatively, it is called **crop rotation**.
- In modern agriculture, different methods are used step by step, *i.e.*, preparation of soil by ploughing and levelling, sowing seeds, manuring, irrigation, weeding, spraying pesticides, harvesting, threshing, winnowing and storage.
- *Rhizobium* bacterium is present in the nodules of the roots of leguminous plants. It fixes atmospheric nitrogen.
- Maximum use of plants yields high amount of crops per unit area of land within a given soil and climate is termed as **crop production**.
- **Weeding** involves removal of unwanted and uncultivated plants, called **weeds**.
- The process of cutting of crop after maturing is termed as **harvesting**.
- Weeds are controlled by using certain chemicals, called **Weedicides**.
- The process of separating the grains from plants is called **threshing**.
- The process of separating the grains from chaff is undertaken by **Winnowing**.
- **Storage** is a static unit for keeping and storing grains in a systematic manner to maintain their quality, value and usefulness.
- **Fish** is good for health. We get cod liver oil from fish, which is rich in vitamin D.

MULTIPLE CHOICE QUESTIONS (MCQs)

15 × 1 = 15

1. **Plants grown and cultivated at a place constitute a crop, are:**
(a) same kind of plants. (b) two kinds of plants.
(c) different kinds of plants. (d) none of these.
2. **In India, mainly two types of crops are:**
(a) *Rabi* and *Kharif* (b) Rainy seasonal (c) Seasonal (d) None of these.
3. **Ploughs and levellers are used for:**
(a) Tilling (b) Harvesting (c) Levelling (d) Both (a) and (c).
4. **Sowing is done after:**
(a) Threshing (b) Selecting of healthy seeds
(c) Winnowing (d) None of these.
5. **For good yielding, we sow seeds:**
(a) at appropriate depths. (b) at appropriate distance.
(c) both (a) and (b). (d) none of these.
6. **For soil replenishment and enrichment, we use:**
(a) Organic manure (b) Chemical fertilisers (c) Both (a) and (b) (d) None of these.
7. **Supply of water to crops at appropriate intervals is called:**
(a) Watering (b) Gardening (c) Cultivating (d) Irrigation.
8. **Harvesting is the cutting of:**
(a) Mature crop (b) Immature crop (c) Unwanted plants (d) None of these.
9. **Taking a handful seeds and put it into a half-filled beaker with water and stir well. We see that some of them float and some of them sink. Which types of seeds are appropriate for sowing?**
(a) Floating seeds (b) Sinking seeds
(c) Both types of seeds (d) None of these.
10. **Which of following is *Rabi* crop?**
(a) Wheat (b) Maize (c) Groundnut (d) None of these.
11. **Separation of the grains from the chaff is in open place with the help of blowing air:**
(a) Winnowing (b) Threshing (c) Weeding (d) None of these.
12. **Proper storage protects the grains from:**
(a) Pests (b) Rain
(c) Microorganism (d) All of them.
13. **Animal husbandry provides:**
(a) food for animals (b) shelter for animals (c) both of these (d) none of these.
14. **Which of following is *Kharif* crop?**
(a) Paddy (b) Gram (c) Wheat (d) None of these.
15. **We take a handful gram and after germinating, we take same type of three seeds and put them into separate beakers A, B and C with soil. After that, mix cow dung in beaker A, chemical fertiliser in B and nothing in C and watch the growth after 8 to 10 days, we see:**
(a) growth in beaker A is higher. (b) growth in beaker B is higher.
(c) growth in beaker C is higher. (d) growths in all beakers are same.

□□

**CROP PRODUCTION AND MANAGEMENT
SUBJECT ASSESSMENT
WORKSHEET-2**

Name	Class.....	Roll No.....	Time 40 Min.	Max. Marks 24	Marks Obtained
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VERY SHORT ANSWER TYPE QUESTIONS (1 MARK)

1. What does soil contain?

Ans.

2. What is the function of leveller?

Ans.

3. Write three main tools, used for breaking the soil before sowing the seeds.

Ans.

4. Why is paddy not grown in the winter season?

Ans.

5. What is the function of *khurpi* in cultivation?

Ans.

6. How can we identify good quality of seeds?

Ans.

7. What is hoe?

Ans.

8. What are meant by silos?

Ans.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. What is irrigation? Name two methods of irrigation, which conserve water.

Ans.

2. What is meant by tilling? How is this done?

Ans.

3. What are crumbs? Why crumbs should be broken?

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

4. What is the difference between ploughshare and ploughshaft?

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

5. Write two examples of *rabi* and *kharif* crops.

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

6. What is the difference between threshing and winnowing?

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

7. State two advantages of manures.

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

8. What are weedicides? How these are sprayed in the fields?

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



**CROP PRODUCTION AND MANAGEMENT
SUBJECT ASSESSMENT
WORKSHEET-3**

Name	Class	Roll No.	Time 40 Min.	Max. Marks 26	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) <i>Kharif</i> crops	(i) Animal excreta, cow dung, urine and plant waste
(b) <i>Rabi</i> crops	(ii) Wheat, gram and pea
(c) Chemical fertilisers	(iii) Paddy and maize
(d) Organic manure	(iv) Urea and super phosphate

Ans.

2. Fill in the blanks. 4

- (a) Bihu is mainly celebrated in
- (b) Groundnut is a kind of crop.
- (c) *Zayed* crops are grown in season.
- (d) Mustard is a kind of crop.

3. Select True and False statements.

- (a) A fertiliser is an organic salt.
- (b) Before sowing, good quality seeds are selected.
- (c) Improper or insufficient manuring results in strong plants.

SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. What is the difference between sprinkler and drip systems?

Ans.

2. (a) Write the note on harvest festivals in four lines.

(b) What is the function of 'combine'?

Ans.

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3. (a) Write two uses of fertilisers.

(b) What is meant by harvesting? By which instrument harvesting is done?

Ans.
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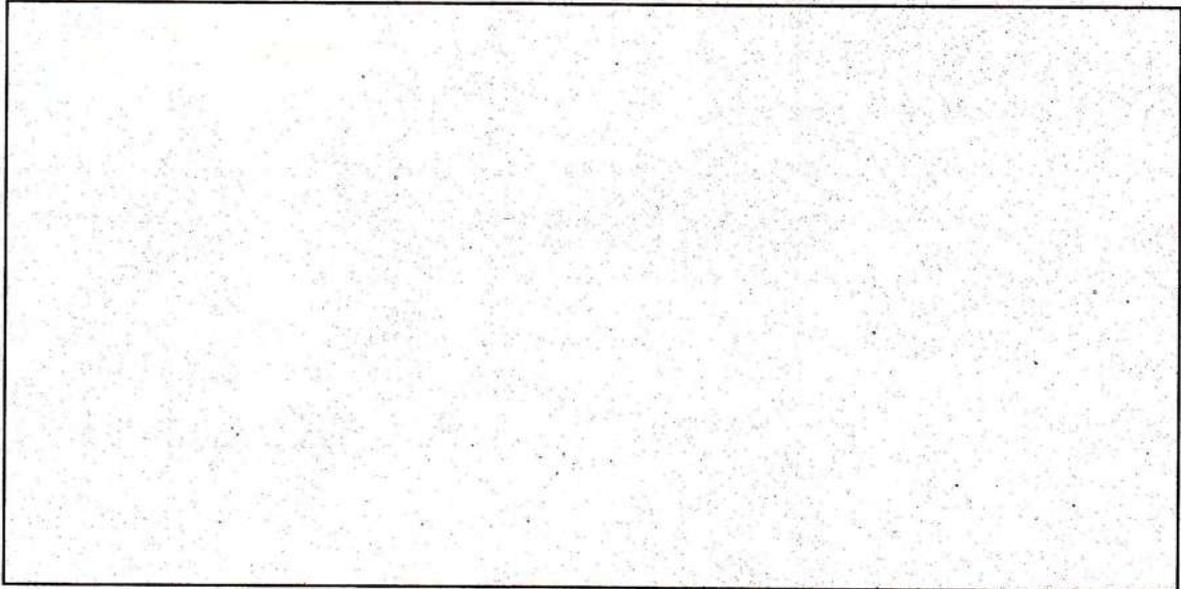
4. What are weeds? How can we control them?

Ans.
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.....

5. (a) Draw a labelled diagram of *Penicillium*.

(b) Who discovered the bacterium which causes anthrax disease?

Ans. (a)



(b)
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**CROP PRODUCTION AND MANAGEMENT
SUBJECT ASSESSMENT
WORKSHEET-4**

Name	Class	Roll No.	Time 40 Min.	Max. Marks 26	Marks Obtained
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SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. Explain how soil gets affected by the continuous plantation of crops in a field.

Ans.

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2. (a) Draw a labelled diagram of *Amoeba*.
(b) Why do we boil milk before storing?

Ans. (a)

(b)

.....

LONG ANSWER TYPE QUESTIONS (5 MARKS)

1. (a) Arrange the following boxes in proper order to make a flow chart of sugar cane crop production:

Sending crop to sugar factory	Irrigation	Harvesting
1	2	3
Sowing	Preparation of soil	Ploughing the field
4	5	6
	Manuring	
	7	

(b) Define sowing and storage.

Ans.

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2. What are advantages and disadvantages of fertilisers? What is the substitute of chemical fertilisers?

Ans.

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3. (a) What is the purpose of storage of grains? How are grains stored?

(b) Write two differences between fertiliser and manure.

Ans.

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4. (a) What are two ways of sowing the seeds?

(b) Write any three advantages of ploughing.

Ans.

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CROP PRODUCTION AND MANAGEMENT

SUBJECT ASSESSMENT

WORKSHEET-5

Name	Class.....	Roll No.	Time 30 Min.	Max. Marks 16	Marks Obtained
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LONG ANSWER TYPE QUESTIONS (5 MARKS)

- (a) What will happen if field is not ploughed before sowing the seeds? Give any two disadvantages.
(b) How are perishable food items stored on a commercial scale?
(c) Why should excessive supply of water be avoided?
(d) Draw the diagram of sprinkler system.

Ans.

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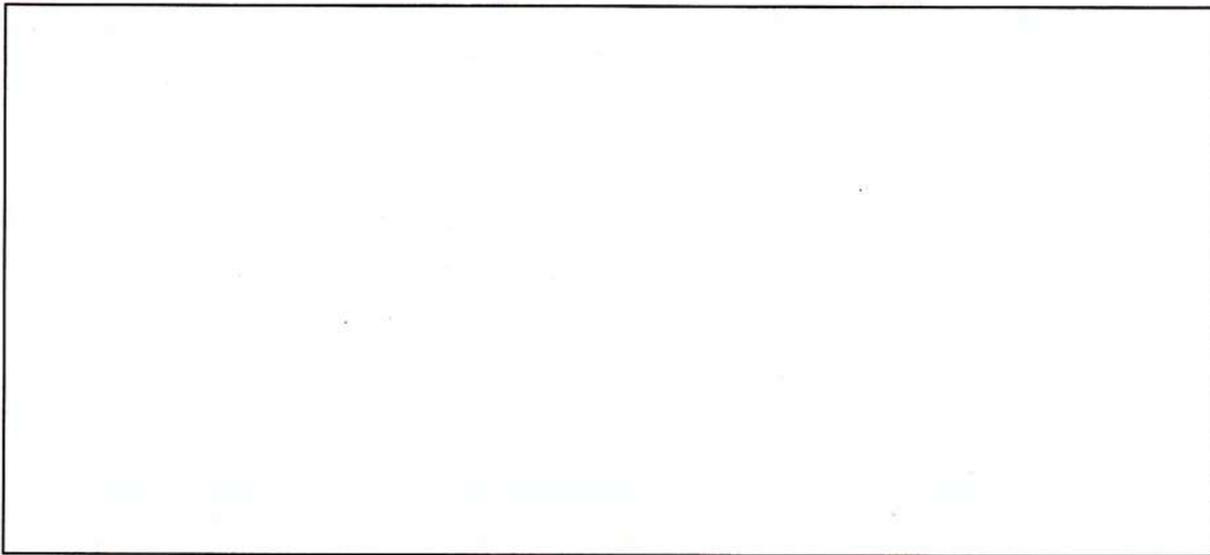
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2. How does a plough work?

Ans.
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PUZZLE

Complete the following word puzzle with the help of clues given below.

6

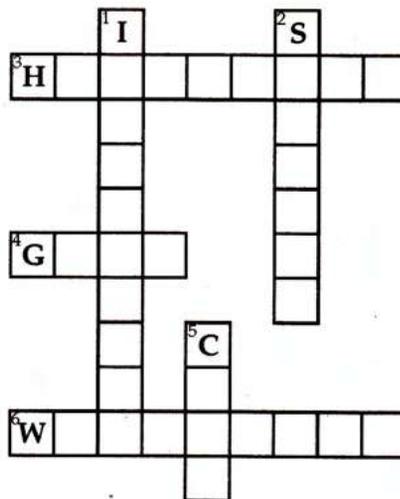
Down

- (1) Providing water to the crops.
- (2) Keeping crop grains for a long time under proper conditions.
- (5) Certain plants of the same kind grown on a large-scale.

Across

- (3) A machine used for cutting the matured crop.
- (4) A Rabi crop that is also one of the pulses.
- (6) A process of separating the grain from chaff.

Ans.



□□

CROP PRODUCTION AND MANAGEMENT

SUBJECT ASSESSMENT

WORKSHEET-6

Name..... || Class || Roll No. || Time 50 Min. || Max. Marks 30 || Marks Obtained

ANSWER THE FOLLOWING

1. Fill in the blanks.

5

- (a) The process of loosening of the soil is called
- (b) The crops sown in the winter are called
- (c) sows the seeds uniformly at proper distance and depths.
- (d) Manure provides a lot of in the soil.
- (e) irrigation is a boon in regions where availability of water is poor.

2. Match the columns.

5

Column A	Column B
(a) Combine harvester	(i) Weeding
(b) <i>Khurpi</i> (Trowel)	(ii) Harvesting and threshing
(c) Sickle	(iii) Irrigation
(d) Sprinkler	(iv) Rabi crop
(e) Wheat	(v) Ploughing

3. Give one word for the following.

5

- (a) Plants of the same kind grown on a large scale for food and other needs
- (b) Process of loosening and turning the soil
- (c) A tool used to plough the soil
- (d) Process of placing seeds in the soil
- (e) A chemical that is used to destroy weeds

4. Define the following terms.

5

(a) Weeding

.....

(b) Pesticides

.....

(c) Manure

.....

(d) Animal husbandry

.....

(e) Granaries

5. Differentiate between:

5

(a) Manure and fertilisers

(b) Weedicides and pesticides

(c) Rabi and kharif crops

(d) Threshing and winnowing

(e) Sprinkler irrigation and drip irrigation

6. What are the different ways in which seeds are sown?

2

MATCH THE COLUMNS (DOUBLE MATCHING)

1 × 3 = 3

Column A	Column B	Column C
(A) Kharif crop	(a) Needs less water comparatively	(i) Watermelon, bitter gourd
(B) Rabi crop	(b) Needs very large quantity of water	(ii) Gram, Pea
(C) Zayed crop	(c) Needs large quantity of water	(iii) Maize, cotton

Ans.

CROP PRODUCTION AND MANAGEMENT

SUBJECT ASSESSMENT

WORKSHEET-7

Name	Class	Roll No.	Time 35 Min.	Max. Marks 21	Marks Obtained
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DO AS DIRECTED

11 × 1 = 11

1. Before the crop, good quality of seeds are selected.
2. The process of removing weeds is called
3. A fertiliser is an salt.
4. A fertiliser is obtained by the decomposition of cattle dung. (T/F)
5. The bacteria named *Rhizobium* are present in the nodules of the roots of leguminous plants. (T/F)
6. Drip irrigation system is the best technique for watering fruit plants. (T/F)
7. *Kharif* crops are generally planted in November. (T/F)
8. Urea is a natural fertilizer. (T/F)
9. Seed drill is used for the irrigation of crops. (T/F)
10. Sprinkler system is a traditional method of irrigation. (T/F)
11. Manual sowing of seeds ensures that the seeds get covered with the soil after sowing. (T/F)

ANALOGY TYPE QUESTIONS

5 × 1 = 5

1. Cutting of matured crop : : Separation of grain seeds from chaff : Threshing.
2. Baishakhi : Harvest festival : : Pongal :
3. Fertiliser prepared in : : Manure prepared in :
4. October to March : Winter season : : : Rainy season.
5. *Rabi* crop : Wheat : : *Kharif* crop :

ONE WORDS SUBSTITUTION

5 × 1 = 5

1. The process of loosening and turning of the soil is
2. An organic substance obtained from the decomposition of plant and animal wastes is called
3. An inorganic salt which does not provide any humus to the soil is

CROP PRODUCTION AND MANAGEMENT

ENRICHMENT ACTIVITY

WORKSHEET-8

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

PROJECT REPORT

- Make a group of students and prepare a project report after visiting a farm or nursery or a garden nearby regarding collect information about importance of seed selection and method of irrigation.
- Try to collect new agricultural machine pictures and paste in a file with their names and uses.
- Write the name of animals those give us the following products.

Products	Animals
Milk	
Egg	
Fur	
Meat	
Honey	

ACTIVITY

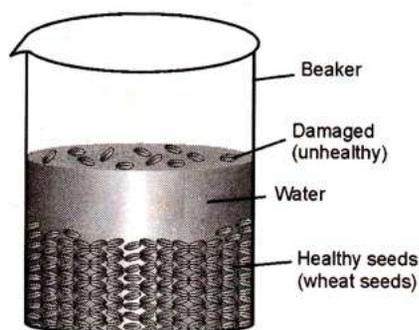
Aim: To show that how healthy seeds are separated from damaged seeds.

Materials Required: Wheat seeds, glass tumbler, water, a spoon.

Procedure: Fill the tumbler half with water. Put a handful of wheat seeds in it and stir well. Observe it carefully.

Observation: You will see that a few seeds, *i.e.*, light seeds, are floating at the top and rest of seeds, *i.e.*, healthy seeds, get settled at the bottom.

Result: This above observation shows that healthy seeds are easily separated from unhealthy seeds.



□□

MICROORGANISMS: FRIEND AND FOE

SUBJECT ASSESSMENT

WORKSHEET-9

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

- The bacterium named *Lactobacillus* is used in the formation of curd.
- **Hepatitis B** is caused by viruses.
- Some common and serious diseases like cold, influenza, most coughs, polio and chickenpox are caused by **viruses**.
- Dysentery and malaria are caused by **protozoa** whereas typhoid and tuberculosis (TB) are caused by **bacteria**.
- The microorganism like *Amoeba* exists freely.
- Some of the microorganisms grow on our food and cause **food poisoning**.
- The process of conversion of sugar into alcohol in the presence of yeast is known as **fermentation**.

$$\text{C}_6\text{H}_{12}\text{O}_6 \xrightarrow{\text{Yeast}} 2\text{C}_2\text{H}_5\text{OH} + 2\text{CO}_2 + 26 \text{ kcal}$$

(Energy)	Ethyl alcohol	Carbon	Energy
	(Ethanol)	dioxide	
- **Microorganisms** are too small and are not visible to unaided eyes. They can be seen with a magnifying glass or with the help of **microscope**. They are also called microbes.
- **Microorganisms** are grouped into four major types; viz. bacteria, fungi, protozoa and algae.
- Single-celled microorganisms are called unicellular, e.g., bacteria, some algae, protozoa.
- Multi-celled microorganisms are called multicellular, e.g., some algae, fungi.
- Viruses are also microscopic. They reproduce only inside the cells of the host organisms which may be bacterium, plant or animal.
- Fungi and bacteria may live in colonies.
- Some friendly microorganisms reside in the root nodules of leguminous plants and can fix nitrogen from air into soil and improve the soil fertility. Some friendly bacteria, i.e., *Rhizobium*, and blue-green algae present in the soil, fix nitrogen from the atmosphere and convert it into nitrogenous compounds.
- The medicines that kill or stop the growth of the disease-causing microorganisms, are called **antibiotics**.
- Antibiotics are produced from bacteria and fungi.
- White blood cells secrete antibodies.
- Robert Koch (1876) discovered the bacterium (*Bacillus anthracis*) which causes anthrax disease (of humans as well as animals).

EXPERIMENT. To study the different microorganisms from permanent slides.

MULTIPLE CHOICE QUESTIONS (MCQs)

15 × 1 = 15

1. Microorganisms are:

- (a) living organisms, seen only through microscopic instrument.
- (b) non-living organisms.
- (c) both of these.
- (d) none of these.

2. Which one of the following is a part of a group of microorganisms?
 (a) Bacteria (b) Algae (c) Protozoa (d) All of these.
3. In agriculture, microorganisms are used to increase soil fertility by:
 (a) fixing nitrogen. (b) using a fertiliser. (c) producing CO₂. (d) none of these.
4. Which microorganism promotes the formation of curd?
 (a) Spiral bacteria (b) *Lactobacillus* (c) *Paramoecium* (d) None of these.
5. Which one of the following is correct?
 (a) *Paramoecium* is unicellular found in freshwater.
 (b) *Spirogyra* is found in wet and moist places.
 (c) Yeast is used in bakery and wine making.
 (d) All of these.
6. Which one is fungus among the following?
 (a) *Penicillium* (b) Mushroom (c) Both of these (d) None of these.
7. The different types of bacteria based on their shape are:
 (a) Bacilli (b) Cocci (c) Spirilla (d) All of them.

CHAPTER BASED MCQs

8. Disease causing microorganisms are:
 (a) Cod-shaped bacteria (b) Pathogens (c) *Spirogyra* (d) None of these.
9. Which one of the following is not a bacterial disease?
 (a) Cholera (b) Tuberculosis (c) Diarrhoea (d) Dengue.
10. Which one of the following is not a preservative used for food items?
 (a) Salts (b) Sugar (c) Edible oil (d) Alcohol.
11. Antibiotics are being produced from which microorganism?
 (a) Bacteria (b) Fungi
 (c) Both (a) and (b) (d) None of these.
12. Microbes are commonly called biological nitrogen fixers, are:
 (a) Some kind of bacteria (b) Green algae
 (c) Both (a) and (b) (d) None of these.
13. Bacterium (*Bacillus anthracis*) causes disease in:
 (a) Humans (b) Plants
 (c) Animals (d) All of these.
14. The milk is heated to about 70°C for 15 to 30 seconds and then suddenly chilled and stored, this process is called:
 (a) Fermentation (b) Condensation
 (c) Sublimation (d) Pasteurisation.
15. Sealed air tight packets prevent the dry fruits and vegetables from:
 (a) Pollution (b) Water
 (c) Air (d) Microbes.



MICROORGANISMS: FRIEND AND FOE
SUBJECT ASSESSMENT
WORKSHEET-10

Name	Class.....	Roll No.....	Time 40 Min.	Max. Marks 25	Marks Obtained
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VERY SHORT ANSWER TYPE QUESTIONS (1 MARK)

1. State the meaning of communicable diseases.

Ans.

2. How does the body produce antibodies?

Ans.

3. How can spoilage of pickles be preserved?

Ans.

4. How are jams, jellies and squashes preserved from spoilage?

Ans.

5. What are meant by preservatives?

Ans.

6. How can people be prevented from hepatitis B?

Ans.

7. Define friendly microorganisms.

Ans.

8. What is the common ingredient of *rava idlis (sooji)* and *bhaturas*?

Ans.

9. What is the carrier of malaria-causing protozoa?

Ans.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. Why should we keep a handkerchief on the nose and mouth while sneezing?

Ans.

2. Why is mango pickle not spoiled for long time whereas mango fruit gets spoiled in few days?

Ans.

3. Why is spoiling of food a chemical reaction?

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

4. How can we preserve meat, fish, dry fruits and vegetables?

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

5. How can we prevent ourselves from diseases like cholera and typhoid?

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

6. Why do we use oil and vinegar to preserve vegetables and fruits?

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

7. How can we control plant diseases?

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

8. Write short note on carriers.

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

□□

MICROORGANISMS: FRIEND AND FOE
SUBJECT ASSESSMENT
WORKSHEET-11

Name	Class	Roll No.	Time 45 Min.	Max. Marks 34	Marks Obtained
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ANSWER THE FOLLOWING

1. Match the organisms in Column A with their action in Column B.

6

Ans.	Column A	Column B
	(a) Bacteria	(i) Fixing nitrogen
	(b) <i>Rhizobium</i>	(ii) Setting of curd
	(c) <i>Lactobacillus</i>	(iii) Baking of bread
	(d) Yeast	(iv) Causing malaria
	(e) A protozoan	(v) Causing cholera
	(f) A virus	(vi) Causing AIDS

2. True (T) or False (F) statements.

3

- (a) The process of conversion of sugar into alcohol is called fermentation.
- (b) The most common carrier of communicable diseases is dragonfly.
- (c) Blue-green algae fix nitrogen directly from air to enhance fertility of soil.

3. Fill in the blanks.

3

- (a) Vinegar is made from
- (b) Robert Koch (1876) discovered the
- (c) *Amoeba* can live

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

- 1. (a) What is the full form of ORS?
- (b) What is vaccination?

Ans.

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.....

- 2. (a) Name the scientist who discovered the vaccine for smallpox.
- (b) What are pathogens?

Ans.

.....

.....

SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. How do antibodies work?

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

2. How are bacteria beneficial to us?

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

3. What is food poisoning? How is it caused? What precautions should be taken to prevent from food poisoning?

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

4. Why are viruses considered to be on the borderline between living and non-living things?

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

5. What are antibiotics? What precautions must be taken while taking antibiotics?

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

6. Can you store pickles in iron containers? Why?

Ans.
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MICROORGANISMS: FRIEND AND FOE
SUBJECT ASSESSMENT
WORKSHEET-12

Name	Class	Roll No.	Time 35 Min.	Max. Marks 25	Marks Obtained
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LONG ANSWER TYPE QUESTIONS (5 MARKS)

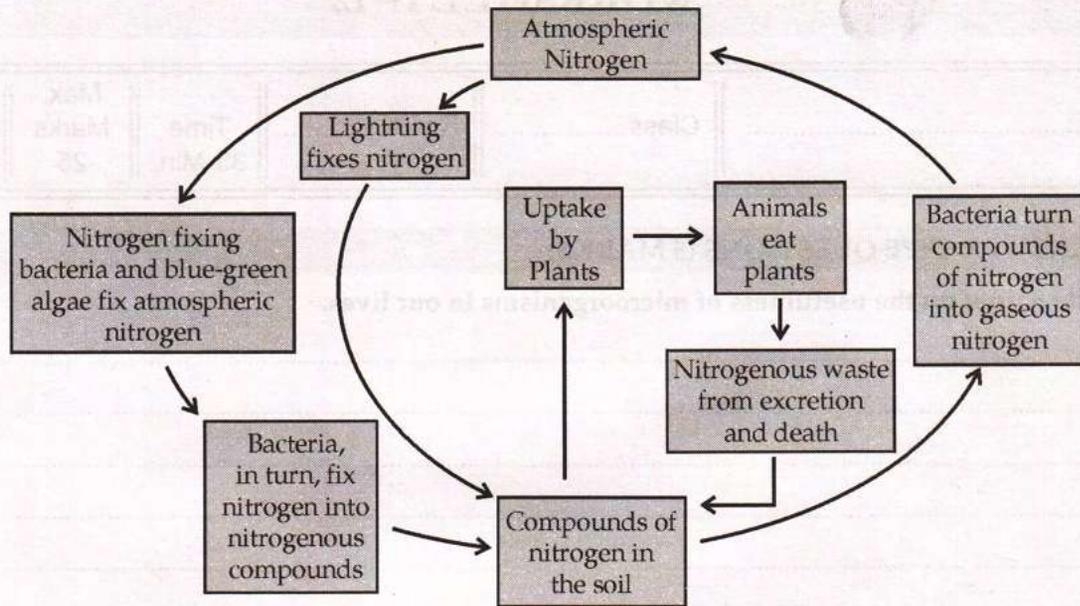
1. Write 8 lines on the usefulness of microorganisms in our lives.

Ans.
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2. What do you mean by preservation? How will you preserve the following:
(a) Fruits and vegetables
(b) Milk?

Ans.
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3. Describe the nitrogen cycle with the help of given neat and labelled diagram.



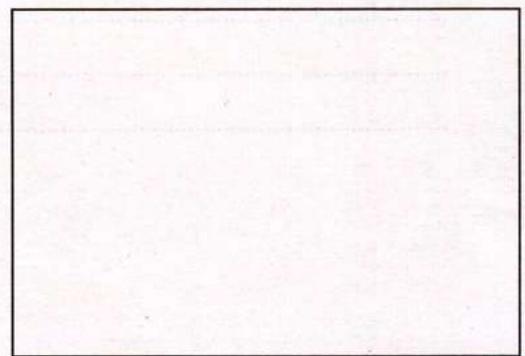
Ans.

4. Write a short paragraph on the harms caused by microorganisms.

Ans.

5. (a) How can we control the spread of malaria or dengue?
 (b) Draw the diagram of Paramecium.

Ans.



□□

(e) Fungi

.....
.....

4. Match the columns.

5

Column A	Column B
(a) Viral disease	(i) Produced in our body
(b) Yeast	(ii) Malaria and dengue
(c) <i>Anopheles</i> and <i>Aedes</i>	(iii) Measles
(d) Antibodies	(iv) Obtained from microbes
(e) Antibiotics	(v) Fermentation

5. Give reason for the following.

5

(a) Souring of milk

.....

(b) Breads and cakes are fluffy

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(c) Food poisoning

.....

(d) Addition of oil in pickles

.....

(e) Black and green coating on bread

.....

6. Explain the role of microorganisms in cleaning the environment.

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7. Describe some commercial uses of microbes in detail.

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MICROORGANISMS: FRIEND AND FOE

SUBJECT ASSESSMENT

WORKSHEET-14

Name || Class || Roll No. || Time 30 Min. || Max. Marks 18 || Marks Obtained

ANSWER THE FOLLOWING

5 × 1 = 5

1. Write the Mode of Transmission and Preventive Measures for the Following Diseases.

	Disease	Mode of transmission	Preventive measures
(i)	Measles		
(ii)	Chickenpox		
(iii)	Polio		
(iv)	Hepatitis B		
(v)	Dengue		

DO AS DIRECTED

6 × 1 = 6

- The bacteria called causes diarrhoea.
- Mode of transmission of malaria is
- The process of removal of water from a material is called
- Chickenpox is caused by bacteria. (T/F)
- Atmospheric nitrogen fixation is done by lightning. (T/F)
- Malaria is caused by *Plasmodium*. (T/F)

MATCH THE COLUMNS (DOUBLE MATCHING)

4 × 1 = 4

Column A	Column B	Column C
(A) Typhoid	(a) Protozoa	(i) Teeth
(B) Measles	(b) Fungi	(ii) Plant's part
(C) Pyorrhoea	(c) Virus	(iii) Red spots on skin
(D) Rust disease	(d) Bacteria	(iv) Liver

Ans.

ONE WORDS SUBSTITUTION

3 × 1 = 3

- The microorganism which causes dysentery is called
- The microorganism which causes influenza is called
- The fungus which is used to make penicillin, is called

MICROORGANISMS: FRIEND AND FOE

ENRICHMENT ACTIVITY

WORKSHEET-15

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

1. Visit a doctor and try to find out why antibiotics should not be overused. Prepare a short project report on it.
2. Collect the labels from the bottles of jams and jellies. Write down the list of contents printed on the labels.

ACTIVITY-1

Aim. Show that soil solution has some organisms in it.

Materials Required. Moist soil, beaker, water, tool, glass slide and microscope.

Procedure. Collect some moist soil from a field. Add few amount of water to it and stir it very well. The soil particles get settled at the bottom of the beaker. Take little soil solution with a pipette and put a drop of it on a glass slide. Observe the slide under the microscope.

Observation/Result. You will observe that some organisms are present in soil solution.

ACTIVITY-2

Aim: To study the fermentation of dough.

Materials Required: Dough, baker's yeast, bowl.

Procedure: Ask your mother to give you two small balls of dough. Keep one dough ball in a bowl. After mixing little Baker's yeast in the other dough keep it in another bowl. Let the bowls be open overnight (Preferably in summer season).

Observation: We see that the dough without yeast rises less in volume. But the dough with yeast has risen more in volume. This is because of fermentation of dough by yeast results in formation of carbon dioxide (CO₂). The CO₂ formed rises up to escape from the dough thereby raising the dough. When we insert a matchstick in the second case, we will see that the gas escapes out. If the gas is collected in a balloon or in a test tube it can be tested with limewater.

Carbon dioxide + Limewater → Limewater turns milky

Conclusion: Fermentation by yeast results in formation of CO₂.

SYNTHETIC FIBRES AND PLASTICS

SUBJECT ASSESSMENT

WORKSHEET-16

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

- Clothes we wear, are made of fabrics and fabrics are made from fibres.
- Fibres are natural as well as man-made. Silk, woollen and cotton clothes are natural fibre made clothes.
- Natural fibres are obtained from plants and animals.
- Synthetic fibres are man-made fibres because of human-beings made fibres. Synthetic fibres and plastics, like natural fibres, are made up of very large units called **polymers**. Polymers are made up of many smaller units.
- Polymers occur in nature.
- Synthetic fibres are obtained by chemical processing of petrochemicals. Like natural fibres, these can also be woven into fabrics.
- Rayon or artificial silk is obtained by chemical treatment of wood pulp.
- Although rayon is obtained from a natural source, wood pulp, yet it is a man-made.
- According to the types of chemicals used for manufacturing synthetic fibres, they are called rayon, nylon, polyester and acrylic.
- Polywool is a mixture of polyester and wool.
- Plastics can be recycled, reused, coloured, melted and rolled into sheets or made into wires.
- Such plastics which get deformed easily on heating and can be bent easily are known as **thermoplastics**. Some examples of thermoplastics are polythene and PVC. These are used for manufacturing toys, combs and various types of containers.
- Thermosetting plastics are such plastics which when moulded once, cannot be softened by heating. Bakelite and melamine are two examples of **thermosetting plastics**.
- Melamine is used for making floor tiles.
- A material which gets decomposed through natural processes, such as action by bacteria, is called **biodegradable**.
- A material which is not easily decomposed by natural processes, is termed as **non-biodegradable**.

EXPERIMENT. To study the life history of silk moth.

MULTIPLE CHOICE QUESTIONS (MCQs)

15 × 1 = 15

1. Which one is correct among the following?
 - (a) Pupa ← Cocoons ← Eggs ← Larva ← Adult
 - (b) Adult ← Pupa ← Cocoons ← Larva ← Eggs
 - (c) Pupa ← Cocoons ← Adult ← Eggs ← Larva
 - (d) None of these.
2. Which one of the following is correct among the following?
 - (a) The rearing and management of silk moths is called sericulture.
 - (b) The insect producing silk is known as silk moth.
 - (c) The silk moth lays its egg on the mulberry leaves.
 - (d) All of these.

CHAPTER BASED MCQs

3. Cotton is a polymer called:
(a) Cellulose (b) Flower (c) Glucose (d) None of these.
4. Silk like fibre obtained by chemical treatment of wood pulp is:
(a) Nylon (b) Wool (c) Rayon (d) None of these.
5. The first fully synthetic fibre was made in 1931, is:
(a) Rayon (b) Nylon (c) Polyester (d) None of these.
6. Which of the following is not a polyester?
(a) Terrylene (b) Terrycot
(c) PET (d) None of these.
7. Sweaters, shawls and blankets prepared from synthetic fibre are called:
(a) Polyester (b) Natural fibre
(c) Acrylic (d) None of these.
8. In all synthetic fibres, using raw materials are made up of:
(a) Acrylic (b) Polyester
(c) Petrochemicals (d) None of these.
9. Plastic is a polymer of:
(a) Natural fibre (b) Synthetic fibre
(c) Synthetic fibre (d) None of these.
10. Polythene is an example of:
(a) Polyester (b) Acrylic
(c) Ethene (d) Plastic.
11. Which one of the following plastic cannot be deformed easily on heating?
(a) Thermoplastics (b) Polythene
(c) PVC (d) Bakelite.
12. Which one of the following gets easily softened by heating:
(a) Thermosetting plastics (b) Bakelite
(c) PVC (d) None of these.
13. A special type of plastic on which oil and water do not stick, is:
(a) Rayon (b) Nylon
(c) PVC (d) Teflon.
14. Material which gets decomposed easily through natural processes, such as action by bacteria, is called:
(a) Biodegradable (b) Polythene
(c) Non-biodegradable (d) None of these.
15. A nylon thread is actually stronger than a:
(a) Cotton thread (b) Plastic thread
(c) Steel wire (d) Copper wire.

□□

SYNTHETIC FIBRES AND PLASTICS
SUBJECT ASSESSMENT
WORKSHEET-17

Name	Class	Roll No.	Time 40 Min.	Max. Marks 24	Marks Obtained
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VERY SHORT ANSWER TYPE QUESTIONS (1 MARKS)

1. What is meant by acrylic?

Ans.

2. What is polythene and write its one use.

Ans.

3. Which material is used for making plugs and switches?

Ans.

4. What is PVC and write its one use.

Ans.

5. Why is teflon used for making non-stick utensils?

Ans.

6. As a responsible citizen, what 4R's principle should be remembered by us?

Ans.

7. Why do we use plastic cookwares in microwave ovens?

Ans.

8. Why is nylon used for making parachutes and ropes for rock climbing?

Ans.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. Should the handle and bristles of a toothbrush be made of the same material? Explain your answer.

Ans.

2. (a) Define petrochemicals.
(b) Are woollen clothes biodegradable or non-biodegradable?

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

3. What is melamine? State two uses of melamine.

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

4. Can you suggest some ways by which you can contribute towards reducing the use of plastic materials?

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

5. Why should we not wear synthetic clothes in summer?

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

6. How can we say, plastic is light, strong and durable?

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

7. Explain why plastic containers are favoured for storing food.

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

8. Give examples to show that plastics are non-corrosive in nature.

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

□□

**SYNTHETIC FIBRES AND PLASTICS
SUBJECT ASSESSMENT
WORKSHEET-18**

Name	Class	Roll No.	Time 45 Min.	Max. Marks 41	Marks Obtained
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ANSWER THE FOLLOWING

1. Fill in the blanks.

- (a) is used in finishing nets.
- (b) is a regenerated fibre.
- (c) Nylon word comes from two cities and
- (d) and fibres are highly inflammable.

4

2. True or False statements.

- (a) Nylon fibres can be worn during summers.
- (b) Like synthetic fibres, plastic is also a polymer.
- (c) Synthetic fibres are also called artificial or man-made fibres.
- (d) Wood is a non-biodegradable material.

4

3. Match the following Column of A with those in Column B.

6

Column A	Column B
(a) Nylon	(i) to make bed sheets
(b) Cotton	(ii) synthetic fibres
(c) Rayon	(iii) to make carpets
(d) Rayon, mixed with cotton	(iv) natural fibre
(e) Rayon, mixed with wool	(v) obtained by chemical treatment of wood pulp
(f) Cotton is a polymer	(vi) called cellulose

Ans.

SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. Write three advantages of rayon.

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

2. Shyam wants to buy shirts for summer. Should he buy cotton shirts or shirts made from synthetic material? Advise Shyam, giving reason.

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

3. Categorise the materials of the following products into 'can be recycled' and 'cannot be recycled':

- (a) Telephone instrument
- (b) Plastic toys
- (c) Cooker handle
- (d) Carry bags
- (e) Ballpoint pen
- (f) Plastic covering on electrical wires
- (g) Kitchenwares.

4. Against the name of the following fibres, mention whether they are natural or synthetic:

- (a) Wool
- (b) Jute
- (c) Cotton
- (d) Melamine
- (e) PET
- (f) Polymers.

5. Explain why the following are made of thermosetting plastics.

- (a) Saucepan handles
- (b) Electric plugs/switches/plug boards.

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

6. Why do people prefer to wear acrylic sweaters than pure wool sweaters?

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

7. What are the properties of polythene?

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

8. Give one use each of bakelite, nylon and acrylic.

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

9. Why do uniforms of firemen have coating of melamine plastic?

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



SYNTHETIC FIBRES AND PLASTICS
SUBJECT ASSESSMENT
WORKSHEET-19

Name	Class.....	Roll No.	Time 40 Min.	Max. Marks 25	Marks Obtained
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LONG ANSWER TYPE QUESTIONS (5 MARKS)

1. "Avoid plastic as far as possible". Comment on this advice.

Ans.

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2. "Even though plastics are very useful, they are not environment-friendly". Justify the statement.

Ans.

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3. 'Manufacturing synthetic fibres are actually helping conservation of forests'. Comment.

Ans.

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SYNTHETIC FIBRES AND PLASTICS
SUBJECT ASSESSMENT
WORKSHEET-20

Name	Class	Roll No.	Time 45 Min.	Max. Marks 30	Marks Obtained
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ANSWER THE FOLLOWING

1. Fill in the blanks.

5

- (a) is also called artificial silk.
- (b) is used in fishing nets.
- (c) fibre has elastic property.
- (d) fibre is very comfortable to wear in summer and humid weather.
- (e) fibre has linear and cross-linkage of small units.

2. Give one word for the following.

5

- (a) Fibres that are made by human beings
- (b) One huge molecule formed by the many small units
- (c) Plastics that can be reheated and remoulded
- (d) Plastics that cannot be remoulded after reheating
- (e) Substances that cannot be decomposed by microorganisms

3. Define the following terms.

5

- (a) Acrylic
.....
.....
- (b) Thermosetting plastic
.....
.....
.....
- (c) Polythene
.....
.....
.....
- (d) Artificial silk
.....
.....
.....
- (e) Thermoplastics
.....
.....
.....

4. Match the columns.

5

Column A	Column B
(a) Melamine	(i) Insulators on electric wires
(b) PVC	(ii) Natural fibre
(c) Cotton	(iii) Heat resistant
(d) Rayon mixed with cotton	(iv) Synthetic fibre
(e) Nylon	(v) To make bedsheets

5. Give reason for the following.

5

(a) Polyester is not suitable for summer season.

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.....

(b) Use of plastic today is a matter of concern.

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(c) Nylon derives its name from two cities.

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(d) Plastic is known to have a variety of properties.

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(e) Bakelite and melamine can maintain their shape and size even at very high temperature.

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6. Give a detailed account of the use of plastic.

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7. What kind of dress material will you recommend for workers in metal and chemical industries? Give reasons for your answer.

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SYNTHETIC FIBRES AND PLASTICS

SUBJECT ASSESSMENT

WORKSHEET-21

Name	Class	Roll No.	Time 40 Min.	Max. Marks 16	Marks Obtained
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DO AS DIRECTED

$6 \times 1 = 6$

1. A is made of many repeating units.
2. fibre was made from coal, water and air.
3. Plastic is also a like the synthetic fibre.
4. Polymers and PVC are examples of thermoplastics. (T/F)
5. Bakelite is a good conductor of heat and electricity. (T/F)
6. Cotton cloth is biodegradable. (T/F)

ANALOGY TYPE QUESTIONS

$5 \times 1 = 5$

1. Plastic bags : : Woollen clothes : Biodegradable.
2. Paper : Biodegradable : : Tin :
3. Switches : Thermosetting plastic : : Electric wire :
4. Handle of cooker : : Melamine :
5. Carpets : Rayon : : Ropes for rock climbing :

ONE WORDS SUBSTITUTION

$5 \times 1 = 5$

1. The types of fibres which are formed after mixing some chemicals with them, are called
2. A type of synthetic fibre used for making parachutes, is called
3. A type of polyester used for making conveyor belts, is called
4. A type of special plastic used for non-stick coating on cookwares, is called
5. A material which is not easily decomposed by natural processes, is called

SYNTHETIC FIBRES AND PLASTICS ENRICHMENT ACTIVITY WORKSHEET-22

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

PROJECT REPORT

Design an eco-friendly grocery bag using different kinds of fabrics such as jute, nylon and acrylic. Try to innovative design of your bag. Test whether your bag is strong enough to carry heavy loads or not .

ACTIVITY-1

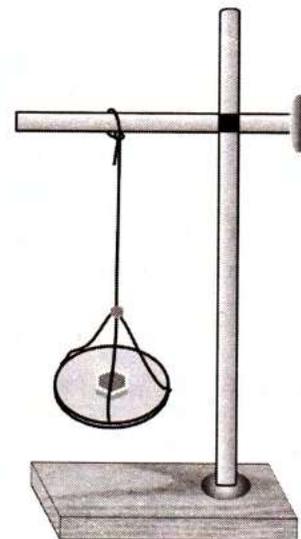
Aim: To distinguish the tensile strength of different fibres.

Materials Required: Iron stand, clamp, cotton thread of 70 cm length.

Procedure: Take an iron stand with a clamp. Tie a cotton thread to the clamp so that it hangs freely. At the free end, suspend a pan so that weight can be placed in it. Add weight one by one till the thread breaks. Note down the total weight required to break the thread. This weight indicates the strength of the fibre. Repeat the same activity with different kinds of threads and arrange them in order of their increasing strengths.

Observation/Result

S. No.	Type of thread	Total weight required to break the thread
1.	Cotton	
2.	Wool	
3.	Silk	
4.	Nylon	



ACTIVITY-2

Aim: To observe and compare the amount of water absorbed by natural and synthetic fibres.

Materials Required: Two cloth pieces of the same size but of different materials and two mugs each containing the same amount of water

Method: Take both cloth pieces and dip in different mugs of water. After five minutes, dry them in the sun for some time. Observe the amount of water left in each mug and the fabric that dries faster.

Observation: You will observe that the mug in which the natural fabric was dipped will have less water as compared to the mug in which the synthetic fabric was dipped.

The synthetic fabric will dry faster as compared to the natural fabric as it absorbs less water.

Conclusion: Natural fibres absorbs more water as compared to artificial fibres.

MATERIALS: METALS AND NON-METALS

SUBJECT ASSESSMENT

WORKSHEET-23

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

- Rocks are made up of chemical materials, known as **minerals**.
- Chemical materials (elements) are classified into two groups known as: (i) **Metals** and (ii) **Non-metals**.
- **Metals** and **non-metals** can be distinguished on the basis of their physical and chemical properties. Metals are lustrous whereas non-metals have no lustre.
- Gold and silver are found in free state.
- **Metals**, generally, are good conductors of heat and electricity whereas non-metals are poor conductors. Gold is the best and lead is the poorest conductors of heat.
- Coal piece is bad conductor.
- Metals are found in solid form at room temperature except mercury which is in liquid form.
- Metals react with bases, forming hydrogen gas.
- Non-metals are found in either solid or gaseous form except bromine which is in liquid form.
- Metals have high density, high melting point and boiling point (except Na, K and gallium) and high tensile strength.
- Non-metals have low density, low boiling and melting points (except graphite) and low tensile strength.
- Aluminium foil is used for wrapping food and silver foil is used for decorating sweets.
- Metals are sonorous and hard (except Na and K) whereas non-metals are non-sonorous and soft (except diamond).
- The naturally occurring minerals from which metals can be extracted economically and conveniently are known as **ores**.
- **Metallurgy** is the process by which metals are extracted from their ores.
- **Metals** react with oxygen to produce metallic oxides which are basic in nature.
- Non-metals react with oxygen to produce non-metallic oxides which are acidic in nature.
- Iron gets rusted on reacting with oxygen and moisture in air, producing its hydroxide. Some metals (not all metals) react with water to produce metal hydroxides and hydrogen gas. Generally, non-metals do not react with acids and water.
- Metals react with acids to form salts and liberate hydrogen whereas non-metals do not react with acids except sulphur which reacts with nitric acid but does not form H₂ gas.
- Non-metals and metals are very useful in today's life.

EXPERIMENT. To study that air and water are required for rusting of iron.

MULTIPLE CHOICE QUESTIONS (MCQs)

15 × 1 = 15

1. Rusting can be prevented by applying:

- | | |
|--------------------|----------------------------|
| (a) Painting | (b) Applying grease or oil |
| (c) Electroplating | (d) All of these. |

2. The conditions necessary for rusting are:

- (a) Air (b) Water (c) Both (a) and (b) (d) None of these.

3. Which one of these is correct?

- (a) Formation of metal oxide under the suitable conditions is called rusting.
(b) Gold, silver and platinum are examples of noble metals.
(c) Iron is used for construction of railways and bridges.
(d) All of these.

CHAPTER BASED MCQs

4. The property of metal by which it can be drawn into wires is called:

- (a) Malleability (b) Ductility (c) Conductivity (d) None of these.

5. Which one is correct among the following?

- (a) Sodium can be cut with a knife. (b) Potassium can be cut with a knife.
(c) Both (a) and (b). (d) None of these.

6. Which one is metal among the following?

- (a) Calcium (b) Carbon (c) Oxygen (d) Phosphorus.

7. When a copper vessel is exposed to moist air for long time, it acquires:

- (a) a dull yellow coating. (b) a dull black coating.
(c) a dull green coating. (d) none of these.

8. Metallic oxides are:

- (a) acidic in nature. (b) basic in nature. (c) neutral in nature. (d) none of these.

9. Which of the following can be beaten into thin sheets?

- (a) Zinc (b) Phosphorus (c) Sulphur (d) Oxygen.

10. Which of the following statements is correct?

- (a) All metals are ductile. (b) All non-metals are ductile.
(c) Generally, metals are ductile. (d) Some non-metals are ductile.

11. The best electric conductor is:

- (a) Gold (b) Silver (c) Copper (d) Aluminium.

12. Metals can be beaten into thin sheets because:

- (a) they are sonorous. (b) they are malleable.
(c) they are ductile. (d) they are dense.

13. Metals do not occur in free state because they are:

- (a) highly reactive. (b) less reactive.
(c) having variable oxidation state. (d) having low density.

14. Which metal is not affected by air, water and acids?

- (a) Silver (b) Sodium (c) Potassium (d) None of these.

15. The process by which metal is extracted from its ore, is called:

- (a) Roasting (b) Reduction (c) Metallurgy (d) Concentration.

□□

MATERIALS: METALS AND NON-METALS
SUBJECT ASSESSMENT
WORKSHEET-24

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 are noble metals?

Ans.

2. Why is gold preferred for making jewellery?

Ans.

3. Why is aluminium used for making utensils?

Ans.

4. Why non-metals cannot be drawn into wires?

Ans.

5. Are oxides of non-metals acidic or basic and why?

Ans.

6. Arrange the following elements into increasing order of reactivity:

Hydrogen, Copper, Potassium, Gold, Calcium.

Ans.

7. What are the constituents of an alloy stainless steel?

Ans.

8. Define ductility.

Ans.

9. What are metalloids? Give two examples.

Ans.

10. What is meant by aqua regia?

Ans.

11. What happens when sulphur dioxide is dissolved in water?

Ans.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. Explain displacement reactions with an example.

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

2. (a) How many metals and non-metals are present among 116 elements?

(b) Name the product formed by the reaction of sodium with water.

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

3. One day Reeta went to a jeweller's shop with her mother. Her mother gave an old gold jewellery to the goldsmith to polish. Next day when they brought the jewellery back, they found that there was a slight loss in its weight. Can you suggest a reason for the loss in weight?

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

4. Can you store lemon pickle in an aluminium utensil? Explain.

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

5. Why are sodium and potassium stored in kerosene?

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

6. Why white phosphorus has to be kept in water?

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



3. Fill in the blanks.

3

- (a) Tincture iodine is used as an
- (b) is used for making matchsticks.
- (c) To harden the metal, gold is mixed with

4. True (T) or False (F) statements.

3

- (a) Ca(OH)_2 is known as slaked lime.
- (b) Metals like Ag and Cu do not react with steam.
- (c) Non-metals turn red litmus paper blue.

SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. Compare the following physical properties of metals and non-metals:

- (a) Hardness
- (b) Lustre
- (c) Sonorous.

Ans.
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2. What happens when:

- (a) Dilute sulphuric acid is poured on a copper plate?
- (b) Iron nails are placed in copper sulphate solution? Write word equations of the reactions involved.

Ans.
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- 3. (a) Why aluminium foils are used to wrap food items?
- (b) Immersion rods for heating liquids are made up of metallic substances. Give reason.

Ans.
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- 4. (a) Name the alloy of copper and aluminium. Write its one use.
- (b) Why does an aluminium occur in free state?

Ans.
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□□

MATERIALS: METALS AND NON-METALS
SUBJECT ASSESSMENT
WORKSHEET-26

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

1. Compare the properties of metals and non-metals with respect to malleability, ductility and conductivity.

Ans.

2. Saloni took a piece of burning charcoal and collected the gas evolved in a test tube.

(a) How will she find the nature of the gas?

(b) Write down word equations of all the reactions taking place in this process.

Ans.

3. (a) The doctor reported a patient that he had iron deficiency in his body. Where is iron present in the body?

(b) Can you hold a hot metallic pan which is without plastic or a wooden handle without getting hurt? Why?

Ans.

LONG ANSWER TYPE QUESTIONS (5 MARKS)

1. Give reasons for the following:

(a) Silver is used in coating of mirrors.

(b) Aluminium is used to make electric wires.

(c) Iron is used to construct bridges and houses.

(d) Iron sheets are galvanised before use.

Ans.

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2. (a) Why iron nails are placed in copper sulphate solution? (b) Why dilute sulphuric acid is poured on a copper plate? (c) When a metal is hit, a ringing sound is produced. Why?

Ans.
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3. (a) Why copper cannot displace zinc from its salt solution?
(b) Why can wires of coal not be drawn?
(c) What happens when a burning matchstick is brought near the mouth of test tube in which a metal has reacted with sulphuric acid?

Ans.
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MATERIALS: METALS AND NON-METALS
SUBJECT ASSESSMENT
WORKSHEET-27

Name..... || Class..... || Roll No. || Time 50 Min. || Max. Marks 30 || Marks Obtained

ANSWER THE FOLLOWING

1. Write one word for the following.

5

- (a) Non-metal with metallic lustre
- (b) Metal that can be cut with a knife
- (c) Non-metal which is very hard
- (d) Non-metal which is a conductor of electricity
- (e) Metal that is stored in kerosene

2. Define the following.

5

- (a) Malleability
.....
- (b) Sonority
.....
- (c) Ductility
.....
- (d) Corrosion
.....
- (e) Metallurgy
.....

3. Match the columns.

5

Column A	Column B
(a) Aluminium	(i) Exist in free state
(b) Iron	(ii) Low tensile strength
(c) Graphite	(iii) Machines
(d) Gold	(iv) Thermometer
(e) Mercury	(v) Aircraft parts

4. Give reasons for the following.

5

(a) Metals can be drawn into wires.

(b) Iron replaces copper from copper sulphate solution.

(c) Graphite is used as electrodes in the dry cells.

(d) Metals are able to produce a ringing sound when struck with a hard object.

(e) Metals are good conductors of heat and electricity.

5. With the help of an experiment show the rusting of iron in the laboratory.

5

6. What is activity series of metals? On the basis of the activity series of metals, predict how these metals will react with each of the following salt solutions.

5

Metals: Magnesium, zinc, copper

Salt solutions: Magnesium sulphate, zinc sulphate and copper sulphate



MATERIALS: METALS AND NON-METALS

SUBJECT ASSESSMENT

WORKSHEET-28

Name || Class..... || Roll No. || Time 40 Min. || Max. Marks 19 || Marks Obtained

DO AS DIRECTED

6 × 1 = 6

- is only metal which is found in liquid state at room temperature.
- Pure gold is carats.
- Non-metals generally form oxides.
- Aluminium is used for making foils. (T/F)
- Oxide of magnesium is basic in nature. (T/F)
- Sulphuric acid is formed after dissolving sulphur dioxide in water. (T/F)

ONE WORDS SUBSTITUTION

5 × 1 = 5

- The properties of metals producing ringing sounds are said to be
- The shining appearance on the surface of metals due to reflection of light is called
- A red or white coloured very reactive non-metal catches fire easily when exposed to air, is stored in water, is
- A non-metal which is liquid, is
- One metal used in making bulb's filament is highly ductile, called

ANALOGY TYPE QUESTIONS

5 × 1 = 5

- Zinc : More reactive :: : Less reactive.
- Zinc sulphate : Colourless :: Copper sulphate :
- : Do not react with acids :: : React with acids.
- Lightest element : :: Lightest metal : Lithium.
- Gold : Yellow :: Copper :

MATCH THE COLUMNS (DOUBLE MATCHING)

3

Column A	Column B	Column C
(A) Hardest non-metal	(a) Gold	(i) Kept in kerosene oil
(B) Purest metal	(b) Sodium	(ii) Allotrope of carbon
(C) Metal but soft	(c) Diamond	(iii) Used in making ornaments.

Ans.

MATERIALS: METALS AND NON-METALS

ENRICHMENT ACTIVITY

WORKSHEET-29

Name	Class	Roll No.	Time 40 Min.	Max. Marks 22	Marks Obtained
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PROJECT REPORT

1. Visit a goldsmith shop and make a project report on how he makes different kinds of gold ornaments.
2. Make four index cards of metals and non-metals. Mention their symbols on them, name the two places where they are found and their uses.

ACTIVITY-1

Aim: With the help of an activity show that sodium reacts vigorously with water.

Materials Required: Glass tumbler, filter paper, cotton, sodium metal.

Procedure: A 250 ml glass tumbler with half-filled water is taken. Now, cut a small piece of sodium metal carefully. Dry it with the help of filter paper and wrap it in a small piece of cotton. Put the wrapped sodium piece in glass tumbler. Observe carefully.

Observation/Result: You will observe that sodium reacts vigorously with water.



ACTIVITY-2

Aim: To observe the electrical conductivity of metals and non-metals.

Materials Required: Iron nail, sulphur, coal piece and aluminium wire, torch battery, small bulb (1.5 v) and copper wires

Method: Prepare a circuit as shown in the figure. Connect the two free ends of the copper wire to the objects, one by one. Note the observation in the table given below.

Materials	Good conductor/ bad conductor
Iron nail	
Sulphur	
Coal piece	
Aluminium wire	

Observation: You will observe that the bulb glows when metals are connected to the free ends of the copper wire but not for other non-metals.

Conclusion: Metals such as iron nail and aluminium wire are good conductors of electricity while sulphur and the coal piece are bad conductors of electricity.

COAL AND PETROLEUM SUBJECT ASSESSMENT WORKSHEET-30

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

- Those things which are obtained from nature are called **natural resources**. Air, water, soil and minerals are called natural resources.
- Natural resources can be divided into two parts:
 - (i) Inexhaustible natural resources, and
 - (ii) Exhaustible natural resources.
- **Inexhaustible natural resources** are present in nature in unlimited quantity and are not likely to be exhausted by human activities. These sources are also known as renewable resources. Sunlight, water and air are examples of inexhaustible natural resources.
- **Exhaustible natural resources** can be exhausted by human efforts and found in nature in limited amount, *i.e.*, forests, wildlife, minerals, coal, petroleum, natural gas, etc.
- Substances which burn to produce heat are called **fuels**.
- Kerosene is used in jet aircraft.
- The fuel which is used today, contains the compounds of carbon and hydrogen.
- The fuels which were formed from the dead remains of living organisms, are known as **fossil fuels**.
- Coal, petroleum and natural gas are called fossil fuels.
- Coal is used to make synthetic petrol and natural gas.
- The useful products of coal are coke, coal tar and coal gas.
- Coke is used in the manufacturing of steel and in the extraction of many metals. It is the purest form of carbon.
- Coal tar is used in the manufacturing of various substances which are used in everyday life and in industries. It is used to make dyes.
- Coal consists mainly of the atoms of carbon, hydrogen and oxygen and a small amount of sulphur and nitrogen.
- Petroleum gas, petrol, diesel, kerosene, paraffin wax and lubricating oil are obtained by **refining of petroleum**.
- Paraffin wax is used for making ointments and candles.
- Petrol is used in motor car.
- The process of separating the various components of petroleum is called **refining of petroleum**.
- Petroleum product, bitumen is used for surfacing of road.
- Natural gas is very important kind of fossil fuel because it is very easy to transport through pipes.
- Natural gas consists mainly of methane. It is found in porous sedimentary rocks in the earth's crust.
- Coal and petroleum resources are limited. Hence, we should use them judiciously.
- Due to its great commercial importance, petroleum is also called "**black gold**".
- CNG (Compressed Natural Gas) is being used as non-polluting fuel for transport vehicles.
- CNG is the least polluting fuel for vehicles.
- LPG (Liquefied Petroleum Gas) is being used as a fuel in home and industry.

MULTIPLE CHOICE QUESTIONS (MCQs)

15 × 1 = 15

1. Which of the following is not a fossil fuel?
(a) Coal (b) Petroleum
(c) Natural gas (d) Wood.
2. Which of the following is not a product of coal?
(a) Coke (b) Coal (c) Coal gas (d) Natural gas.
3. Which of the following is not a petroleum product?
(a) Kerosene (b) Paraffin wax (c) Lubricating (d) Coke.
4. Which of the following is inexhaustible natural resource?
(a) Coal (b) Natural gas (c) Air (d) Petroleum.
5. Which of the following is exhaustible natural resource?
(a) Natural gas (b) Sunlight (c) Air (d) None of these.
6. Which of the following is used in production of electricity?
(a) Coal (b) Coke (c) Coal gas (d) None of these.
7. Which of the following is used in production of steel?
(a) Coal (b) Coke (c) Coal tar (d) None of these.
8. Naphthalene balls are obtained from:
(a) Coal (b) Coke (c) Coal tar (d) None of these.
9. In these days for metalling of road, which of following is used in place of coal tar?
(a) Petroleum product (b) Bitumen (c) Paraffin wax (d) None of these.
10. Which of the following is used as a source of heat rather than light?
(a) Coal tar (b) Coal gas (c) Natural gas (d) None of these.
11. Petrol and diesel are obtained from a natural resource called:
(a) Forest (b) Sea
(c) Petroleum (d) None of these.
12. The world's first oil well was drilled in USA in 1859, eight years later in 1867, oil was struck in:
(a) India (b) Kuwait
(c) Japan (d) None of these.
13. The great advantage of CNG is that:
(a) Compressed gas (b) Natural gas
(c) Supplied through pipe (d) None of these.
14. Which of the following association advises people, how to save petrol or diesel?
(a) PCRA (b) ONGC
(c) Indian oil corporation (d) None of these.
15. Which one of the following is man-made not natural resource?
(a) Air (b) Water
(c) Soil (d) Books.



**COAL AND PETROLEUM
SUBJECT ASSESSMENT
WORKSHEET-31**

Name	Class	Roll No.	Time 40 Min.	Max. Marks 25	Marks Obtained
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VERY SHORT ANSWER TYPE QUESTIONS (1 MARK)

1. How is coal tar formed?

Ans.

2. Which product is formed when coal is heated in the absence of air?

Ans.

3. Explain why fossil fuels are exhaustible natural resources.

Ans.

4. Where is petroleum found in India?

Ans.

5. What is meant by destructive distillation?

Ans.

6. Where are petrochemicals obtained from?

Ans.

7. Why is petroleum called a fossil fuel?

Ans.

8. Which are also known as non-renewable resources?

Ans.

9. Which fuel is used in jet aircrafts?

Ans.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. Write the full form of LPG and mention its main component. Why is a smelling agent added to it?

Ans.

2. (a) Write down any four amorphous forms of carbon.
(b) Write two uses of coal.

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

3. What is meant by fractional distillation?

Ans.
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.....

4. (a) Why is petroleum also known as 'black gold'?
(b) When and where in India were oil wells first found?

Ans.
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5. Describe characteristics and uses of coke.

Ans.
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.....

6. State two uses of CNG.

Ans.
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.....

7. Name some places in India where natural gas has been found.

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

8. Give two advantages of judicious use of energy.

Ans.
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□□

**COAL AND PETROLEUM
SUBJECT ASSESSMENT
WORKSHEET-32**

Name	Class	Roll No.	Time 40 Min.	Max. Marks 28	Marks Obtained
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SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. How are petroleum and natural gas formed? Name two places where they are found.

Ans.

2. (a) Can we make coal and petroleum in the laboratory from dead organisms?
 (b) Where was coal gas used for the first time and for which purpose?

Ans.

SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. What are the advantages of CNG and LPG as fuels?

Ans.

2. Why do we use coke for making steel but not coal?

Ans.

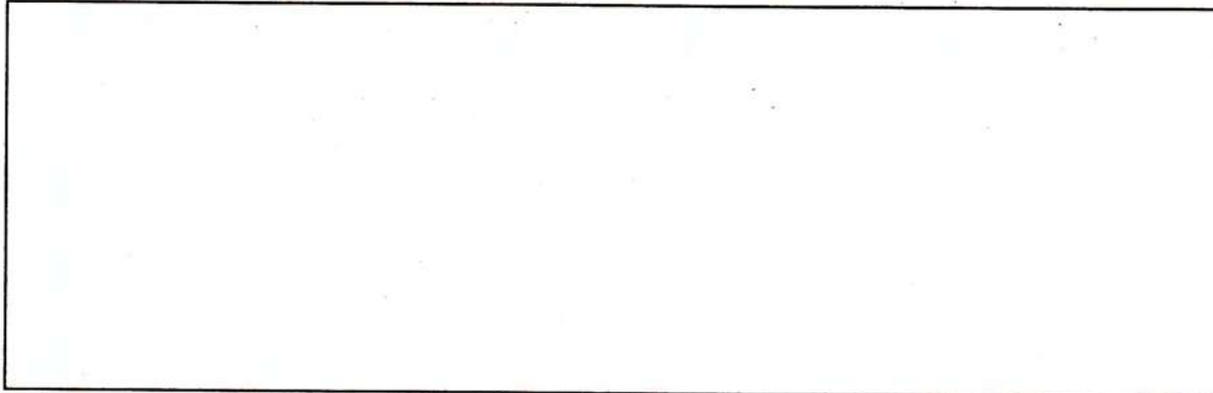
3. State one use of each of the following:

- (a) Charcoal
 (b) Bone charcoal
 (c) Coal gas.

Ans.

4. Draw diagram to show petroleum and natural gas deposits.

Ans.



5. (a) Write one main advantage of CNG.

(b) Why LPG is better fuel than coal?

Ans.

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6. Write the tips given by Petroleum Conservation Research Association (PCRA) which advises people that how to save petrol/diesel while driving.

Ans.

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7. How is 'Petrol' related to 'Petroleum'? Name four most important products obtained from petroleum.

Ans.

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8. (a) Write two uses of petrochemicals obtained from petroleum.

(b) Why do green leaves not catch fire easily?

Ans.

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**COAL AND PETROLEUM
SUBJECT ASSESSMENT
WORKSHEET-33**

Name || Class || Roll No. || Time 40 Min. || Max. Marks 29 || Marks Obtained

ANSWER THE FOLLOWING

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

Column A	Column B
(a) LPG	(i) Vaseline
(b) Petrol	(ii) Fuel for home and industry
(c) Paraffin wax	(iii) Solvent for dry cleaning

Ans.

2. True or False statements. 3

- (a) Fossil fuels can be made in laboratory.
- (b) Coal tar is a mixture of various substances.
- (c) Kerosene is not a fossil fuel.

3. (a) What are the main constituents of coal? 8

Ans.

(b) Match the items of Column A with those in Column B.

Column A	Column B
(a) Rock oil	(i) Coke
(b) Black viscous liquid	(ii) Petroleum
(c) Porous black residue	(iii) Coal tar

Ans.

(c) Fill in the blanks.

- (i) The fossil fuels have high content of carbon and
- (ii) Anthracite has carbon.
- (iii) is used in extraction of metal.

LONG ANSWER TYPE QUESTIONS (5 MARKS)

1. (a) Write the varieties of coal and their percentages.

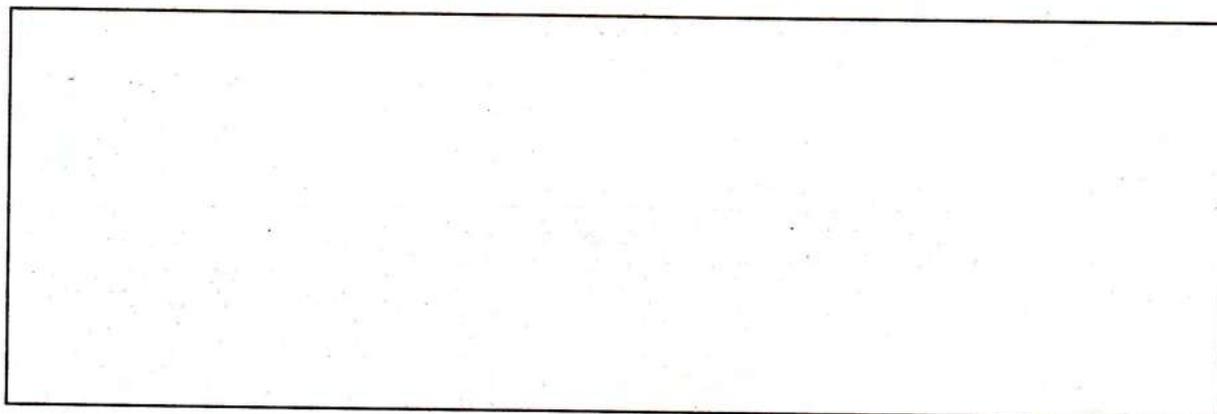
(b) Categorise the natural and man-made materials.

Wood, coal, diesel, kerosene, petroleum, cow dung, coke, charcoal.

Ans.

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2. The following Table shows the total power shortage in India from 1991–1997. Show the data in the form of a graph. Plot power shortage percentage for the years on y-axis and the year on x-axis.

S.No.	Year	Shortage (% age)
1	1991	7.9
2	1992	7.8
3	1993	8.3
4	1994	7.4
5	1995	7.1
6	1996	9.2
7	1997	11.5



3. What is destructive distillation of coal? Give uses of all the products obtained.

Ans.
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COAL AND PETROLEUM

SUBJECT ASSESSMENT

WORKSHEET-34

Name || Class || Roll No. || Time 45 Min. || Max. Marks 30 || Marks Obtained

ANSWER THE FOLLOWING

1. Fill in the blanks.

5

- (a) Petroleum is also called
- (b) Coal contains carbon,, and
- (c) The process of converting plant debris into coal is called
- (d) The of coal produces coke, coal tar and coal gas.
- (e) is the variety of coal which has maximum carbon content.

2. Give two examples each of the following.

5

(a) Types of coal

.....

(b) Products of coal processing

.....

(c) Types of petroleum products

.....

(d) Types of fossil fuels

.....

(e) Gases produced by burning fossil fuels

.....

3. Match the columns.

5

Column A	Column B
(a) Fossil fuels	(i) ointments
(b) Fractional distillation	(ii) for making roads
(c) Paraffin wax	(iii) fossils of plants and animals
(d) Coal tar	(iv) fuel for vehicles
(e) Petrol	(v) refinery

4. Correct and rewrite the following statements.

5

- (a) An ideal fuel is expensive and causes pollution.
-

(b) Forests and wildlife are inexhaustible natural sources of energy.

.....

(c) Natural gas is often found along with coal deposits.

.....

(d) Sun and wind are natural non-renewable resources.

.....

(e) Coal is obtained from decayed dead remains of animals only.

.....

5. Define the following terms.

5

(a) Fuels

.....

.....

(b) Natural resources

.....

.....

(c) Fractional distillation

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.....

(d) Refining

.....

.....

(e) Renewable resources

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6. Natural gas is a very important fossil fuel. Support your statement with reason.

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7. Explain the disadvantages of using fossil fuels for a long time.

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COAL AND PETROLEUM SUBJECT ASSESSMENT WORKSHEET-35

Name	Class	Roll No.	Time 40 Min.	Max. Marks 19	Marks Obtained
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DO AS DIRECTED

6 × 1 = 6

1. Sunlight is natural resource.
2. The slow process of conversion of dead vegetation into coal is called
3. Coal is as hard as stone and is in colour.
4. Petroleum is a dark oily liquid. (T/F)
5. Carbon dioxide is obtained when coal is heated in air. (T/F)
6. Coke is not used in the manufacture of steel. (T/F)

ANALOGY TYPE QUESTIONS

5 × 1 = 5

1. Tough, porous and black substance : Coke :: Black thick liquid :
2. Air : Inexhaustible natural resource :: : Exhaustible natural resource.
3. Bitumen : Paints :: : Lubrication.
4. Paraffin wax : :: Diesel : Electric generator.
5. Used for power generator : :: Coke : Used in extraction of metal.

ONE WORDS SUBSTITUTION

5 × 1 = 5

1. The superior quality of coal having 95% carbon is called
2. A mixture of hydrogen, methane and carbon monoxide is called
3. A substance which produces sufficient energy on burning is called
4. A liquid called black gold is known as
5. A kind of fuel used to cook food is called

MATCH THE COLUMNS (DOUBLE MATCHING)

3

Column A	Column B	Column C
(A) Present in unlimited quantity in nature	(a) Exhaustible resource	(i) Coal, petroleum and natural gas
(B) Present in limited quantity in nature	(b) Fossil fuels	(ii) Renewable resource
(C) Content of carbon and hydrogen	(c) Inexhaustible resource	(iii) Non- renewable resource.

Ans.

COAL AND PETROLEUM ENRICHMENT ACTIVITY WORKSHEET-36

Name

Class

Roll No.

Time
30 Min.Max.
Marks
15Marks
Obtained

PROJECT REPORT

Make an outline map of India and indicate the places where coal, petroleum and natural gas are found. Also, show the places where petroleum refineries are situated.

ACTIVITY-1

Prepare a list of various materials used in our daily life and categorise them as natural and man-made materials.

Natural Materials	Man-made Materials

ACTIVITY-2

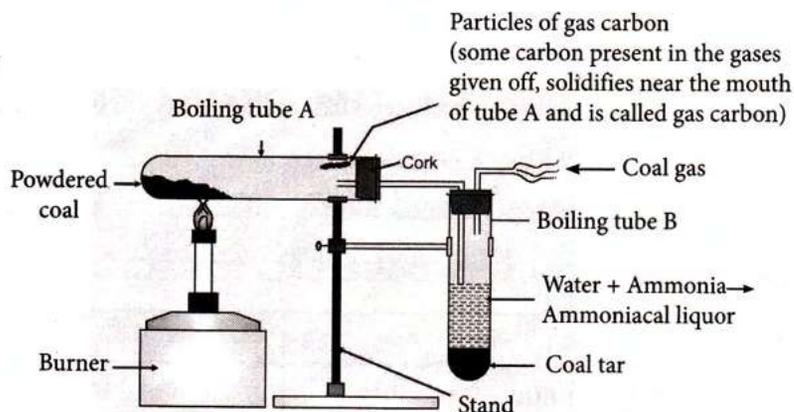
Aim: To demonstrate destructive distillation of coal.

Materials Required: Burner, stand, boiling tubes (2), coal, water, delivery tube, rubber corks (2) and powdered coal.

Procedure: Fix the two boiling tubes A and B as shown in the figure. Put powdered coal in tube A and half-fill tube B with water. Heat powdered coal strongly in boiling tube A. As the gases given off by the heated coal, they pass through the water in tube B.

Observation: You will see that black drops of coal tar collect at the bottom of tube B. The ammonium compounds will dissolve in half-filled water in tube B forming ammoniacal liquor. A colourless gas bubbles out of tube B, which is commonly called coal gas. It burns with a yellow flame when ignited as it is a mixture of hydrogen, methane and carbon monoxide.

Conclusion: Destructive distillation gives many substances.



COMBUSTION AND FLAME

SUBJECT ASSESSMENT

WORKSHEET-37

Name	Class	Roll No.	Time 22 Min.	Max. Marks 13	Marks Obtained
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POINTS TO REMEMBER

- A chemical process in which a substance reacts with oxygen to give off heat is called **combustion**.
- The substances which burn in air are called **combustible substances**.
- Paper and cloth are combustible whereas iron nails and glass are non-combustible substances.
- The substance that undergoes combustion is said to be combustible. It is also called fuel. The fuel may be solid, liquid or gaseous.
- Wood and coal are solid fuels. Kerosene and petrol are liquid fuels whereas LPG, coal gas and CNG are gaseous fuels.
- Oxygen (in air) is essential for combustion.
- The lowest temperature at which a substance catches fire easily, is known as its **ignition temperature**.
- The substances which have very low ignition temperature and can easily catch fire with a flame, are called **inflammable substances**.
- To control fire, the most common fire extinguisher is water.
- CO₂ is the best fire extinguisher for fires involving electrical equipment and inflammable materials, *i.e.*, petrol.
- There are various types of combustions such as rapid combustion, spontaneous combustion, explosion, etc.
- **Rapid combustion** is a chemical process in which gas burns rapidly and produces heat and light. Substance like phosphorus burns in air at room temperature, *i.e.*, burning of matchstick.
- **Explosion** is a type of combustion in which a large amount of gas and heat are liberated and sound produced, *e.g.*, burning of cracker.
- The **spontaneous combustion** is a type of combustion in which a material suddenly bursts into flames, without the application of any apparent cause, *e.g.*, yellow phosphorus.
- **Global warming** is caused due to increased percentage of carbon dioxide in air.
- The amount of heat energy produced on complete combustion of 1 kg of a fuel is called its calorific value. It is expressed in kilo joule per kg (kJ/kg).
- Oxides of sulphur and nitrogen produced by burning of coal, diesel and petrol cause acid rain which is harmful for crops, buildings and soil.
- Biogas is formed by the decomposition of plant and animal wastes.

EXPERIMENT 1. To prepare oxygen gas in the laboratory.

MULTIPLE CHOICE QUESTIONS (MCQs)

13 × 1 = 13

1. Which one of the following is correct?
- (a) Oxygen is colourless, odourless and tasteless gas.
 - (b) Oxygen is soluble in water.
 - (c) Oxygen is essential for breathing and burning.
 - (d) All of these.

2. When potassium chlorate is heated in the presence of manganese dioxide:

- (a) oxygen and potassium chloride is obtained. (b) potassium is obtained.
(c) chlorine is obtained. (d) none of these.

3. Which one is correct among the following?

- (a) The molecular formula of oxygen is O_2 .
(b) Oxygen is carried in cylinders by mountaineers.
(c) $2HgO \xrightarrow{\text{Heat}} 2Hg + O_2$.
(d) All of these.

EXPERIMENT 2. To show carbon dioxide is formed on burning charcoal.

4. What happens when charcoal is burnt:

- (a) oxygen is formed. (b) carbon dioxide is formed.
(c) carbon is formed. (d) none of these.

5. Limewater $[Ca(OH)_2]$ turns milky with the help of:

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

EXPERIMENT 3. To prepare methane in laboratory.

6. When sodium acetate is heated with sodium hydroxide:

- (a) sodium carbonate and methane are obtained.
(b) carbon dioxide and sodium are obtained.
(c) hydrogen and sodium carbonate are obtained.
(d) none of these.

EXPERIMENT 4. To study various parts of a candle.

7. Which is the innermost and coldest zone of candle's flame?

- (a) Luminous zone (b) Dark inner zone (c) Non-luminous zone (d) None of these.

8. The hottest zone of the flame is:

- (a) Non-luminous zone (b) Luminous zone (c) Dark inner zone (d) None of these.

CHAPTER BASED MCQs

9. Safety match contains:

- (a) Antimony trisulphide (b) Potassium chlorate (c) Both (a) and (b) (d) None of these.

10. Which one is correct among the following?

- (a) The calorific value of a fuel is expressed in unit kJ/kg.
(b) Incomplete combustion of fuel gives poisonous gas called carbon monoxide.
(c) CNG is purified fuel. (d) All of these.

11. Increased concentration of carbon dioxide in atmosphere leads to:

- (a) Deforestation (b) Acid rain (c) Global warming (d) None of these.

12. Which of the following is not a type of combustion?

- (a) Rapid combustion (b) Explosion
(c) Spontaneous combustion (d) Lightning.

13. The amount of heat produced on complete combustion of 1 kg of fuel is:

- (a) Calorific value (b) Kilo calorific value (c) Fuel value (d) None of these.



COMBUSTION AND FLAME
SUBJECT ASSESSMENT
WORKSHEET-38

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 are ideal fuels?

Ans.

2. What is meant by non-luminous flame?

Ans.

3. At which condition combustion can take place?

Ans.

4. What are the main constituents of biogas and kitchen gas (LPG)?

Ans.

5. Which zone of candle flame is used by goldsmith to melt gold?

Ans.

6. How are respiratory problems caused?

Ans.

7. What is meant by flame?

Ans.

8. By which process heat and light are produced in the sun?

Ans.

9. What is meant by fuel?

Ans.

10. What is the composition of matchstick?

Ans.

11. Write the formula of potassium bicarbonate and sodium bicarbonate.

Ans.

12. Why CO_2 is the best fire extinguisher?

Ans.
.....

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. Explain how the use of CNG in automobiles has reduced pollution in our cities.

Ans.
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.....

2. In an experiment, 2.5 kg of a fuel was completely burnt. The heat produced was measured to be 1,50,000 kJ. Calculate the calorific value of the fuel.

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

3. Why LPG is better domestic fuel than wood?

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

4. Why food is a fuel for our body?

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

5. (a) When does a substance start burning?
(b) When water is poured on fire, which condition of combustion is not fulfilled?

Ans.
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.....



COMBUSTION AND FLAME
SUBJECT ASSESSMENT
WORKSHEET-39

Name	Class	Roll No.	Time 35 Min.	Max. Marks 22	Marks Obtained
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SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. Why does the paper cup containing water not catch fire on heating?

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

2. Why water is not used to control fire involving electrical equipment?

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

3. (a) Why does yellow phosphorus catch fire on its own?

(b) Why is respiration referred to as slow combustion?

Ans.
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.....

4. (a) Can the process of rusting be called combustion? Discuss.

(b) When crackers are ignited, what type of combustion does take place?

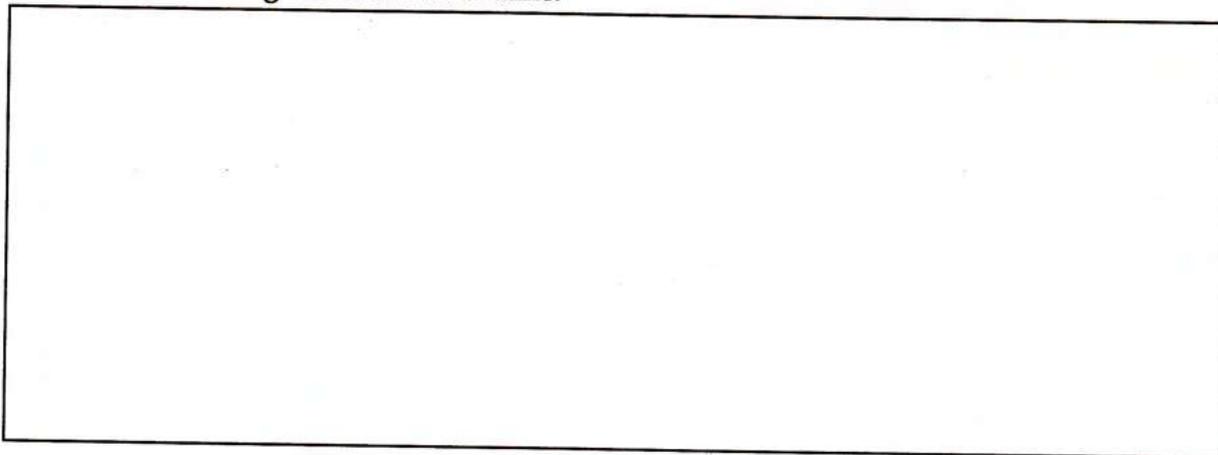
Ans.
.....
.....

5. Abida and Ramesh were doing an experiment in which water was to be heated in a beaker. Abida kept the beaker near the wick in the yellow part of the candle flame. Ramesh kept the beaker in the outermost part of the flame. Whose water will get heated in a shorter time?

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

SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. Make a labelled diagram of a candle flame.



2. (a) In an experiment, 4.5 kg of a fuel was completely burnt. The heat produced was measured to be 1,80,000 kJ. Calculate the calorific value of the fuel.
(b) A person sleeping in a closed room with burning coal, feels suffocated after sometime. Why?

Ans.
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3. (a) What name is given to combustion which takes place on its own?
(b) Does magnesium burn with a flame? Why?

Ans.
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4. (a) It is difficult to burn a heap of green leaves but dry leaves catch fire easily. Explain.
(b) What is rust?

Ans.
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COMBUSTION AND FLAME
SUBJECT ASSESSMENT
WORKSHEET-40

Name	Class	Roll No.	Time 40 Min.	Max. Marks 25	Marks Obtained
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SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. Why does paper by itself catch fire easily whereas a piece of paper wrapped around an aluminium pipe does not?

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

2. (a) Why do you need paper or kerosene oil to start fire in wood or coal?
(b) Why does cooking oil not catch fire when a frying pan is kept for a long time on a burning stove?

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

3. (a) Why does wood not catch fire when it is heated a little?
(b) Why petrol cannot be used as a fuel in stoves at homes?

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

4. Describe the job of a fire extinguisher.

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

5. Describe in detail the different steps to be taken in checking of fire, in case of fire involving electrical equipments.

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

LONG ANSWER TYPE QUESTIONS (5 MARKS)

1. (a) What are three conditions needed for combustion?

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

(b) List the harmful effects of burning fuels on the environment.

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.....

2. (a) Differentiate between rapid and spontaneous combustions.

(b) Red buckets containing sand are kept in offices and cinema halls. Why?

Ans.
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COMBUSTION AND FLAME
SUBJECT ASSESSMENT
WORKSHEET-41

Name	Class	Roll No.	Time 40 Min.	Max. Marks 25	Marks Obtained
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LONG ANSWER TYPE QUESTIONS (5 MARKS)

1. (a) Wet clothes do not burn easily than dry clothes. Why?
(b) Can you put off fire due to electric short-circuit by using water? Why?

Ans.
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2. (a) In an experiment, on burning 3.5 kg of fuel, 70,000 kJ of energy was produced. Determine its calorific value.
(b) Why does a matchstick need to be rubbed against the matchbox?

Ans.
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3. (a) When the clothes of a person catch fire, we cover him with a blanket. Why?
(b) Hydrogen gas has the highest calorific value, however, it is not used as domestic fuel. Why? Give reason.

Ans.
.....

COMBUSTION AND FLAME
SUBJECT ASSESSMENT
WORKSHEET-42

Name	Class	Roll No.	Time 50 Min.	Max. Marks 30	Marks Obtained
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ANSWER THE FOLLOWING

1. Fill in the blanks.

9

- (a) gas supports combustion.
- (b) is a poisonous gas which is produced due to incomplete combustion.
- (c) gas helps in extinguishing fire.
- (d) and are the products of combustion.
- (e) Most fuels are made up of and
- (f) Burning of wood and coal causes of air.
- (g) A liquid fuel, used in homes is
- (h) Fuel must be heated to its , before it starts burning.
- (i) Fire produced by oil cannot be controlled by

2. Give two examples for each the following.

5

- (a) Substances used as fire extinguishers
-

- (b) Zones of a flame
-

- (c) Two substances which show rapid combustion
-

- (d) Two substances which are non-combustible in nature
-

- (e) Two inflammable substances
-

3. Give reasons for the following.

5

- (a) LPG is a better fuel than wood.
-
-

(b) Some combustible substances do not burn at room temperature.

.....

(c) Fuels with lower ignition temperature should be stored with care.

.....

(d) Firecrackers are an example of spontaneous combustion.

.....

(e) The dark zone of a candle is the coolest part of the flame.

.....

4. Give one word for the following.

5

(a) A substance that burns in the presence of oxygen to produce heat and light. _____

(b) The temperature at which a particular substance burns in the presence of oxygen. _____

(c) Substances that produce heat and light on burning. _____

(d) A substance which has a low ignition temperature and can catch fire easily. _____

(e) A type of combustion in which a material bursts into flames without the application of heat. _____

5. Explain rapid, spontaneous and explosion the three types of combustion.

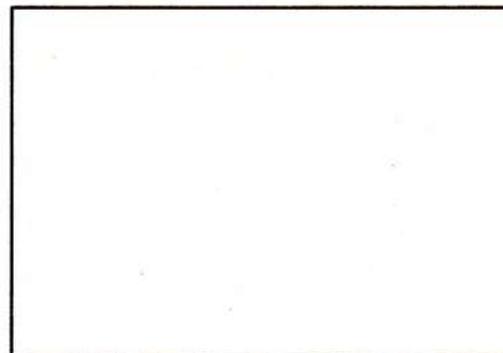
3

.....

6. Draw a labelled diagram of a flame showing the three zones. Explain the characteristics of each zone.

3

.....



COMBUSTION AND FLAME

SUBJECT ASSESSMENT

WORKSHEET-43

Name || Class || Roll No. || Time 40 Min. || Max. Marks 19 || Marks Obtained

DO AS DIRECTED

$6 \times 1 = 6$

1. An eco-friendly fuel is
2. substances have low ignition temperature.
3. Fuel must be heated to its before it starts burning.
4. Burning of coal produces CO and CO₂ gases. (T/F)
5. Petrol and diesel are eco-friendly fuels. (T/F)
6. Oxygen plays an important role in combustion. (T/F)

ONE WORDS SUBSTITUTION

$5 \times 1 = 5$

1. A type of combustion in which gas burns rapidly and produces heat and light is called
2. A red or white substance which burns in air at room temperature is
3. Acids which are formed after dissolving oxides of sulphur and nitrogen in rainwater, are called
4. A poisonous gas formed on excessive burning of coal and diesel is called
5. The calamity formed on excessive cutting of trees is called

ANALOGY TYPE QUESTIONS

$5 \times 1 = 5$

1. Solid fuel : Charcoal :: Liquid fuel :
2. Gaseous fuel : Methane :: : Soft coke.
3. Flame : :: Combustion : Rapid combustion.
4. Combustion of fuel : CO₂ gas :: : NO₂ gas.
5. Burning of a cracker : :: Slow combustion : Digestion of food.

MATCH THE COLUMNS (DOUBLE MATCHING)

3

Column A	Column B	Column C
(A) Hottest part of candle flame	(a) Innermost zone	(i) Yellow
(B) Moderately hot	(b) Outermost zone	(ii) Blue
(C) Least hot	(c) Middle zone	(iii) Black

Ans.

COMBUSTION AND FLAME ENRICHMENT ACTIVITY WORKSHEET-44

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

PROJECT REPORT

Prepare a project report on percentage of households who are using LPG, kerosene, wood and cattle dung as a fuel after surveying 150 houses in your area.

ACTIVITY-1

With the help of your parents or elders, test the following materials given below whether they are combustible or non-combustible.

Straw, kerosene oil, wood, paper, iron nails, stone pieces, charcoal, glass, matchstick.

Materials	Combustible	Non-combustible
Straw		
Kerosene oil		
Wood		
Paper		
Iron nails		
Stone pieces		
Charcoal		
Glass		
Matchstick		

ACTIVITY-2

Aim: To demonstrate that the temperature of a material should reach ignition temperature to catch fire.

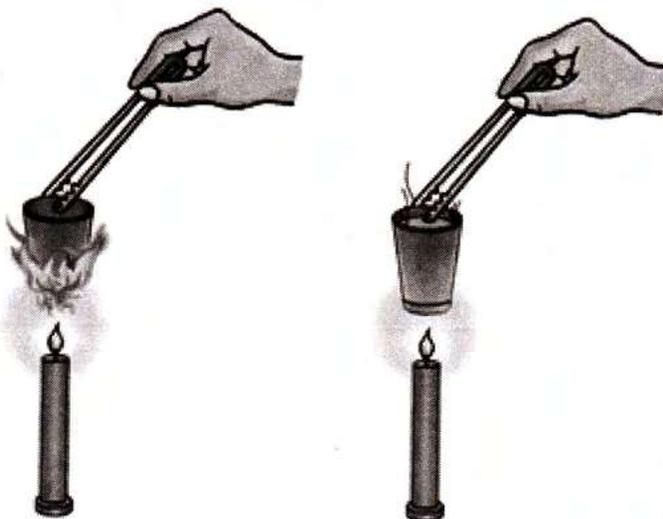
Materials Required: Paper cups, a pair of tongs, two candles and some water.

Procedure: Take two paper cups and fill one of the cups with water.

Fix two candles on the table and light them. Hold the two cups above the candle flames with the help of tongs.

Note your observation.

Observation: The cup without water, starts burning and the one with water does not burn. The paper cup containing water transfers the heat to the water by conduction and hence, its temperature does not reach its ignition temperature and therefore, it does not burn. The paper cup without the water burns quickly.



CONSERVATION OF PLANTS AND ANIMALS

SUBJECT ASSESSMENT

WORKSHEET-45

Name	Class	Roll No.	Time 22 Min.	Max. Marks 13	Marks Obtained
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POINTS TO REMEMBER

- **Plants and animals** are very essential for the well-being and survival of mankind. Forests play significant role for this purpose, hence, conservation of forests is very necessary.
- Clearing of forests and using that for other purposes is called **deforestation**.
- Trees in the forest are cut for procuring land for cultivation, building houses, factories and making furniture or using wood as fuel.
- Soil should be conserved to maintain the fertility of the soil.
- Wildlife sanctuaries, national parks and biosphere reserves are names given to the areas meant for conservation and preservation of forests and wild animals.
- Bori and pachmarhi are wildlife sanctuaries whereas Kaziranga and Jim Corbett are national parks.
- **Biodiversity** refers to the variety of living organisms in a specific area.
- Plants and animals of a particular area are known as **flora** and **fauna** of that area.
- Habitat is dwelling place of an organism.
- **Biospheres** are the areas meant for conservation of biodiversity. Biosphere reserves help to maintain the biodiversity and culture of that area.
- **Endemic species** are those species of plants and animals which are found exclusively in a particular area. They are not naturally found anywhere else. Wild mango and *sal* are endemic flora species.
- **Sanctuaries** are the places where killing, poaching or capturing of animals are strictly prohibited.
- **Project Tiger** was a scheme launched by the government to protect the tigers in the country. The objective of this project was to ensure the survival and maintenance of the tiger's population in the country.
- **Endangered animals** are those animals whose numbers are diminishing to such a level that they might face extinction, *i.e.*, Dinosaurs and mountain quail of Western Himalayas.
- **Red Data Book** contains a record of endangered species.
- We should save, reuse and recycle paper to save trees, energy and water.
- **Reforestation** is restocking of the destroyed forests by planting new trees.
- An **ecosystem** is made of all the plants, animals and microorganisms in an area along with non-living components such as climate, soil, river, delta, etc.

MULTIPLE CHOICE QUESTIONS (MCQs)

13 × 1 = 13

1. Which of following is caused by deforestation?
 - (a) Level of carbon dioxide in the atmosphere gets increased.
 - (b) Groundwater level also gets lowered.
 - (c) Rainfall and the fertilisation of soil get decreased.
 - (d) All of these.

2. Which of the following is projected area for flora and fauna?
 (a) Sanctuary (b) National park
 (c) Biosphere reserve (d) All of these.
3. Pachmarhi biosphere reserve consists of:
 (a) One national park (Satpura) (b) Wildlife sanctuary (Bori)
 (c) Wildlife sanctuary (Pachmarhi) (d) All of these.
4. Which of the following are termed as flora and fauna?
 (a) Plants and men (b) Men and animals
 (c) Plants and animals (d) None of these.
5. Endemic species are those species of plants and animals which are found:
 (a) exclusively in a particular area. (b) in a large numbers.
 (c) rarely. (d) none of these.
6. A group of population capable of interbreeding are called:
 (a) Species (b) Types
 (c) Kinds (d) None of these.
7. Which of the following is not strictly prohibited in wildlife sanctuaries?
 (a) Poaching (b) Capturing
 (c) Photographing (d) None of these.
8. Which of the following is the first reserve forest of India:
 (a) Satpura National Park
 (b) Pachmarhi Biosphere Reserve
 (c) Kaziranga National Park
 (d) None of these.
9. Rock shelters inside Satpura National park are the evidence of:
 (a) prehistoric human life. (b) art and designing.
 (c) animal's shelters. (d) none of these.
10. The finest Indian teak is found in
 (a) Satpura National Park
 (b) Pachmarhi Biosphere Reserve
 (c) Bori Sanctuary
 (d) None of these.
11. Project tiger was launched by government in 1972-73 to:
 (a) Protect tigers (b) Protect animals
 (c) Protect birds (d) None of these.
12. Animals whose numbers are diminishing to a level is:
 (a) Endemic animals (b) Endangered animals
 (c) Both (a) and (b) (d) None of these.
13. Which of the following is included in ecosystem?
 (a) Plants and animals (b) Microorganisms
 (c) Climate, soil and river (d) All of these.



CONSERVATION OF PLANTS AND ANIMALS
SUBJECT ASSESSMENT
WORKSHEET-46

Name	Class	Roll No.	Time 40 Min.	Max. Marks 24	Marks Obtained
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VERY SHORT ANSWER TYPE QUESTIONS (1 MARK)

1. What is meant by desertification?

Ans.

2. Why has the survival of some animals become difficult?

Ans.

3. What are migratory birds?

Ans.

4. What is meant by vulnerable species?

Ans.

5. Name the organisation that produces the Red List.

Ans.

6. What is meant by extinction?

Ans.

7. What is meant by rare species?

Ans.

8. Define droughts.

Ans.

9. How can conservation of forests be done?

Ans.

10. What is Archaeopteryx?

Ans.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. Why should we save paper? List some ways to save paper.

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

2. How does vegetation help to conserve water?

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

3. Why should paper be saved?

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

4. What will happen if the top layer of soil is exposed?

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

5. What is the difference between Red List and Red Data Book?

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

6. What is wildlife? Give two examples.

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

7. Why should we conserve biodiversity?

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



CONSERVATION OF PLANTS AND ANIMALS
SUBJECT ASSESSMENT
WORKSHEET-47

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

1. Some tribals depend on the jungle. Why?

Ans.

2. What steps would you take to conserve endangered species?

Ans.

3. Name two endemic flora and fauna of Pachmarhi Biosphere Reserve.

Ans.

SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. Discuss the effects of deforestation on the following:

(a) Wild animals

(b) Environment

(c) Villages (Rural areas).

Ans.

2. (a) Why are some endemic species facing extinction?

(b) Why are some areas get converted to a desert?

Ans.

CONSERVATION OF PLANTS AND ANIMALS
SUBJECT ASSESSMENT
WORKSHEET-48

Name	Class	Roll No.	Time 35 Min.	Max. Marks 22	Marks Obtained
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SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. Explain how deforestation leads to reduced rainfall.

Ans.

2. (a) What will happen if we go on cutting trees?
 (b) What do you understand by the term 'migration'?

Ans.

3. Why is it important to conserve wildlife? Give three reasons.

Ans.

4. (a) Why are sanctuaries made in protected areas?
 (b) What is national park?

Ans.

LONG ANSWER TYPE QUESTIONS (5 MARKS)

1. (a) Why are protected areas (i.e., forests) not safe?
(b) Discuss the effects of deforestation on the following:
 - (i) Cities (Urban areas)
 - (ii) Earth
 - (iii) The next generation.

Ans.
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2. List the methods by which non-renewable resources can be conserved.

Ans.
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.....



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.....
.....
3. How can you contribute to the maintenance of green wealth of your locality?

Ans.

4. Write the short notes on:

(a) Endangered species

(b) Vulnerable species

Ans.

□□

CONSERVATION OF PLANTS AND ANIMALS
SUBJECT ASSESSMENT
WORKSHEET-50

Name	Class	Roll No.	Time 50 Min.	Max. Marks 34	Marks Obtained
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ANSWER THE FOLLOWING

1. Fill in the blanks.

9

- (a) Cutting of trees is called
- (b) Flora is a type of resource.
- (c) helps in preventing floods.
- (d) Project is a programme run by the government to protect tigers.
- (e) Plants are being cut to make
- (f) A place where animals are protected in their natural habitat is called
- (g) Species found only in a particular area is known as
- (h) Migratory birds fly to far away places because of changes.
- (i) includes both plants and animals.

2. Write true or false for the following statements.

5

- (a) Forests are those places where you can find only trees.
- (b) Deforestation may lead to landslides in hilly areas.
- (c) The endangered species of animals and plants may become extinct if not protected.
- (d) The transition zone is the innermost part of the biosphere reserve.
- (e) Recycling paper can control deforestation.

3. Define the following terms.

5

(a) Biodiversity

.....

.....

(b) Species

.....

.....

(c) Fauna

.....

.....

(d) Migration

.....

.....

(e) Flora

.....
.....

4. Match the columns.

5

Column A	Column B
(a) Deforestation	(i) All plants and animals in a region
(b) Biodiversity	(ii) Endangered
(c) Protected areas	(iii) Increase in carbon dioxide
(d) Threatened species	(iv) Red Data Book
(e) IUCN	(v) National parks

5. Give reason for the following:

5

(a) Forests are important to avoid floods and droughts.

.....
.....

(b) Desertification happens due to deforestation.

.....
.....

(c) Forests are also called as green wealth.

.....
.....

(d) We should not allow any animal species to become extinct.

.....
.....

(e) Animal life is also affected by deforestation.

.....
.....

6. How are national park, zoological gardens, forest reserves and wildlife sanctuaries different from each other? Give one example of each.

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CONSERVATION OF PLANTS AND ANIMALS

SUBJECT ASSESSMENT

WORKSHEET-51

Name	Class	Roll No.	Time 25 Min.	Max. Marks 16	Marks Obtained
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DO AS DIRECTED

$6 \times 1 = 6$

1. Deforestation the pollution level and the temperature on the earth.
2. The part of the earth on which living organisms exist, is called
3. The plants found in a particular area are called
4. Spices is a group of population having capability of interbreeding. (T/F)
5. Nowadays, endangered animals might face excavation. (T/F)
6. Deforestation is the restocking of destroyed forests by planting new trees. (T/F)

ANALOGY TYPE QUESTIONS

$5 \times 1 = 5$

1. Endemic species : Bison :: Endangered species :
2. Tiger : Endangered species :: Barasingha :
3. Kanha national park : : Jim Corbett national park :
4. Endemic fauna : Flying squirrel :: Endemic flora :
5. Total national parks : 77 :: Total tiger reserves :

ONE WORDS SUBSTITUTION

$5 \times 1 = 5$

1. The process through which flora and fauna are preserved from getting destroyed is called
2. A kind of species which has reached at the verge of extinction, is called
3. A group of animals found in a particular area are called
4. A kind of source book which keeps a record of all the endangered animals and plants is called
5. Areas reserved for conservation of biodiversity are called

CONSERVATION OF PLANTS AND ANIMALS

ENRICHMENT ACTIVITY

WORKSHEET-52

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

PROJECT REPORT

Prepare a detailed project report with photographs and sketches of the flora and fauna after studying the biodiversity of a park nearby.

ACTIVITY

Prepare a list of national park, wildlife sanctuary and biosphere reserve located in your district, state and country

Protected areas	National park	Wildlife sanctuary	Biosphere reserve
In my district			
In my state			
In my country			

PUZZLE

1. Complete the word puzzle.

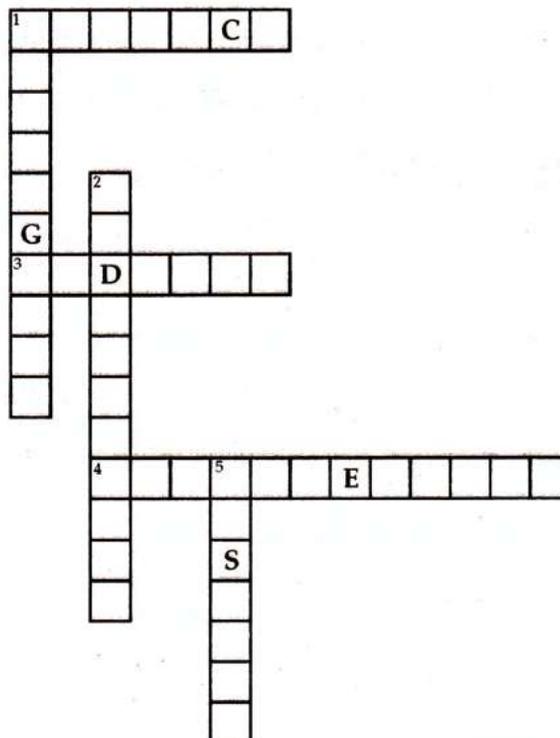
Down

- (1) Species on the verge of extinction.
- (2) A book carrying information about endangered species.
- (5) Consequence of deforestation.

Across

- (1) Species which have vanished.
- (3) Species found only in a particular habitat.
- (4) Variety of plants, animals and microorganisms found in an area.

Ans.



CELL-STRUCTURE AND FUNCTIONS

SUBJECT ASSESSMENT

WORKSHEET-53

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

- The things which can be categorised into two groups are named as:
(i) living things (ii) non-living things.
- All organisms are made of smaller parts called **organs**.
- Cells are the basic structural units of living things. They are compared with the bricks of building.
- Body of every organism is made by the combination of cells.
- Cell was discovered by Robert Hooke in 1665.
- Cell exhibits different shapes and sizes.
- Organisms made of only one cell, are called **unicellular organisms** whereas organisms made of more than one cell, are called **multicellular organisms**.
- *Amoeba* and *Paramecium* are single-celled organisms.
- Different cells get together forming different tissues. **Tissues**, in turn, form **organs**.
- The basic components of a cell are **cell membrane, cytoplasm, nucleus**, etc.
- Cytoplasm, *i.e.*, Jelly-like substance is found between nucleus and cell membrane.
- Cytoplasm contains organelles.
- Nucleus contains thread-like structures, called **chromosomes**. They carry genes and help in inheritance or transfer of characters from the parents to the offspring.
- The cytoplasm and nucleus are enclosed with the cell membrane, also called **plasma membrane**.
- Nucleus is separated from cytoplasm by a nuclear membrane.
- Blank-looking structures in the onion cells are called **vacuoles**.
- The outer covering of the cell is called the **cell membrane**.
- Spherical body in the nucleus is called **nucleolus**.
- When several small coloured bodies are scattered in the cytoplasm of the plant cells, then these are called **plastids**.
- Amongst several small coloured bodies, some of them contain green pigment, called **chlorophyll**.
- Green-coloured plastids are called **chloroplasts**.
- Mitochondria called "powerhouse of the cell" provides energy for the activities of cell.
- Lysosomes are "suicidal bags".
- Cell wall and chloroplast are found in plant cell.

MULTIPLE CHOICE QUESTIONS (MCQs)

13 × 1 = 13

1. Basic structural unit of organ is:

- | | |
|------------------------|--------------------|
| (a) Cell | (b) <i>Amoeba</i> |
| (c) <i>Paramoecium</i> | (d) None of these. |

2. Who observed the cell at first?

- | | |
|------------------|--------------------|
| (a) Robert Hooke | (b) Rutherford |
| (c) Einstein | (d) None of these. |

- 3. Basic structural units of the living organism is cell which is similar to:**
- (a) bricks in a building. (b) water in bucket.
 (c) fruits in a tree. (d) none of these.
- 4. Egg of a hen represents a:**
- (a) Single cell (b) Double cell
 (c) Multicelled (d) None of these.
- 5. Which of the following is not a kind of organism?**
- (a) Multicellular (b) Unicellular
 (c) Double cellular (d) None of these.
- 6. Amoeba facilitates movement and helps in capturing food due to formation of:**
- (a) Pseudopodia (b) Unicellular cell
 (c) Both (a) and (b) (d) None of these.
- 7. Which of the following cannot change its shape?**
- (a) WBC (b) Amoeba
 (c) RBC (d) None of these.
- 8. Smallest cell is found in:**
- (a) Amoeba (b) Bacteria
 (c) Cell (d) None of these.
- 9. Smaller part by which each organ made up of is:**
- (a) Cell (b) Tissue
 (c) Both (a) and (b) (d) None of these.
- 10. Which of the following is not a basic component of a cell?**
- (a) Cell membrane (b) Nucleus
 (c) Cytoplasm (d) None of these.
- 11. Which of the following allows the movement of substances or materials?**
- (a) Cell membrane (b) Plasma membrane
 (c) Tissue (d) None of these.
- 12. Outer thick layer in cells of plants for protection from temperature, high wind-speed and atmospheric moisture is:**
- (a) Cell membrane (b) Plasma membrane
 (c) Cell wall (d) None of these.
- 13. Jelly-like substance present between the cell membrane and the nucleus is:**
- (a) Cytoplasm (b) Cell membrane
 (c) Plasma membrane (d) none of these.

□□

CELL – STRUCTURE AND FUNCTIONS
SUBJECT ASSESSMENT
WORKSHEET – 54

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 is meant by nucleus?

Ans.

2. What is the size of the smallest cell in bacteria?

Ans.

3. Which is the largest cell in the world?

Ans.

4. Where is centrosome present?

Ans.

5. Which is the outermost layer of an animal cell?

Ans.

6. How is cell division formed?

Ans.

7. Give two examples of unicellular plants.

Ans.

8. What is meant by cell wall?

Ans.

9. What is the function of golgi bodies?

Ans.

10. Name two cells which continuously change their shape.

Ans.

11. Why Hooke had to take thin slices of cork?

Ans.

12. What are the main constituents, forming major part of protoplasm?

Ans.

13. Which cell in our body is the longest?

Ans.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. If you boil a hen's egg, what changes do you observe?

Ans.
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.....

2. (a) Tomatoes are red and leaves are green. Why?

(b) Why the plant cells are more rigid in shape than animals?

Ans.
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3. State the one difference between eukaryotes and prokaryotes.

Ans.
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4. Explain why chloroplasts are found only in plant cells.

Ans.
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5. What is the difference between tissue and organ?

Ans.
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6. Mention two types of cell division.

Ans.
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□□

CELL-STRUCTURE AND FUNCTIONS
SUBJECT ASSESSMENT
WORKSHEET-55

Name	Class	Roll No.	Time 40 Min.	Max. Marks 23	Marks Obtained
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SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. (a) Name the cell organelles which are found only in the plant cell.
 (b) Which parts of the animal cell are concerned with cell division?

Ans.

2. (a) What are the "building blocks of life"? Why are they so called?
 (b) What is the function of nucleus of a cell?

Ans.

3. Give the function of the following:
 (a) Endoplasmic reticulum (b) Ribosomes.

Ans.

4. Are the cells in an elephant larger than the cells in a rat?

Ans.

SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. (a) What is the function of pseudopodia?
 (b) What is meant by gene?

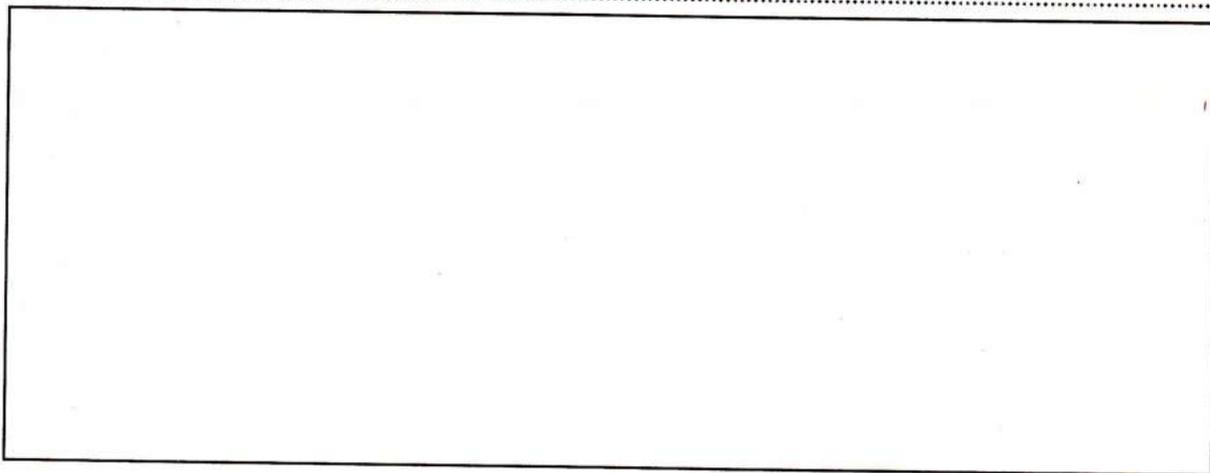
Ans.

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.....
2. (a) Which kind of vacuoles are present in plant cells and animal cells?
(b) Write two differences between plant cell and animal cell.

Ans.
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3. (a) Write the function of cell wall.
(b) Draw a labelled diagram of plant cell.

Ans.
.....



4. Give one word for the following statements:

(a) A unit of inheritance of living organisms

(b) Nucleus contains thread-like structures, called

(c) The organisms made of more than one cell

5. (a) Name an organ system in the human body and the major organs that make up that system.
(b) What is the jelly-like fluid inside the nucleus called?

Ans.
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□□

CELL - STRUCTURE AND FUNCTIONS
SUBJECT ASSESSMENT
WORKSHEET - 56

Name	Class	Roll No.	Time 35 Min.	Max. Marks 20	Marks Obtained
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SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. Draw labelled diagrams of a plant cell.

2. 'Cells are the basic structural units of living organisms'. Explain.

Ans.

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3. (a) How do you differentiate protoplasm from cytoplasm?
(b) Draw the labelled diagram of animal cell.

Ans.

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4. Give the functions of the following parts of the cell:

(a) Vacuoles

(b) Plasma membrane

(c) Cellulose.

Ans.

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5. (a) What features are possessed by both plant cells and animal cells?

(b) What is meant by division of labour?

Ans.

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LONG ANSWER TYPE QUESTIONS (5 MARKS)

1. Explain the mode of cell division in *Amoeba*.

Ans.

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CELL-STRUCTURE AND FUNCTIONS
SUBJECT ASSESSMENT
WORKSHEET-58

Name.....	Class.....	Roll No.	Time 45 Min.	Max. Marks 34	Marks Obtained
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ANSWER THE FOLLOWING

1. Fill in the blanks. 5

- (a) is the living part of the cell.
- (b) Nucleus is generally present in the in animal cells.
- (c) is the largest cell.
- (d) Plastids are absent in an
- (e) Cell wall is present in a cell.

2. Indicate whether the following statements are True (T) or False (F). 6

- (a) Unicellular organisms have single-celled body. ()
- (b) Muscle cells are branched. ()
- (c) The basic living unit of an organism is an organ. ()
- (d) *Amoeba* has irregular shape. ()
- (e) Cell wall is a part of animal cell. ()
- (f) Blank-looking structures in the cytoplasm are called vacuole. ()

3. Give two examples of the following. 5

- (a) Cell organelles

- (b) Unicellular organisms

- (c) Prokaryotic organisms

- (d) Multicellular organisms

- (e) Types of plastids

4. Write the detailed functions of the following organelles. 5

- (a) Cell membrane

(b) Chromosomes

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.....

(c) Nuclear membrane

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.....

(d) Plastids

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(e) Cytoplasm

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5. Define the following terms.

5

(a) Protoplasm

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.....

(b) Cytoplasm

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.....

(c) Organelles

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.....

(d) Chloroplast

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.....

(e) Leucoplast

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.....

6. Match the columns.

Column A	Column B
(a) Lysosomes	(i) Storage of water and food
(b) Vacuoles	(ii) Intercellular digestion
(c) Plastids	(iii) Network inside the cell
(d) Endoplasmic reticulum	(iv) Permits selected material
(e) Cell membrane	(v) Imparts colour to the flowers and leaves

7. Differentiate between the following with examples.

3

(a) Plant and animal cells

(b) Prokaryotic and eukaryotic cells

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CELL-STRUCTURE AND FUNCTIONS

SUBJECT ASSESSMENT

WORKSHEET-59

Name || Class || Roll No. || Time 25 Min. || Max. Marks 19 || Marks Obtained

DO AS DIRECTED

6 × 1 = 6

1. is single-celled organism.
2. A group of tissues are combined together to form an
3. Nucleus contains thread-like structures called
4. Nuclear membrane separates nucleus from cytoplasm. (T/F)
5. The smallest living part of an organism is a cell. (T/F)
6. Chloroplasts are present in chlorophyll. (T/F)

ANALOGY TYPE QUESTIONS

5 × 1 = 5

1. Cell wall : Plant cell :: Nucleus :
2. : Plant cell :: Cytoplasm : Plant and animal cell.
3. Eukaryotes : Man, *Amoeba* and *Paramecium* :: Prokaryotes :
4. White part of hen's egg : :: Yellow part of hen's egg : Yolk.
5. Brain of the cell : :: Matrix of the nucleus : Nucleoplasm.

ONE WORDS SUBSTITUTION

5 × 1 = 5

1. The membrane bound structures by which synthesis of substances, digestion, secretion and energy production are carried out, are called
2. A blank looking structures in the plant cell is called
3. A smaller spherical body present in the nucleus is called
4. The boundary of the onion cell, i.e., cell membranae, covered by another thick covering is called
5. The central dense round body in the centre of onion peel is called

MATCH THE COLUMNS (DOUBLE MATCHING)

3

Column A	Column B	Column C
(A) <i>Spirogyra</i>	(a) Unicellular	(i) Algae
(B) <i>Paramecium</i>	(b) Not multicellular	(ii) Fungi
(C) <i>Aspergillus</i>	(c) Multicellular	(iii) Protozoa.

Ans.

CELL-STRUCTURE AND FUNCTIONS ENRICHMENT ACTIVITY WORKSHEET-60

Name	Class	Roll No.	Time 40 Min.	Max. Marks 19	Marks Obtained
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PROJECT REPORT

Visit a laboratory in your college where you are studying. Know about the function of microscope which is available in the laboratory. Also, prepare a project report on a slide that how it is observed under the microscope.

ACTIVITY

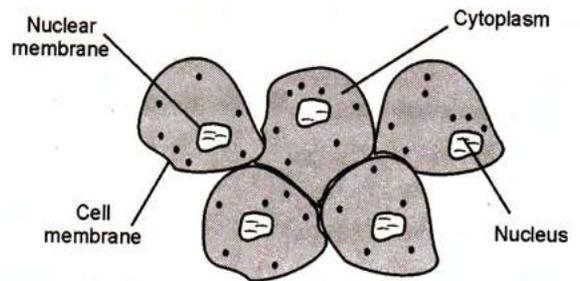
Aim: With the help of an activity, know about human cheek cells under the microscope.

Materials Required: A microscope, glass slide, water, coverslip, tooth pick, forceps, methylene blue solution.

Procedure: Gently scrape the inner lining of your cheek with the help of a clean tooth pick. Place a drop of water on a glass slide. Carefully, place a small piece of scraped lining on the water with the help of a pair of forceps. Add a drop of iodine and place a coverslip over it, then after add 1-2 drops of methylene blue solution also. Observe it carefully under the microscope.

Observation: You will notice that several cells will be present in the scraped material.

Result: Scraped material can be identified as cell membrane, cytoplasm and nucleus.



PUZZLE

1. Complete the crossword with the help of clues give below.

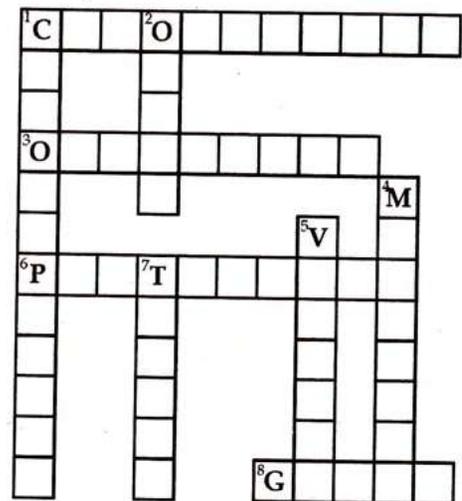
Across

1. This is necessary for photosynthesis.
3. Term for component present in the cytoplasm.
6. The living substance in the cell.
8. Units of inheritance present on the chromosomes.

Down

1. Green plastids
2. Formed by collection of tissues.
4. It separates the contents of the cell from the surrounding medium.
5. Empty structure in the cytoplasm.
7. A group of cells.

Ans.



REPRODUCTION IN ANIMALS

SUBJECT ASSESSMENT

WORKSHEET-61

Name	Class	Roll No.	Time 30 Min.	Max. Marks 19	Marks Obtained
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POINTS TO REMEMBER

- **Reproduction** is essential for the continuation of a species. It is very important as it ensures the continuation of similar kinds of individuals, generation after generation.
- Like plants, there are two modes by which animals reproduce. These are: (i) sexual reproduction and (ii) asexual reproduction.
- Reproduction starting from the fusion of male and female gametes is called **sexual reproduction**.
- The main reproductive organs of male are a pair of **testes**, two **sperm ducts** and a **penis**.
- The testes produce the male gametes, called **sperms**.
- The main reproductive organs of female are a pair of **ovaries**, **oviducts** (fallopian tubes) and the **uterus**.
- The ovary produces female gametes, called **ova** (eggs).
- When one of the sperms of male fuses with an egg of a female, then this fusion of an egg and the sperm is called **fertilisation**.
- The transformation of larva into an adult through drastic changes is called **metamorphosis**.
- The reproduction in which only a single parent is involved is called **asexual reproduction**.
- New individuals develop from the buds in hydra and this is known as **budding** of asexual reproduction.
- The asexual reproduction in which an animal reproduces by dividing into two individuals is called **binary fission**.

MULTIPLE CHOICE QUESTIONS (MCQs)

19 × 1 = 19

1. The female reproductive organs are:

(a) A pair of ovaries	(b) Oviducts
(c) Uterus	(d) All of these.
2. The male reproductive organs are:

(a) A pair of testes	(b) Two sperm ducts
(c) A penis	(d) All of these.
3. Which kind of fertilisation takes place inside the female body?

(a) External fertilisation	(b) Internal fertilisation
(c) Both of these	(d) None of these.
4. External fertilisation takes place in:

(a) Frog	(b) Fish
(c) Starfish	(d) All of these.
5. An egg obtained after fusion of ovum and sperm is called:

(a) Zygote	(b) Embryo
(c) Testes	(d) Uterus.

6. An embryo continues to develop in:
 (a) Zygote (b) Foetus (c) Uterus (d) Ovary.
7. The testes produce the male gametes called:
 (a) Ova (b) Zygote (c) Oviducts (d) Sperms.
8. By which process, larva is transformed into an adult?
 (a) Budding (b) Binary fission
 (c) Metamorphosis (d) None of these.
9. Which one is incorrect among the following?
 (a) A single parent is involved in asexual reproduction.
 (b) The zygote divides repeatedly to give rise to an embryo.
 (c) Viviparous animals give birth to young ones.
 (d) *Amoeba* reproduces by budding.
10. Animals which lay eggs are called:
 (a) Viviparous (b) Oviparous
 (c) Fertilisation (d) None of these.
11. Internal fertilisation occurs:
 (a) in female body (b) outside female body
 (c) in male body (d) outside male body.
12. A tadpole develops into an adult by the process of:
 (a) fertilisation (b) metamorphosis
 (c) embedding (d) budding.
13. The number of nuclei present in a zygote is:
 (a) none (b) one (c) two (d) four.
14. The cloning of an animal was successfully performed for the first time by:
 (a) Ian Wilmut (b) Faraday (c) Alfred Nobel (d) None of these.
15. The fusion of male and female gametes usually takes place inside the:
 (a) Ovary (b) Fallopian tubes (c) Vagina (d) Uterus.
16. Fallopian tubes are also called:
 (a) Ovary (b) Uterus (c) Oviducts (d) None of these.
17. Testes produce:
 (a) Testosterone (b) Sperms
 (c) Both (a) and (b) (d) None of these.
18. Hens reproduce by:
 (a) laying eggs. (b) giving birth to young ones.
 (c) both (a) and (b). (d) none of these.
19. The gestation period during which the baby stays inside the mother's womb is of:
 (a) 60 weeks (b) 40 weeks (c) 70 weeks (d) 90 weeks.

□□

REPRODUCTION IN ANIMALS
SUBJECT ASSESSMENT
WORKSHEET-62

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

1. Where does development of the baby take place?

Ans.

2. What is meant by cloning?

Ans.

3. What is an embryo?

Ans.

4. What type of fertilisation takes place in humans and dogs?

Ans.

5. What is the function of tail in the sperm?

Ans.

6. When does the mother give birth to young one?

Ans.

7. How much time does the embryo of hen take to develop into a chick?

Ans.

8. Write two examples of metamorphosis.

Ans.

9. Why hen, frog, lizard and butterfly are called oviparous animals?

Ans.

10. Do you think, metamorphosis takes place in humans?

Ans.

11. What are meant by hermaphrodites?

Ans.

12. When was Dolly born and for how long did she live?

Ans.
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SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. All animals finally die, yet the species survives. Give reasons for this.

Ans.
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.....

2. What is the function of jelly in the frog's egg?

Ans.
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3. (a) What type of fertilisation takes place in oviparous animals?

(b) Write two examples of viviparous animals.

Ans.
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4. Give the names of the following processes:

(a) Product of fertilisation

(b) Changes taking place during the development of an animal.

Ans.
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5. (a) In which female reproductive organ, does the embryo get embedded?

(b) What is the function of vas deferens?

Ans.
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6. What do you mean by IVF? Why the baby born by this process is called test tube babies?

Ans.
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REPRODUCTION IN ANIMALS
SUBJECT ASSESSMENT
WORKSHEET-63

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

1. Differentiate between internal fertilisation and external fertilisation.

Ans.

2. (a) How many sperms are produced by the testes?
 (b) What type of fertilisation takes place in frog?

Ans.

3. Describe the process of budding in *Hydra*.

.....

SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. Draw a labelled diagram to show the female reproductive system in human beings.

Ans.

2. Give one word for the following statements:

- (a) The stage of an embryo in which all the body parts can be identified is called
- (b) The new individual develops in hydra by the process, known as
- (c) The process which is very essential for the continuation of a species is called

3. How the sex of a child is determined?

Ans.
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- 4. (a) How do the babies develop 'inside the mother'?**
- (b) What is meant by vagina?**

Ans.
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5. Why can't you collect an egg of a cow?

Ans.
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6. How does the embryo develop into foetus?

Ans.
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REPRODUCTION IN ANIMALS
SUBJECT ASSESSMENT
WORKSHEET-64

Name	Class	Roll No.	Time 40 Min.	Max. Marks 22	Marks Obtained
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SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. Give two differences between a zygote and a foetus.

Ans.
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2. Why don't all eggs and sperms get fertilised?

Ans.
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3. Is it possible to find out whether the foetus is healthy or not?

Ans.
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4. Explain how external fertilisation takes place in frog.

Ans.
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LONG ANSWER TYPE QUESTIONS (5 MARKS)

1. Define asexual reproduction. Describe two methods of asexual reproduction in animals.

Ans.
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2. (a) Describe the process of fertilisation in human beings.

(b) The different stages of the cycle of mosquito and silk moth are given below. Arrange them in proper sequence.

(i) Mosquito → Pupa → Eggs → Larva → Adult.

(ii) Silk moth → Larva → Zygote → Cocoon → Adult → Caterpillar.

Ans.
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**REPRODUCTION IN ANIMALS
SUBJECT ASSESSMENT
WORKSHEET-65**

Name	Class	Roll No.	Time 30 Min.	Max. Marks 15	Marks Obtained
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LONG ANSWER TYPE QUESTIONS (5 MARKS)

1. Draw a diagram of the female reproductive system and label the following organs. Explain their functions also.

(a) Ovary (b) Oviduct (c) Uterus

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Ans.

2. Explain how cloning was done to produce Dolly.

Ans.

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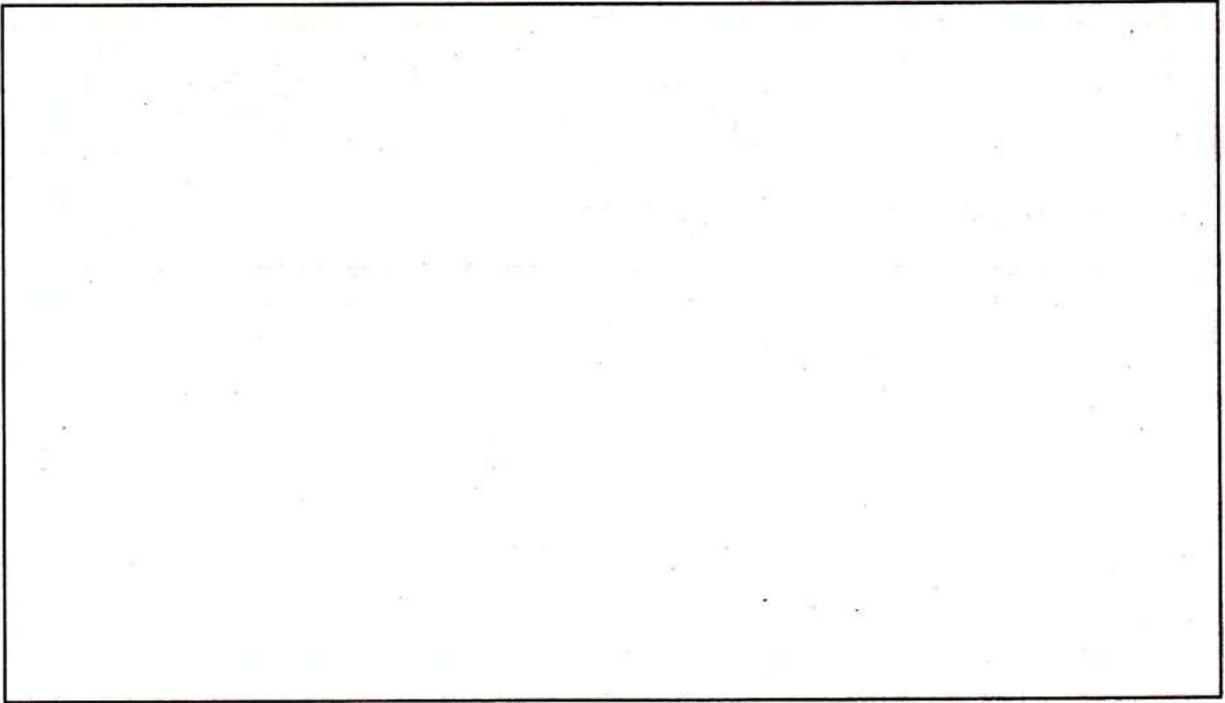
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3. (a) Draw a well-labelled diagram to show the male reproductive system in human being.
(b) Define viviparous animals with examples.

Ans.



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REPRODUCTION IN ANIMALS

SUBJECT ASSESSMENT

WORKSHEET-66

Name	Class	Roll No.	Time 50 Min.	Max. Marks 39	Marks Obtained
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ANSWER THE FOLLOWING

1. Indicate whether the following statements are True (T) or False (F). 10
 - (a) Oviparous animals give birth to young ones. ()
 - (b) Each sperm is a single cell. ()
 - (c) External fertilisation takes place in frog. ()
 - (d) A new human individual develops from a cell called gamete. ()
 - (e) Egg laid after fertilisation is made up of a single cell. ()
 - (f) *Amoeba* reproduces by budding. ()
 - (g) Fertilisation is necessary even in asexual reproduction. ()
 - (h) Binary fission is a method of asexual reproduction. ()
 - (i) A zygote is formed as a result of fertilisation. ()
 - (j) An embryo is made up of a single cell. ()

2. Fill in the blanks. 14
 - (a) Frogs and fish show fertilization.
 - (b) is important for the species to continue.
 - (c) involves only single parent.
 - (d) Sperm has three main parts:, and
 - (e) is a single cell.
 - (f) Scientists developed a sheep by cloning named
 - (g) Puberty is the of sexual maturity in human beings.
 - (h) is very important for the continuation of a species.
 - (i) The divides repeatedly to give rise to an
 - (j) A kind of fertilisation in aquatic animals is
 - (k) Like sperm, an egg is also a cell.
 - (l) Lizard and butterfly are animals.
 - (m) In hydra, new individuals develop from
 - (n) The uterus is also known as

3. Give two examples of each of the following.

5

(a) Viviparous animals

.....

(b) Oviparous animals

.....

(c) Animals reproducing by internal fertilization

.....

(d) Animals reproducing by external fertilization

.....

(e) Animals showing metamorphosis

.....

4. Give reasons for the following.

5

(a) Hen sits on the eggs laid by her for 21 days.

.....

(b) Eggs of frogs have a layer of jelly around them.

.....

(c) Lifecycle of a frog shows metamorphosis.

.....

(d) *Amoeba* reproduces asexually.

.....

(e) Sperms have a tail.

.....

5. Define the following terms.

5

(a) Viviparous animals

.....

(b) Oviparous animals

.....

(c) Metamorphosis

.....

(d) Zygote

.....

(e) External fertilization

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□□

REPRODUCTION IN ANIMALS

SUBJECT ASSESSMENT

WORKSHEET-67

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

6 × 1 = 6

1. Ovary is an gland.
2. The baby produced by reproduction in human beings.
3. Cows are animals.
4. The testes is an endocrine gland. (T/F)
5. A well-established embryo inside the mother's body is called foetus. (T/F)
6. Embryo receives the penis during sexual intercourse. (T/F)

ANALOGY TYPE QUESTIONS

5 × 1 = 5

1. Hydra : Asexual reproduction :: *Amoeba* :
2. Ovary : Female :: : Male.
3. Starfish : External fertilisation :: : Internal fertilisation.
4. Budding : Hydra :: : *Amoeba*.
5. Fertilisation inside the female body : : Outside the female body :

ONE WORDS SUBSTITUTION

5 × 1 = 5

1. A part of female reproductive system through which the sperms pass into the uterus, is called
2. A narrow duct which helps to transform sperms from the testes, is called
3. A disc-like structure that helps the embryo attach itself to the uterus wall, is called
4. A cord containing blood vessels that connects the placenta with the baby is called
5. A fluid that protects the foetus against mechanical shocks and temperature changes is called

REACHING THE AGE OF ADOLESCENCE

SUBJECT ASSESSMENT

WORKSHEET-69

Name	Class	Roll No.	Time 30 Min.	Max. Marks 16	Marks Obtained
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POINTS TO REMEMBER

- The period of life, when the body undergoes changes, leading to reproductive maturity, is called **adolescence**. Adolescence begins around the age of 11 and lasts upto 18 or 19 years of age.
- **Teens** cover 13 to 18 or 19 years of age.
- The human body undergoes several changes during adolescence. These changes mark the onset of puberty. Puberty ends when an adolescent reaches upto reproductive maturity.
- At the stage of **puberty**, there is sudden increase in height. At this time, the long bones of the arms and the legs elongate and make a person tall.
- Both boys and girls reach their maximum height at the age of 18.
- At the stage of puberty, boys' shoulder generally broaden as a result of growth and in girls, the region below the waist become wider.
- The onset of puberty and maturity of reproductive parts are controlled by hormones.
- In girls, the voice box is hardly visible from the outside because of its small size.
- Girls have a high pitched voice whereas boys have a deep voice.
- **Hormones** are chemical substances, secreted from endocrine glands.
- The male hormones are called **testosterone**.
- The female hormones are called **estrogen**.
- Thyroid gland secretes thyroxine hormone.
- Pancreas is known as exocrine as well as endocrine gland.
- Adrenaline hormone is secreted by adrenal gland whereas insulin is secreted by pancreas.
- The main function of sex hormones is to control sexual characteristics.
- **Menstruation**, in women, occurs once in about 28 to 30 days. The first menstrual flow begins at puberty and it is called **menarche**. At 45 to 50 years of age, the menstrual cycle stops which is known as **menopause**.
- Sex of the unborn child depends on whether the zygote has XX or YY chromosomes.
- It is important to eat balanced diet and maintain personal hygiene during adolescence.

MULTIPLE CHOICE QUESTIONS (MCQs)

16 × 1 = 16

1. Adolescence begins around the age of:

(a) 13 years	(b) 11 years
(c) 14 years	(d) 15 years.
2. The presence of iodine in water is necessary for the production of:

(a) Adrenaline	(b) Thyroxine
(c) Both of these	(d) None of these.

3. Which of the following is iron-rich food?
 (a) Leafy vegetables (b) Meat (c) Indian gooseberry (d) All of these.
4. A female has:
 (a) two X chromosomes. (b) one X and one Y chromosome.
 (c) two Y chromosomes. (d) none of these.
5. Stoppage of menstruation is known as:
 (a) Menarche (b) Menopause (c) Puberty (d) None of these.
6. Goitre is a disease related with:
 (a) Pituitary gland (b) Adrenal gland (c) Thyroid gland (d) None of these.
7. Which gland secretes the growth hormone?
 (a) Adrenal gland (b) Thyroid gland (c) Pituitary gland (d) None of these.
8. Several changes in human body during adolescence mark the onset of:
 (a) Puberty (b) Larynx (c) Estrogen (d) None of these.
9. Adolescents should be careful about what they eat, because:
 (a) proper diet develops their brains.
 (b) proper diet is needed for the rapid growth taking place in their body.
 (c) adolescents feel hungry all the time.
 (d) taste buds are well-developed in teenagers.
10. Reproductive age in women starts when their:
 (a) menstruation starts (b) breasts start developing
 (c) body weight increases (d) height increases.
11. The right meal for adolescents consists of:
 (a) chips, noodles and coke. (b) *chapati, dal* and vegetables.
 (c) rice, noodles and burger. (d) vegetable cutlets, chips and lemon drink.
12. Which gland secretes insulin?
 (a) Thyroid gland (b) Adrenal gland (c) Pancreas gland (d) None of these.
13. Menstruation occurs once in month, about:
 (a) 28 to 30 days (b) 24 to 25 days (c) 15 to 16 days (d) 17 to 19 days.
14. The endocrine glands in the body are:
 (a) Thyroid (b) Testes (c) Ovaries (d) All of these.
15. Which one is correct among the following?
 (a) Milk is the complete balanced diet.
 (b) Human beings have 23 pairs of chromosomes.
 (c) A male has one X and one Y chromosome.
 (d) All of these.
16. Which of the following defines metamorphosis?
 (a) Tadpole changes into a frog. (b) Caterpillar changes into a butterfly.
 (c) Both (a) and (b). (d) None of these.



**REACHING THE AGE OF ADOLESCENCE
SUBJECT ASSESSMENT
WORKSHEET-70**

Name	Class.....	Roll No.	Time 40 Min.	Max. Marks 24	Marks Obtained
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VERY SHORT ANSWER TYPE QUESTIONS (1 MARK)

1. What is Adam's apple?

Ans.
.....

2. What are duct glands?

Ans.
.....

3. Name two duct glands.

Ans.

4. Name two ductless glands.

Ans.

5. Name a gland whose size gets reduced as the child grows older.

Ans.

6. Which marks the onset of puberty?

Ans.

7. What is meant by target site?

Ans.

8. What is the function of adrenaline?

Ans.

9. What is goitre?

Ans.

10. Which control changes at adolescence?

Ans.

11. What is responsible for the normal growth of a person?

Ans.

12. What are the terms used for secretions of endocrine glands responsible for changes taking place in the body?

Ans.

13. Apart from oestrogen, name the other female hormone secreted by ovaries.

Ans.

14. How many chromosomes are present in the nucleus of a single sperm?

Ans.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. What is the difference between exocrine and endocrine glands?

Ans.

2. Write short note on secondary sexual characters.

Ans.

3. (a) What will be the sex of the baby determining from XX chromosomes?
(b) What will be the sex of the baby determining from XY chromosomes?

Ans.

4. Write short note on sex determination of the unborn baby.

Ans.

5. (a) What do you understand by X and Y chromosomes?
(b) What is the full form of AIDS?

Ans.



**REACHING THE AGE OF ADOLESCENCE
SUBJECT ASSESSMENT
WORKSHEET-71**

Name	Class	Roll No.	Time 40 Min.	Max. Marks 25	Marks Obtained
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SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. (a) What are ductless glands?
(b) Give the other name of ductless glands.

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

2. Why should adolescents eat balanced diet?

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

3. Name the glands: (a) which secrete juices (b) which secrete hormones. Give one example in each case.

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

4. Give one word for the following statements:

- (a) A hormone that helps in reproduction, is
- (b) A gland in the neck, which when swollen causes goitre, is
- (c) A hormone which helps to balance the sugar in the body, is
- (d) An element without which thyroxine hormone is not formed, is

5. Name the endocrine gland and the hormone which:

- (a) maintain calcium in the blood.
- (b) regulate calcium in the body.

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

SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. What are sex hormones? Why are they named so? State their functions.

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

2. List changes in the body that take place at puberty.

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

3. (a) Why should we not take drugs?
(b) How is diabetes caused?

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

4. (a) How is pituitary gland attached?
(b) Why do many young people get acne and pimple?

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

5. How is HIV caused in humans? What precautions should be taken to control it?

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



**REACHING THE AGE OF ADOLESCENCE
SUBJECT ASSESSMENT
WORKSHEET-72**

Name	Class	Roll No.	Time 40 Min.	Max. Marks 27	Marks Obtained
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ANSWER THE FOLLOWING

1. **Fill in the blanks.** 3
 - (a) The onset of puberty and maturity of reproductive parts is controlled by
 - (b) and in fresh air keep the body fit and healthy.
 - (c) Everyone should have at least once everyday to keep ourselves neat and clean.
2. **State True (T) or False (F) against the following statements:** 3
 - (a) Iron builds blood, so iron-rich food should be taken everyday. ()
 - (b) Adolescence begins around the age of 21 and lasts upto 28 or 29 years of age. ()
 - (c) During puberty, the secretion of sweat glands and oil glands decreases. ()

SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. (a) Why should cleanliness be maintained?
(b) Which hormone causes sweating under fear?

Ans.

.....

.....

.....

2. (a) Why is menstruation also known as 'period'?
(b) What is menarche?
(c) What is menopause?

Ans.

.....

.....

.....

.....

LONG ANSWER TYPE QUESTIONS (5 MARKS)

1. What is menstruation? Explain.

Ans.

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

2. Prepare a Table having two columns depicting names of endocrine glands and hormones secreted by them.

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

3. (a) What is balanced diet? Which three conditions are to be fulfilled to keep the body healthy?
(b) Why do boys of senior classes have broader shoulders and wider chests than boys of junior classes?

Ans.
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.....

□□

REACHING THE AGE OF ADOLESCENCE
SUBJECT ASSESSMENT
WORKSHEET-73

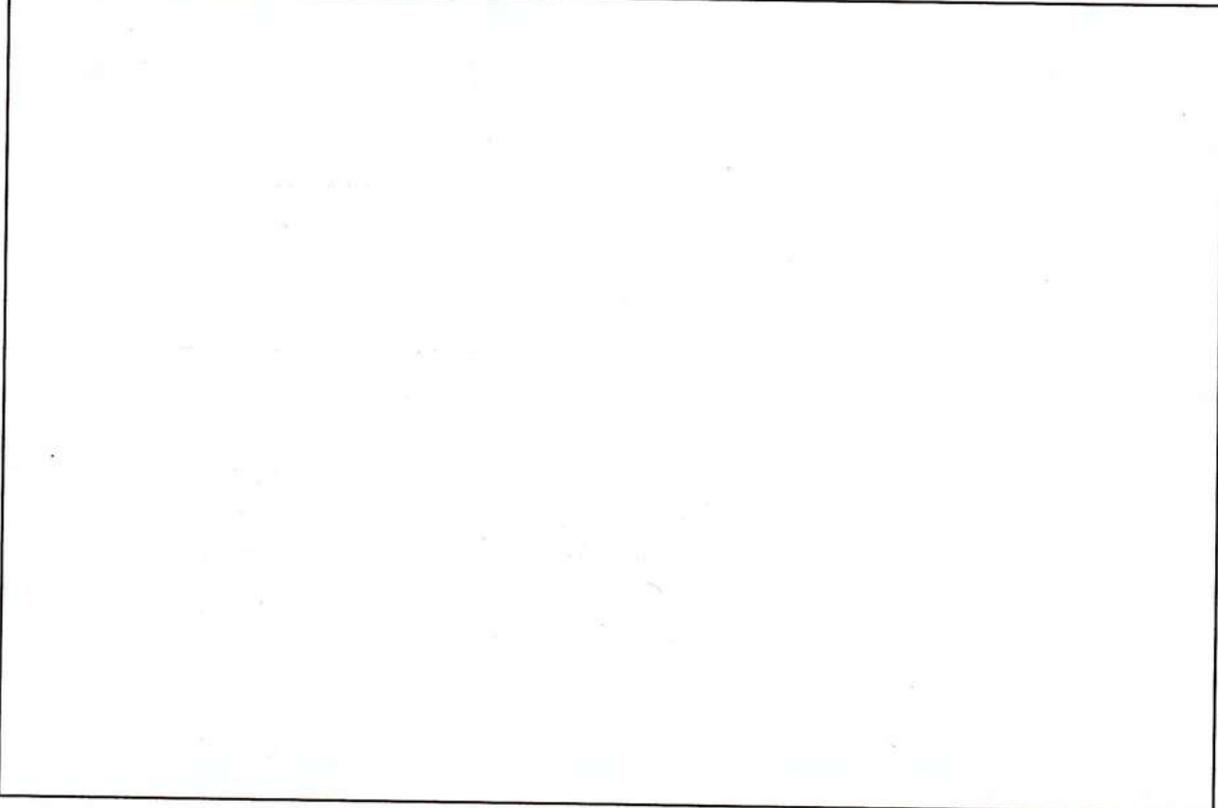
Name	Class	Roll No.	Time 30 Min.	Max. Marks 22	Marks Obtained
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LONG ANSWER TYPE QUESTIONS (5 MARKS)

1. Name the six endocrine glands. Where is each gland located?

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

2. Draw a labelled diagram of position of endocrine glands in the human body.

Ans. 

Word game: Use the clues to workout the words.

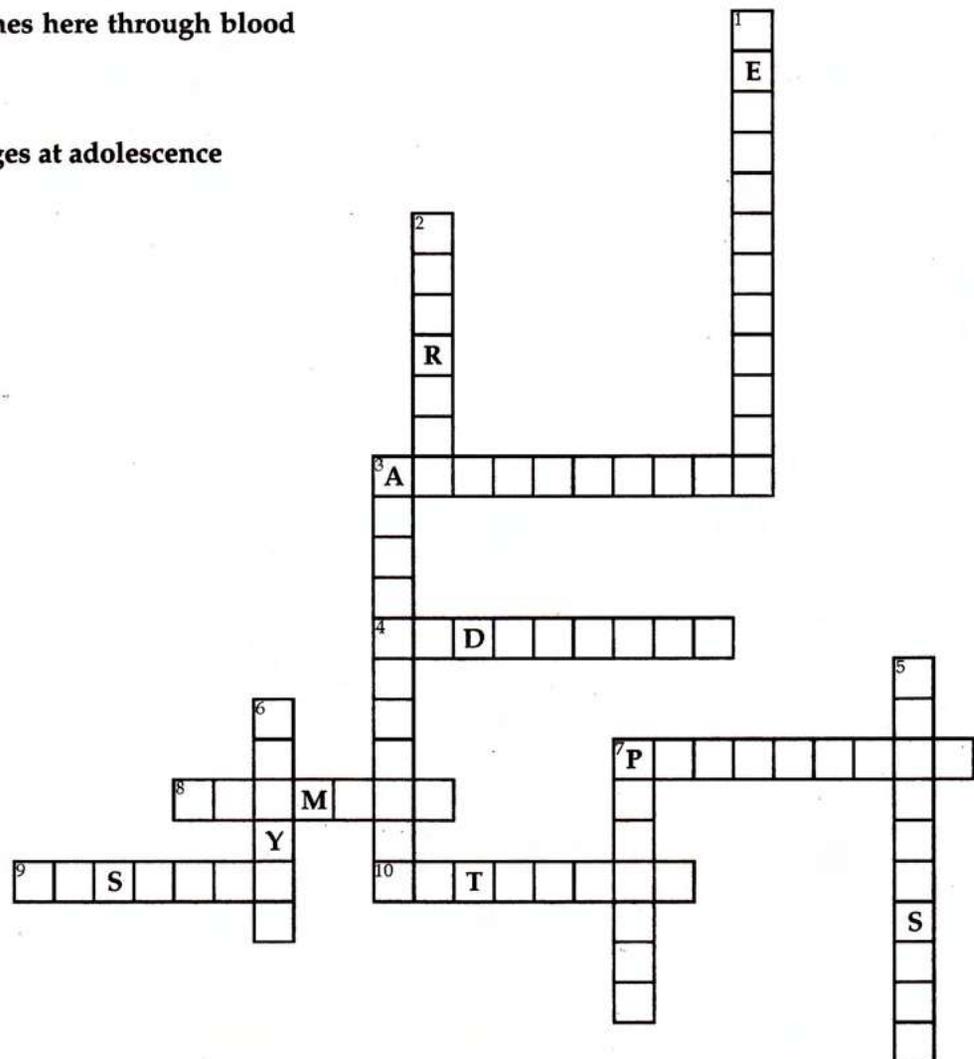
Across

- 3. Protruding voice box in boys
- 4. Glands without ducts
- 7. Endocrine gland attached to brain
- 8. Secretion of endocrine glands
- 9. Pancreatic hormone
- 10. Female hormone

Down

- 1. Male hormone
- 2. Secretes thyroxine
- 3. Another term for teenage
- 5. Hormone reaches here through blood stream
- 6. Voice box
- 7. Term for changes at adolescence

Ans.



REACHING THE AGE OF ADOLESCENCE
SUBJECT ASSESSMENT
WORKSHEET-74

Name	Class	Roll No.	Time 45 Min.	Max. Marks 30	Marks Obtained
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ANSWER THE FOLLOWING

1. Fill in the blanks. **5**

- (a) An enlarged voice box is called
- (b) Boys show the growth of hair during adolescence.
- (c) Chemical substances that control various activities in the body are called
.....
- (d) and are reproductive hormones.
- (e) The ovaries secrete hormone.

2. Give one word for the following: **5**

- (a) The specific organ upon which a hormone acts.
- (b) The gland present at the base of the brain also called the master gland.
- (c) The monthly cycle in females during which an egg is released.
- (d) The hormone secreted in males which causes the development of
secondary sexual characters in them.
- (e) The stage of development at which an individual is capable of reproduction.

3. State the role of the following hormones in the body. **5**

- (a) Insulin
.....
- (b) Adrenaline
.....
- (c) Oestrogen
.....
- (d) Testosterone
.....
- (e) Thyroxine.
.....

4. Define the following terms.

5

(a) Puberty

(b) Hormones

(c) Testosterone

(d) Thyroxine

(e) Balanced diet

5. Match the columns.

5

Column A	Column B
(a) Growth of hair in the armpit	(i) Adolescents
(b) Menstruation	(ii) Nutrients
(c) Balanced diet	(iii) Hormones
(d) Self-conscious	(iv) Menstrual cycle
(e) Chemical substances	(v) Boys and girls

6. Explain the different ways by which an adolescent can look after his/her physical and mental health.

2

7. Why should adolescents stay away from drugs? What can they do in case they need help?

3



**REACHING THE AGE OF ADOLESCENCE
SUBJECT ASSESSMENT
WORKSHEET-75**

Name	Class	Roll No.	Time 30 Min.	Max. Marks 20	Marks Obtained
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MATCH THE ITEMS OF COLUMN A WITH THOSE IN COLUMN B.

10 × 1 = 10

Column A	Column B
(a) Endocrine glands	(i) testosterone
(b) Instruction for determining the sex of the baby is present in	(ii) stoppage of menstrual flow
(c) Goitre	(iii) the first menstrual flow begins
(d) Chromosomes	(iv) a disease of the thyroid gland
(e) Male hormone	(v) estrogen
(f) Menarche	(vi) sudden increase in height
(g) Female hormone	(vii) pituitary gland
(h) Conspicuous change	(viii) present inside the nucleus of every cell
(i) Menopause	(ix) pancreas and adrenals
(j) Master gland	(x) thread-like structures called chromosomes

Ans.
.....

DO AS DIRECTED

6 × 1 = 6

1. Menstrual cycle stops at years.
2. Hormones are substances.
3. Milk secreting glands are called glands.
4. The most transparent change during puberty is the sudden increase in height. (T/F)
5. Larynx starts to grow at the stage of puberty. (T/F)
6. The testes and ovaries do not secrete sex hormones. (T/F)

ANALOGY TYPE QUESTIONS

4 × 1 = 4

1. Male hormone : : Female hormone : Oestrogen.
2. At puberty, facial hair begins to grow : : Breasts begin to develop : Girls.
3. : Located at the base of the brain : : Pancreas : Near the liver.
4. Thyroid gland : At the base of the throat : : gland : On the kidneys.

REACHING THE AGE OF ADOLESCENCE
ENRICHMENT ACTIVITY
WORKSHEET-76

Name.....	Class.....	Roll No.	Time 20 Min.	Max. Marks 10	Marks Obtained
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PROJECT REPORT

Prepare a project report on why early marriage is not good for the couple. For preparing the project, try to contact with elders and teachers to know about awareness of the legal status of early marriage. For knowing more in detail about legal aspect, you can contact with doctor and also the internet.

ACTIVITY

Try to prepare a Table in which you have to write down the items of food you had taken on the previous day in tends to breakfast, lunch and dinner. Identify the food item which is responsible for proper growth.

□□

FORCE AND PRESSURE

SUBJECT ASSESSMENT

WORKSHEET-77

Name || Class || Roll No. || Time 25 Min. || Max. Marks 14 || Marks Obtained

POINTS TO REMEMBER

- Generally, pushing or pulling an object is called a **force**.
- An interaction of one object with another object results in a force between the two objects.
- Forces applied on an object in the same direction, add to one another. If two forces act in the opposite direction on an object, the net force acting on it is the difference between the two forces.
- The **strength of a force** is usually expressed by its magnitude as well as direction.
- A force can change the **state of motion of an object**.
- A force can act on an object with or without being in contact with it.
- When a cricket ball is hit by a batsman, then the ball moves from one place to another place. This kind of an example identifies the state of the motion.
- The **state of the motion** of an object is described by its speed and the direction of the motion.
- The **state of the rest** is equal to the state of zero speed.
- **Friction** is a force, acting between the surface of the body in motion and the surface on which body is moving.
- **Force of friction** always acts on all the moving objects and its direction is always opposite to the direction of motion. Frictional force is an example of contact force.
- Muscular force is contact force.
- The force exerted by a charged body on another charged or uncharged body is known as **electrostatic force**. The electrostatic force is non-contact force.
- Magnet can exert a force on another magnet without being in contact with it. So, force exerted by a magnet is a **non-contact force**.
- Gravity is not a property of earth alone. In fact, every object in the universe, whether small or large, exerts a force on every other object. This force is known as the **gravitational force**.
- Force per unit area is called **pressure**. The SI unit of pressure is N/m^2 .
- Liquids and gases exert pressure on the wall of their containers.

MULTIPLE CHOICE QUESTIONS (MCQs)

$14 \times 1 = 14$

1. A push or a pull on an object is called:
 (a) Force (b) Pressure (c) Work (d) Power.
2. Force is:
 (a) Vector quantity (b) Scalar quantity (c) Both (a) and (b) (d) None of these.
3. Atmospheric pressure is:
 (a) the pressure exerted by air around us. (b) the pressure exerted by water around us.
 (c) the pressure exerted by ice around us. (d) none of these.

4. The SI unit of force is:
- (a) pascal
(b) newton
(c) second
(d) metre.
5. Fruits fall to the ground because of:
- (a) Gravitational force
(b) Magnetic force
(c) Muscular force
(d) Electrostatic force.
6. As we move from sea level to the mountain, the pressure:
- (a) Increases
(b) Increases and then decreases
(c) Decreases
(d) Gravitational force.
7. The instrument used to measure pressure is:
- (a) Speedometer
(b) Pressure gauge
(c) Syringe
(d) Manometer.
8. Which one is a kind of contact force:
- (a) Magnetic force
(b) Force of friction
(c) Electrostatic force
(d) Gravitational force.
9. Force per unit area is:
- (a) Weight
(b) Work
(c) Volume
(d) Pressure.
10. Which one is correct among the following?
- (a) Interaction between two objects produces force.
(b) Liquids and gases exert pressure on the walls of their containers.
(c) The force exerted by a magnet is non-contact force.
(d) All of these.
11. Which one is not a kind of non-contact force?
- (a) Electrostatic force
(b) Magnetic force
(c) Gravitational force
(d) Muscular force.
12. Which of the following is a unit of pressure?
- (a) metre
(b) newton
(c) pascal
(d) square metre.
13. Which force acts when we lift a bucket of water?
- (a) Electrostatic force
(b) Muscular force
(c) Magnetic force
(d) Gravitational force.
14. When we press the bulb of a dropper with its nozzle kept in water, air in the dropper is seen to escape in the form of bubbles. Once we release the pressure on the bulb, water gets filled in the dropper. The rise of water in the dropper is due to:
- (a) pressure of water.
(b) gravity of the earth.
(c) shape of the rubber bulb.
(d) atmospheric pressure.

□□

FORCE AND PRESSURE

SUBJECT ASSESSMENT

WORKSHEET-78

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 is meant by atmospheric pressure?

Ans.
.....

2. What is meant by weight of an object?

Ans.
.....

3. What is meant by muscular force?

Ans.

4. Two friends A and B are applying a force of 2 newton and 4 newton on a box in the same direction. What will be the total force applied by them?

Ans.

5. Give an example to show that force can change the shape of an object.

Ans.
.....

6. How would 'thrust' on the bottom of a liquid level change if 'area' is doubled keeping the 'pressure' same?

Ans.

7. In a tug of war, side A applies 10 newton force and side B applies 8 newton force. Which side will the rope move?

Ans.

8. An inflated balloon was pressed against a wall after it has been rubbed with a piece of synthetic cloth. It was found that the balloon sticks to the wall. What force might be responsible for the attraction between the balloon and the wall?

Ans.

9. What happens to the speed of a body when force is applied?

Ans.

10. A ball is rolled on the ground and it comes to rest after sometime even though no force is applied. Why?

Ans.
.....

11. How many objects should be present for a force to come into play?

Ans.

12. What happens to the atmospheric pressure if the temperature is high?

Ans.

13. When combing your dry hair, which type of force acts?

Ans.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. Why is it easier to hammer a sharp nail into wood than a blunt one?

Ans.

2. Why do mountaineers suffer from nose bleeding at high altitudes?

Ans.

3. A blacksmith hammers a hot piece of iron while making a tool. How does the force due to hammering affect the piece of iron?

Ans.

4. Why do astronauts wear specially made suits while going into space?

Ans.

5. Do we feel the effect of atmospheric pressure? Why?

Ans.

6. How would pressure change if:

(a) area is doubled and keeping the force constant

(b) force is doubled and keeping an area constant?

Ans.



FORCE AND PRESSURE
SUBJECT ASSESSMENT
WORKSHEET-79

Name	Class	Roll No.	Time 40 Min.	Max. Marks 26	Marks Obtained
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SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. Two objects of masses M and $2M$ are lying on an equal area. Determine the ratio of pressure exerted by them on the ground.

Ans.

2. Name the type of force in the following cases:

- (a) Raindrops falling on the earth (b) Holding a book on your hand
 (c) A bar magnet suspended freely (d) Bullocks ploughing in the field.

Ans.

3. Why is it comfortable to lift a school bag with broad straps than thin straps?

Ans.

4. Give two examples each of situations in which you push or pull to change the state of motion of objects.

Ans.

SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. (a) Calculate the weight of the body whose mass is 30 kg. Take $g = 10 \text{ m/s}^2$.
 (b) What is meant by thrust?

Ans.

-
.....
2. (a) Why is the net force on an object zero if the two forces acting on it in opposite directions are equal?
(b) Why does the speed of tyre increase whenever it is pushed?

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

3. (a) Why is the force of friction called contact force?
(b) Why can you not lift a bucket of water without holding it?

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

4. (a) What is the difference between scalar and vector quantities?
(b) The north pole of a magnet the north pole of another magnet.

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

5. (a) Why is electrostatic force called non-contact force?
(b) Give one example of a force which can act from a distance.

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

6. We hammer the broader side of a nail and not its sharp end to fix it in wood. Why?

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



**FORCE AND PRESSURE
SUBJECT ASSESSMENT
WORKSHEET-80**

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

1. (a) A rocket has been fired upward to launch a satellite in its orbit. Name the two forces acting on the rocket immediately after leaving the launching pad.
- (b) Give two examples of situations in which applied force causes a change in the shape of an object.

Ans.

2. Describe any two applications of pressure.

Ans.

3. (a) A can filled with water, be heated so that water boils. Now seal the mouth with airtight cap. Let the can cool. Its sides get deformed. Explain why.
- (b) Name the instrument used to measure atmospheric pressure.

Ans.

4. (a) Why are caterpillar tracks used in battle tanks instead of tyres?
- (b) Why do the skiers use flat and broad skis?

Ans.

LONG ANSWER TYPE QUESTIONS (5 MARKS)

1. In the following situations, identify the agent exerting the force and the object on which it acts. State the effect of the force in each case.

- (a) Squeezing a piece of lemon between the fingers to extract its juice.
- (b) Taking out paste from a toothpaste tube.
- (c) A load suspended from a spring while its other end is on a hook fixed to a wall.
- (d) An athlete making a high jump to clear the bar at a certain height.

Ans.
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.....
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2. Name the forces acting on a plastic bucket containing water held above ground level in your hand. Discuss why the forces acting by you on the bucket do not bring a change in its state of motion.

Ans.
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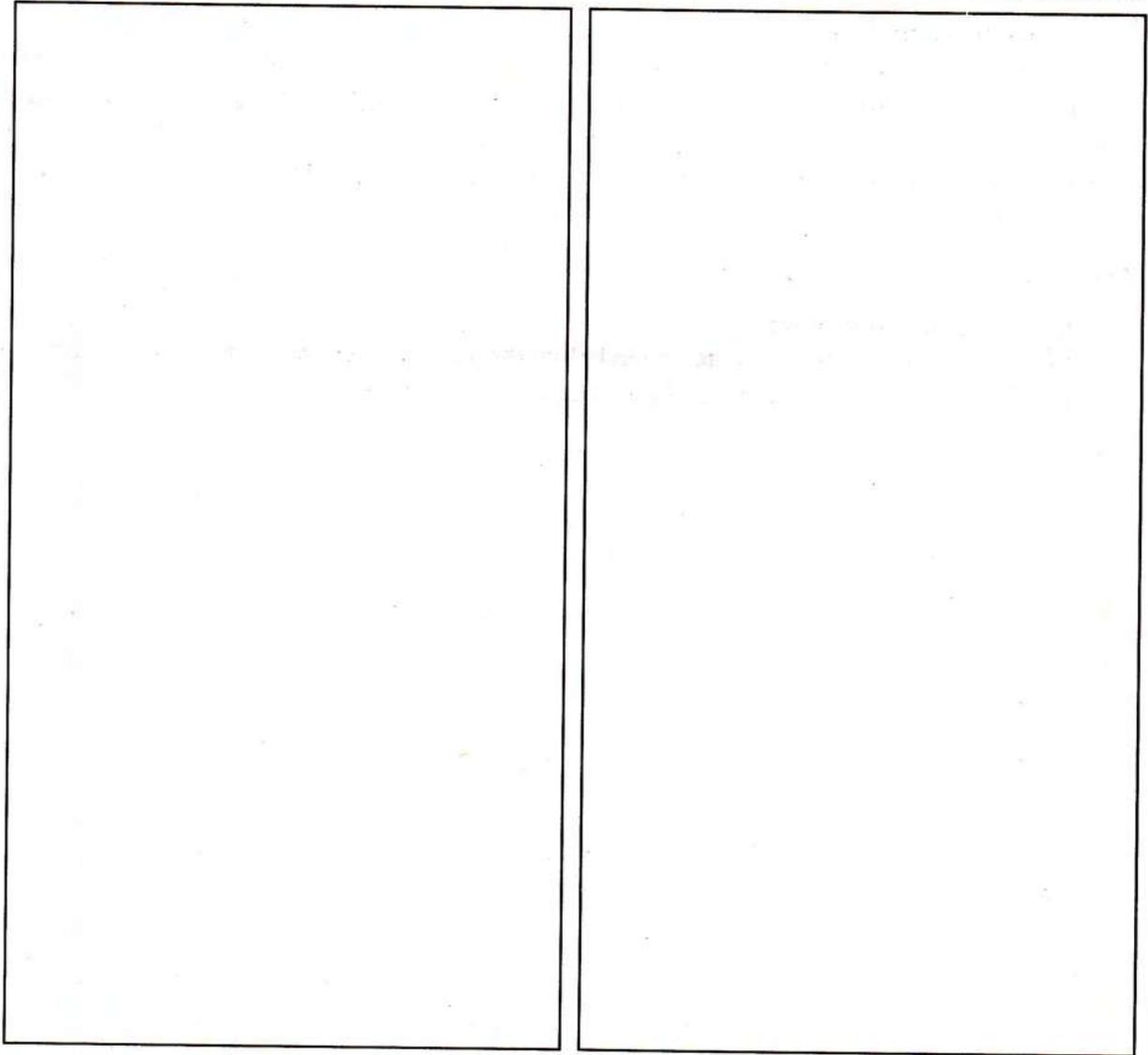
**3. (a) While constructing dams, the base is made more wide. Why?
(b) Why does blood ooze out when there is a slight cut on your body?**

Ans.
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.....



2. By using a manometer how can you show that the liquid pressure remains same at the same depth?

Ans.
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□□

**FORCE AND PRESSURE
SUBJECT ASSESSMENT
WORKSHEET-82**

Name	Class	Roll No.	Time 45 Min.	Max. Marks 34	Marks Obtained
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ANSWER THE FOLLOWING

1. Fill in the blanks. **8**

- (a) Force changes the the motion.
- (b) and forces are contact forces.
- (c) The force between electrical charges is called force.
- (d) The effect of force is greater if the area is
- (e) It is not easy to cut a fruit with a knife.
- (f) To draw water from a well, we have to at the rope.
- (g) A charged body an uncharged body towards it.
- (h) To move a loaded trolley, we have to it.

2. Write one word for the following. **5**

- (a) An instrument used to measure atmospheric pressure
- (b) SI unit of force
- (c) A force that attracts iron objects
- (d) Force per unit area
- (e) Force that does not require direct or indirect physical contact to act on an object

3. Give reasons for the following. **5**

- (a) Liquid pressure varies with depth.
.....
- (b) When an object is thrown, it falls on the ground.
.....
- (c) A balloon bursts if too much air is blown into it.
.....
- (d) The pillars of bridges and flyovers have a broad base.
.....
- (e) The foundation of high rise building is strong and wide.
.....

4. Define the following terms.

5

(a) Contact force

(b) Friction

(c) Magnetic force

(d) Pressure

(e) Force

5. Match the columns.

5

Column A	Column B
(a) Magnet	(i) Force between electric charges
(b) Pascal	(ii) Attracts iron nails
(c) Gravitational force	(iii) Force per unit area
(d) Pressure	(iv) Planets around the sun
(e) Electrostatic force	(v) Unit of pressure

6. A force of 30 N acts on an area of 50 m². Calculate the pressure produced.

3

7. What will be the area of the object on which the force of 200 N acts to produce a pressure of 600 Pa?

3

□□

**FORCE AND PRESSURE
SUBJECT ASSESSMENT
WORKSHEET-83**

Name	Class	Roll No.	Time 35 Min.	Max. Marks 14	Marks Obtained
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DO AS DIRECTED

6 × 1 = 6

1. As we go deeper beneath the surface of a liquid, the pressure
2. Fluids are liquids and
3. Objects fall towards the earth because of
4. Force of friction arises due to contact between surfaces. (T/F)
5. The state of motion of an object is identified by its speed only. (T/F)
6. The state of rest is equal to state of zero speed. (T/F)

ANALOGY TYPE QUESTIONS

5 × 1 = 5

1. Two forces act in same direction : Add to one another :: : Difference between two forces.
2. Blunt object having larger area of contact : Pressure : Sharp object having smaller area of contact : Pressure
3. Manometer : Velocity of wind :: Barometer :
4. Moving a book place on a table : Pushing :: Opening a drawer :
5. Liquids : Exert pressure on the walls of the container :: Gases :

ANSWER THE FOLLOWING

3 × 1 = 3

1. Why do objects fall towards the earth?
Ans.
2. What is meant by electrostatic force?
Ans.
3. Which may bring a change in the state of motion?
Ans.

FORCE AND PRESSURE

ENRICHMENT ACTIVITY

WORKSHEET-84

Name

Class

Roll No.

Time
30 Min.Max.
Marks
15Marks
Obtained

PROJECT REPORT

In making different pictures like a car, a glass of water, a person standing, a boy writing, a tailor stitching, someone cutting vegetables, etc., check out where the pressure is being applied and prepare a project report on it.

ACTIVITY-1

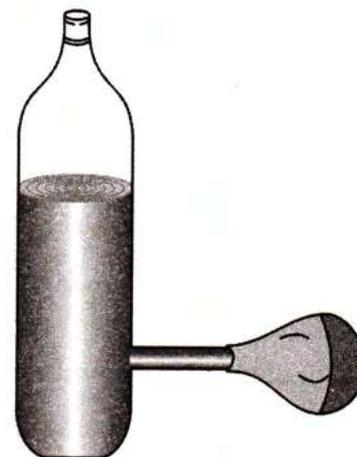
Aim: With the help of an activity, show that a liquid exerts pressure on the walls of the container.

Materials Required: Plastic bottle, water, cylindrical glass tube, thin rubber sheet.

Procedure: Take a plastic bottle, *i.e.*, soft drink bottle. Now, heat one end of the cylindrical glass tube and insert it few cm above into the bottle from beneath (bottom). Fix it firmly so that the water does not leak from the joint. If there is any leakage, seal it with molten wax. Cover the mouth of a cylindrical tube with a thin rubber sheet. Now, fill the bottle half with water. Observe it carefully.

Observation: Rubber sheet bulges out because water exerts pressure on the wall of container.

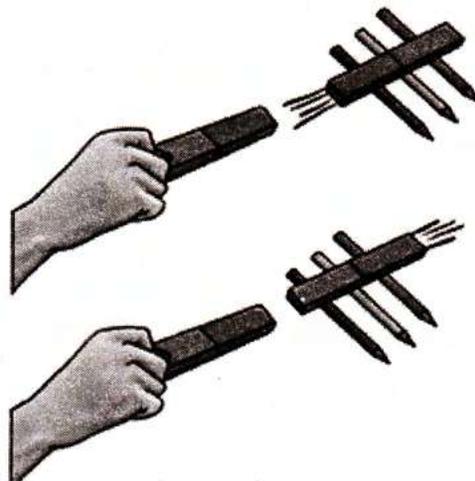
Result: This above observation shows that liquid exerts pressure on the walls of the container.



ACTIVITY-2

To show attraction and repulsion between two magnets

Take a pair of magnets. Place one magnet in a perpendicular position on three round sticks or pencils. Bring the second magnet near this magnet. Repeat the same with the other pole and observe the difference. When the magnet is brought near the magnet kept on the sticks, the latter moves towards the magnet, showing attraction. In the second case, bringing the other end of the magnet near the magnet on the sticks makes the latter roll away, demonstrating repulsion. Opposite poles attract and similar poles repel. This phenomenon will be more clear, when you study the properties of a magnet.



FRICTION SUBJECT ASSESSMENT WORKSHEET-85

Name	Class	Roll No.	Time 20 Min.	Max. Marks 13	Marks Obtained
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POINTS TO REMEMBER

- **Friction** is caused by the irregularities on the two surfaces in contact.
- **Friction** opposes the relative motion between two surfaces in contact. It acts on both the surfaces.
- Friction is caused by the interlocking of irregularities on the two surfaces. The force of friction will increase if the two surfaces are pressed harder.
- For a given pair of surfaces, friction depends upon the state of smoothness of those surfaces.
- The force required to overcome friction at the instant an object starts moving from rest is a measure of **static friction**.
- The force required to keep the object moving with the same speed is a measure of **sliding friction**.
- The sliding friction is slightly smaller than the static friction. That is why, it is somewhat easier to move the box already in motion than to get it started.
- **Static friction** comes into play when we try to move an object at rest.
- **Sliding friction** comes into play when an object is sliding over another.
- **Advantages of friction:**
 - (a) If an object started moving, it would never stop if there were no friction.
 - (b) Had there been no friction between the tyres of the automobiles and the road, they could not be started or stopped or turned to change the direction of motion.
 - (c) We could not fix a nail on the wall or tie a knot without friction.
 - (d) Without friction, no building could be constructed.
- **Drawbacks of friction:**
 - (a) It wears out the materials whether they are screws, ball-bearings or soles of shoes.
 - (b) Friction can also produce heat.
 - (c) Steps of foot overbridges at railway station, wear out due to friction.
- **Ways to minimise and maximise friction:**
 - (a) Soles of shoes are grooved to increase the friction.
 - (b) The tyres of cars, trucks and bulldozers are treaded to provide better grips with the ground.
 - (c) We sprinkle talcum fine powder on the carrom board to minimise friction.
 - (d) When a few drops of oil are poured on the hinges of the door, the door moves smoothly.
 - (e) Use of oils and greases between the moving parts of machine, make it smooth (to reduce friction) in order to increase efficiency.
 - (f) An air cushion between the moving parts is used to reduce friction.
- The substances which reduce friction are called **lubricants**.
- When one body rolls over the surface of another body, the resistance to its motion is called **rolling friction**.
- The frictional force exerted by fluids is called **drag**.
- Fluid friction can be minimised by giving suitable shapes to bodies moving in fluids.

1. **Lubricants are used to:**
 - (a) Reduce friction
 - (b) Increase friction
 - (c) Make a surface shiny
 - (d) Make a surface oily.
2. **Tyres having treads are responsible for:**
 - (a) Decreasing friction
 - (b) Increasing friction
 - (c) Increasing surface area
 - (d) Decreasing surface area.
3. **Which one is incorrect among the following?**
 - (a) When we try to move an object, static friction occurs.
 - (b) Friction is sometimes undesirable.
 - (c) Friction can be increased by using ball bearings.
 - (d) The soles of the shoes increase friction.
4. **Friction opposes the relative motion between:**
 - (a) two surfaces in contact.
 - (b) two surfaces not in contact.
 - (c) both of these
 - (d) none of these.
5. **Friction can be increased by:**
 - (a) making a surface soft.
 - (b) making a surface rough.
 - (c) surface remains unchanged.
 - (d) none of these.
6. **What is the relation of sliding friction with static friction?**
 - (a) Sliding friction is greater than static friction.
 - (b) Sliding friction is same as static friction.
 - (c) Sliding friction is smaller than static friction.
 - (d) None of these.
7. **Rolling friction is:**
 - (a) greater than static friction.
 - (b) same as static friction.
 - (c) smaller than static friction.
 - (d) smaller than sliding friction.
8. **Friction depends on the nature of:**
 - (a) surfaces not in contact.
 - (b) surfaces in contact.
 - (c) both (a) and (b)
 - (d) none of these.
9. **Maximum value of static friction is called:**
 - (a) Sliding friction
 - (b) Rolling friction
 - (c) Limiting friction
 - (d) None of these.
10. **SI unit of force of friction is:**
 - (a) N
 - (b) kg
 - (c) kg m/s²
 - (d) None of these.
11. **Which of the following is the least?**
 - (a) Static friction
 - (b) Sliding friction
 - (c) Rolling friction
 - (d) None of these.
12. **The force of friction between two bodies in contact is:**
 - (a) parallel to the contact surface.
 - (b) perpendicular to the contact surface.
 - (c) inclined at 30° to the contact surface.
 - (d) inclined at 45° to the contact surface.
13. **Which objects move through fluids like air, water, etc., they exert frictional force which is called:**
 - (a) Force of friction
 - (b) Friction
 - (c) Drag
 - (d) None of these.

□□

FRICION
SUBJECT ASSESSMENT
WORKSHEET-86

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 meant by relative motion?

Ans.

2. Why do you slip while stepping on a banana peel?

Ans.

3. On which things, frictional force depends?

Ans.

4. Why is it more difficult to walk on a wet floor?

Ans.

5. What is meant by air resistance?

Ans.

6. When does static friction come into play?

Ans.

7. Why is it difficult to walk on ice?

Ans.

8. Define efficiency.

Ans.

9. What is spring balance?

Ans.

10. Which force helps the brake system to stop the car?

Ans.

11. Which force is responsible for wear and tear of machinery?

Ans.

12. What is meant by dynamic friction?

Ans.

13. How can fluid friction be minimised?

Ans.

14. When we rub our hands, why do the hands become hot?

Ans.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. Why is it possible to write on rough blackboard with chalk?

Ans.

2. (a) Why do we sprinkle talcum powder on the carrom board?

(b) Why are the soles of shoes grooved?

Ans.

3. Iqbal has to push a lighter box and Seema has to push a similar shape and size but heavier box on the same floor. Who will have to apply a larger force and why?

Ans.

4. (a) Suppose your writing desk is tilted a little. A book kept on it starts sliding down. Show the direction of frictional force acting on it.

(b) When a boat is moving in the river, does the water offer force of friction to its movement?

Ans.

5. Explain why sportsmen use shoes with spikes.

Ans.

6. Give two examples where rolling friction is utilised.

Ans.

7. Explain why objects moving in fluids must have special shapes.

Ans.



**FRICTION
SUBJECT ASSESSMENT
WORKSHEET-87**

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 sliding friction is less than static friction.

Ans.

2. You spill a bucket of soapy water on a marble floor accidentally. Would it make easier or more difficult for you to walk on the floor? Why?

Ans.

3. (a) Why do the soles of shoes wear out?
 (b) Why does a mechanic use grease between the moving parts of the cycle?

Ans.

SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. Explain four methods by which friction can be increased.

.....

2. Give one word for the following statements:

- (a) A measuring device used to measure the force
- (b) The frictional force exerted by fluids is called
- (c) When one body rolls over the surface of another body, the resistance to its motion is called

3. Why does a vehicle slowdown when brakes are applied?

Ans.

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**4. (a) Why do kabaddi players rub their hands with soil?
(b) Why do gymnasts apply some coarse substance on their hands?**

Ans.

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5. Give examples to show that friction is both a friend and a foe.

Ans.

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**6. (a) How do trees help reduce friction?
(b) Why do meteors burn on entering the atmosphere?**

Ans.

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**7. (a) Define streamlining.
(b) What is the function of ball-bearing?**

Ans.

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□□

**FRICION
SUBJECT ASSESSMENT
WORKSHEET-88**

Name	Class	Roll No.	Time 40 Min.	Max. Marks 31	Marks Obtained
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SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. How has nature shaped the body of fishes to minimise air resistance?

Ans.

2. Write three advantages of friction.

Ans.

LONG ANSWER TYPE QUESTIONS (5 MARKS)

1. (a) Why does friction increase if the two surfaces are pressed?

(b) Alida runs her toy car on dry marble floor, wet marble floor, newspaper and towel spread on the floor. The force of friction acting on the car on different surfaces in increasing order will be:

- (i) Wet marble floor, dry marble floor, newspaper, towel.
- (ii) Newspaper, towel, dry marble floor, wet marble floor.
- (iii) Towel, newspaper, dry marble floor, wet marble floor.
- (iv) Wet marble floor, dry marble floor, towel, newspaper.

Ans.

2. Give five examples to show that friction is increased deliberately.

Ans.

**FRICTION
SUBJECT ASSESSMENT
WORKSHEET-89**

Name	Class	Roll No.	Time 50 Min.	Max. Marks 28	Marks Obtained
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ANSWER THE FOLLOWING

1. Fill in the blanks. 5

- (a) Friction acts to the motion of an object.
- (b) Oil and grease friction and are called
- (c) Friction causes of energy.
- (d) Rollers help in making the work easy because friction is less than the friction.
- (e) in the tyres helps the vehicle to move without skidding.

2. State True (T) or False (F) against the following statements: 8

- (a) Friction is same for all the surfaces.
- (b) Friction is sometimes undesirable.
- (c) We deliberately decrease friction by using brake pads in the brake system of bicycle and automobiles.
- (d) Friction opposes the between the surfaces in contact with each other.
- (e) Friction depends on the of surfaces.
- (f) Friction produces
- (g) Sprinkling of powder on the carrom board friction.
- (h) Sliding friction is than the static friction.

3. Write one word for the following. 5

- (a) The force that opposes the movement.
- (b) This converts sliding friction to rolling friction.
- (c) A substance used to reduce friction.
- (d) Force of friction due to air and water.
- (e) Friction experienced by an object rolling on a surface.

4. Give reason for the following. 5

- (a) Lubricants reduce friction.
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(b) Rough surface has greater friction than smooth surface.

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(c) Streamlined body can easily overcome resistance.

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(d) Gravel helps in walking easily on the wet ground.

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(e) Tyres wear out due to friction.

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5. Define the following terms.

5

(a) Static friction

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(b) Ball bearing

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(c) Lubricants

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(d) Sliding friction

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(e) Rolling friction

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□□

FRICTION

SUBJECT ASSESSMENT

WORKSHEET-90

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

DO AS DIRECTED

6 × 1 = 6

1. is the frictional force exerted by fluids.
2. Powder is sprinkled on the carrom board to the friction.
3. An air cushion between the moving parts is used to the friction.
4. *Kabaddi* players rub their hands with soil to increase friction for better grip. (T/F)
5. Lubricants are substances by which friction gets increased. (T/F)
6. Rolling friction acts when one body rolls over another body. (T/F)

ANALOGY TYPE QUESTIONS

5 × 1 = 5

1. In slippery surfaces : : Tyres having grooves : More friction.
2. Surface is rough : Force of friction : Surface is smooth : Force of friction
3. Friction exerted by water surfaces : : Friction on solid surfaces :
4. A box is lying on the floor : : Wheels : Rolling friction.
5. Wet marble floor : friction : Dry marble floor : friction .

MATCH THE COLUMNS

5 × 1 = 5

Column A	Column B
(a) Grooved shoe sole	(i) Opposes the movement
(b) Ball bearing	(ii) Streamlined structure reduces friction
(c) Oil and grease	(iii) Walking
(d) Aeroplane and ships	(iv) Change sliding friction to rolling friction
(e) Friction	(v) Lubricants

FRICTION ENRICHMENT ACTIVITY WORKSHEET-91

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

Make a group of friends and discuss the methods by which friction can be reduced. Prepare a project reports of these methods used.

ACTIVITY-1

Aim: With the help of an activity show that increased wear and tear is caused by greater friction.

Materials Required: An eraser, a piece of paper, sand paper, a piece of cardboard and soles of shoes.

Procedure: Rub the above mentioned object's surfaces by using an eraser. Note the amount of wear and tear in the eraser in each step. Observe it carefully.

Observation: You will observe that rougher the surface, greater the wear and tear.

Result: Above observation shows that rougher the surface having greater the friction, causes greater the wear and tear.

ACTIVITY-2

Take a book and slide it on the table, you will notice that the book stops after some distance. Now push the book from the opposite side, and note your observation.

Observation: The book stops moving after some time.

Conclusion: A frictional force acts on the book from the opposite direction and slows down the movement of the book, and it finally stops. Force of friction always opposes the motion of an object or prevents a stationary object from moving.

ACTIVITY-3

Aim: To show that frictional force depends on the nature of two surfaces in contact.

Materials Required: A string, a brick, a spring balance and a polythene sheet.

Procedure: Take a string and tie it around the brick. Attach this string to a spring balance and pull it. Now repeat the same by wrapping the brick with a polythene sheet. Note the reading in the spring balance. Was there a difference in the reading in both the cases?

Observation: The force required to pull the brick without the polythene bag was more than that of the brick with polythene bag. This is because the surface of the brick became smooth with the polythene bag. Therefore, less force was required to pull it. Smooth surfaces offer less friction than rough surfaces.

SOUND

SUBJECT ASSESSMENT WORKSHEET-92

Name	Class	Roll No.	Time 30 Min.	Max. Marks 18	Marks Obtained
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POINTS TO REMEMBER

- The vibrating objects produce **sound**.
- *Manjira* (cymbal), the *ghatam* and the *noot* (mudpots) are musical instruments commonly used in many parts of our country. These musical instruments are simply **beaten** or **struck**.
- Sound gets reflected on striking a surface.
- In human beings, the vibration of the **vocal cords** produces sound.
- The to and fro or back and forth motion of an object is called **vibration** or **oscillation**. It is also known as oscillatory motion.
- The sound travels through a medium (gas, liquid or solid). It cannot travel in a **vacuum**.
- In humans, the sound is produced by **voice box** or the **larynx**. It is at the upper end of the **windpipe**. Two **vocal cords** are stretched across the voice box in such a way that it leaves a narrow slit between them for the passage of air. The vocal cords in men are about 20 mm long.
- The eardrum senses the vibrations of sound. It sends the signals to the brain. This process is called **hearing**.
- The number of oscillations or vibrations per second is called the **frequency** of oscillation. The frequency is expressed in hertz (Hz). Frequency of 1 Hz means one oscillation per second.
- The woman has higher frequency of voice.
- Larger the amplitude of vibration, the louder is the sound.
- The SI unit of amplitude is metre.
- Higher the frequency of vibration, higher is the pitch and shriller is the sound.
- The sounds of frequencies less than about 20 vibrations per second (20 Hz) cannot be detected by the human ear. Such sounds are called **inaudible** or **infrasonic sounds**.
- The sounds of frequencies more than 20,000 Hz are called **ultrasonic sounds**. Bats can able to hear these sound of frequencies.
- The sounds of frequencies between 20 Hz to 20,000 Hz are known as **audible sounds**.
- Unpleasant sounds are called **noise**.
- Excessive or unwanted sounds lead to **noise pollution**. Noise pollution may pose health problems for human beings.
- The sounds which are pleasant to the ears and we enjoy such sounds, are called **musical sounds**.
- Plantation on the roadside and elsewhere can reduce noise pollution.
- We must use silencing devices in aircraft engines, transport vehicles, industrial machines and home appliances.

MULTIPLE CHOICE QUESTIONS (MCQs)

18 × 1 = 18

1. Sound cannot travel through:

- | | |
|------------|-------------|
| (a) Solids | (b) Liquids |
| (c) Gases | (d) Vacuum. |

2. The speed of sound waves in air is about:

- | | |
|--------------|--------------|
| (a) 1340 m/s | (b) 1500 m/s |
| (c) 346 m/s | (d) 370 m/s. |

- 3. Sound is produced by:**
 (a) Propagation of light (b) Vibrating objects
 (c) Clouds (d) Change in physical state.
- 4. The number of vibrations per second is called:**
 (a) Speed (b) Amplitude (c) Frequency (d) Time period.
- 5. The pitch of the sound depends on:**
 (a) amplitude of vibrating body. (b) frequency of vibrating body.
 (c) speed of sound in air. (d) medium of propagation.
- 6. The SI unit of frequency is:**
 (a) newton (b) pascal (c) hertz (d) coulomb.
- 7. Sound cannot be related with:**
 (a) Hearing (b) Sunlight (c) Wave (d) Frequency.
- 8. Sound waves are characterised by:**
 (a) Frequency (b) Speed (c) Amplitude (d) All of these.
- 9. Sound is produced in percussion instrument with the help of:**
 (a) Vibrating string (b) Vibrating skin (c) Air column (d) Vibrating nails.
- 10. Sound waves travel in air by producing:**
 (a) Compressions (b) Rarefactions (c) Both (a) and (b) (d) None of these.
- 11. Sound can travel through:**
 (a) gases only (b) solids only
 (c) liquids only (d) solids, liquids and gases.
- 12. Voice of which of the following is likely to have minimum frequency?**
 (a) Baby girl (b) Baby boy (c) A man (d) A woman.
- 13. The instrument which vibrates to produce sound in:**
 (a) Dholak (b) Sitar (c) Flute (d) Tabla.
- 14. Which of the following is not a stringed instrument?**
 (a) Sitar (b) Tabla (c) Violin (d) Guitar.
- 15. Which one is correct among the following?**
 (a) A sound pleasing to ear is music. (b) An undesirable sound is noise.
 (c) A sound which can be heard is audible. (d) All of these.
- 16. The maximum displacement of vibrating objects from its mean position is called:**
 (a) Frequency (b) Speed (c) Amplitude (d) Pitch.
- 17. Flute is an example of:**
 (a) Stringed instruments (b) Wind instruments
 (c) Percussion instruments (d) None of these.
- 18. Loudness of the sound is determined by:**
 (a) frequency of the vibrating body. (b) time period.
 (c) amplitude of vibrating body. (d) none of these.

□□

SOUND
SUBJECT ASSESSMENT
WORKSHEET-93

Name	Class	Roll No.	Time 40 Min.	Max. Marks 24	Marks Obtained
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VERY SHORT ANSWER TYPE QUESTIONS (1 MARK)

1. What is SONAR?

Ans.

2. How is ultrasound used in industry?

Ans.

3. How are frequency of sound and pitch related?

Ans.

4. Can sound travel in vacuum?

Ans.

5. What is meant by base loudness level?

Ans.

6. How is sound produced?

Ans.

7. Why do we hear the thunder a little later than we see the flash of lightning?

Ans.

8. Why do we hear the sound of the horn of an approaching car before the car reaches us?

Ans.

9. How do plants help in reducing noise pollution?

Ans.

10. Write the SI units of time-period and frequency.

Ans.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. (a) Can we hear the sound on the moon? Explain.

(b) What is the range of audible sound?

Ans.

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2. (a) How can a hearing impaired child communicate?
(b) How can we control the sources of noise pollution?

Ans.
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.....

3. Give an example each of following:

- (a) Stringed instrument
(b) Percussion instrument
(c) Wind instrument
(d) Striking instrument.

4. (a) How do birds and insects produce sound?
(b) Which characteristic of a vibrating body determines pitch of the sound produced by it?

Ans.
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5. (a) What is meant by time-period?
(b) What is meant by inaudible sound?

Ans.
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6. (a) What is meant by echo?
(b) Name the equipment which works at frequencies higher than 20,000 Hz.

Ans.
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7. (a) In our body, which part of the ear receives sound waves?
(b) What may happen if the eardrum is absent from our ear?

Ans.
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SOUND
SUBJECT ASSESSMENT
WORKSHEET-94

Name	Class	Roll No.	Time 35 Min.	Max. Marks 27	Marks Obtained
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SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. The sound from a mosquito is produced when it vibrates its wings at an average rate of 500 vibrations per second. What is the time-period of the vibration?

Ans.
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2. The frequency of a given sound is 1.5 kHz. How many vibrations it completes in one second?

Ans.
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3. (a) If the amplitude increases 3 times, by how much times will the loudness increase?
(b) What characteristic of a vibrating body determines loudness?

Ans.
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SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. Your parents are going to buy a house. They have been offered one on the roadside and another on three lanes away from the roadside. Which house would you suggest your parents should buy? And why?

Ans.
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2. A pendulum oscillates 40 times in 4 seconds. Find its time-period and frequency.

Ans.
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3. List sources of noise pollution in your surroundings.

Ans.
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4. What is the difference between noise and music? Can music become noise sometimes?

Ans.
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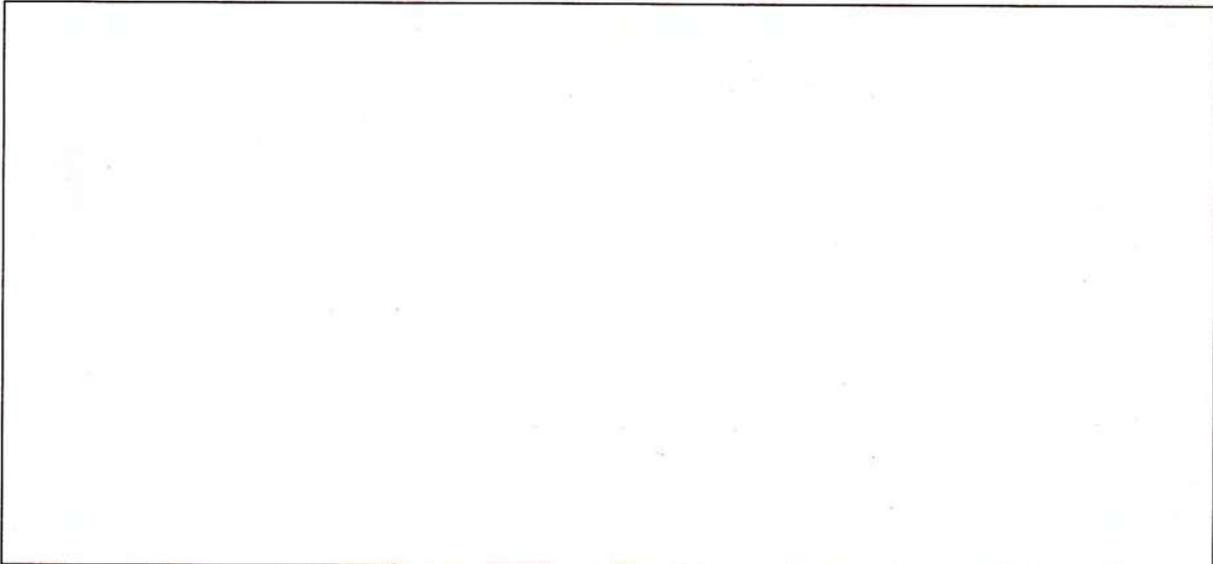
5. Explain, noise pollution is harmful to human.

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

- (a) Lack of sleep, hypertension, etc., are caused due to
- (b) Loudness of sound is proportional to the square of the amplitude of vibration producing
- (c) The body part of human being which produces sound is called

7. Draw a labelled diagram showing the structure of the human ear.

Ans. 

□□

SOUND
SUBJECT ASSESSMENT
WORKSHEET-95

Name	Class	Roll No.	Time 45 Min.	Max. Marks 30	Marks Obtained
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ANSWER THE FOLLOWING

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

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Column A	Column B
(a) Ultrasonic sound	(i) Sound whose frequency is below 20 Hz
(b) The number of oscillations produced per second	(ii) sound whose frequency is between 20 Hz to 20,000 Hz
(c) The unpleasant sound	(iii) can create physically painful sound
(d) Voice box or larynx	(iv) <i>manjira, kartal and ghatam</i>
(e) Stretched membrane is the vibrating part in	(v) vibration
(f) The to and fro motion of an object is called	(vi) sound whose frequency is higher than 20,000 Hz
(g) Infrasound	(vii) tabla
(h) The musical instruments that are struck or beaten	(viii) sound is produced
(i) Audible range of sound	(ix) frequency
(j) The noise produced above 80 decibels	(x) noise

Ans.
.....

LONG ANSWER TYPE QUESTIONS (5 MARKS)

1. (a) What happens when we pluck the strings of a sitar?

(b) We cannot hear the sound of the exploding meteors in the sky, though we can see them. Why?

Ans.
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2. What is the use of ultrasound in medicine and industry?

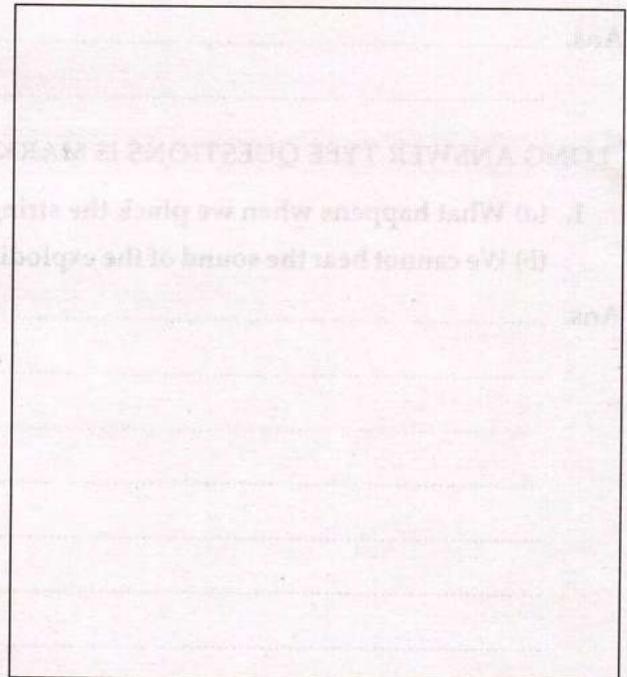
Ans.
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3. Lightning and thunder take place in the sky at the same time and at the same distance from us. Lightning is seen earlier and thunder is heard later. Explain, why?

Ans.
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4. Sketch larynx and explain its function in your own words.

Ans.
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□□

**SOUND
SUBJECT ASSESSMENT
WORKSHEET-96**

Name	Class	Roll No.	Time 50 Min.	Max. Marks 35	Marks Obtained
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ANSWER THE FOLLOWING

1. Fill in the blanks.

9

- (a) Sound is produced due to
- (b) Sound requires to travel.
- (c) The sound in humans is produced in the
- (d) The number of oscillation per second is called
- (e) The collects the sound waves and directs them to the ear tube.
- (f) Unwanted sound is called
- (g) Loudness is determined by the of vibration.
- (h) Shrillness of a sound is determined by the of vibration.
- (i) may cause partial hearing impairment.

2. Give one word for the following.

5

- (a) The sound waves with a frequency below 20 Hz.
- (b) The maximum displacement from the mean position during an oscillation.
- (c) Unpleasant, discomfort-causing sound from any source.
- (d) Time taken to complete one oscillation.
- (e) Musical instruments which produce sound by a vibrating air column.

3. Give reasons for the following.

5

- (a) We cannot hear sounds below 20 Hz.
.....
.....
- (b) Women have a shriller voice.
.....
.....
- (c) Sound cannot be heard in a vacuum.
.....
.....
- (d) Speed of sound depends on the density of the medium.
.....
.....

(e) We hear an echo only from those surfaces which are far away.

.....
.....

4. Define the following terms.

5

(a) Noise

(b) Frequency

(c) Amplitude of an oscillation

(d) Time period

(e) Vibration

5. Match the columns.

5

Column A	Column B
(a) Pitch	(i) Wind instrument
(b) Trumpet	(ii) Stringed instrument
(c) Guitar	(iii) Amplitude
(d) Loudness	(iv) Noise pollution
(e) Blaring loudspeakers	(v) Frequency

6. Describe an experiment to show that sound can travel in liquids.

3

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7. How is sound produced in humans?

3

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**SOUND
SUBJECT ASSESSMENT
WORKSHEET-97**

Name	Class	Roll No.	Time 40 Min.	Max. Marks 19	Marks Obtained
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DO AS DIRECTED

6 × 1 = 6

1. Any object that produces a sound is called a of sound.
2. A sound which cannot be heard is called
3. The SI unit of time period is
4. The human ear can hear the sounds of frequencies 20 Hz to 20,000 Hz. (T/F)
5. Sound waves of frequencies below 20 Hz are called ultrasonic waves. (T/F)
6. Tabla is an example of percussion instruments. (T/F)

UNSCRAMBLE THESE LETTERS BY USING CLUES AND WRITE CORRECT WORD.

5 × 1 = 5

1. A very ancient stringed instrument — AHPR
2. Reflected sound wave — HOEC
3. A very harsh sound — NSEOI
4. Animal of very high sound frequencies audibility — TSAB
5. Sound of a very high frequency — ACIOLNRUTS

ANALOGY TYPE QUESTIONS

5 × 1 = 5

1. Speed of sound in solids : : : In liquids :
2. : The amplitude of vibration : : Louder : The sound.
3. *Shehnai* : Wind instruments : : : Stringed instruments.
4. Time taken to complete one vibration : : : Repeated back and forth motion : Oscillatory motion.
5. Higher : The frequency of the vibrating body : : : Its pitch.

MATCH THE COLUMNS (DOUBLE MATCHING)

3

Column A	Column B	Column C
(A) Stringed instrument	(a) Vibrating membrane	(i) Drum
(B) Percussion instrument	(b) Vibrating air column	(ii) Guitar
(C) Wind instrument	(c) Vibrating string	(iii) Clarinet

Ans.

SOUND ENRICHMENT ACTIVITY WORKSHEET-98

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

Make a group of friends and visit a musical library, list the musical instruments available there and finally, categorise them into stringed, wind and percussion instruments.

ACTIVITY-1

Aim: To prove that sound produced by a tuning fork is due to the vibrations of prongs.

Materials Required: A tuning fork, table tennis ball, water in a trough and a string.

Procedure: Take a tuning fork, it has a handle and two prongs. If you strike one of the prongs, both prongs start vibrating. If you bring one vibrating prong of the tuning fork near the surface of the water in a trough, you will observe the ripple effect, that is, waves will be produced in the water. If you bring the vibrating prong of a tuning fork near a table-tennis ball which is hung with a string, because of the movements, the ball will swiftly move away.

Observation: The above are caused by the vibration in the air column. Similarly, if you blow air in an empty bottle, sound is produced due to the vibration in the air column inside the bottle.

ACTIVITY-2

Aim: Preparation of *Jal Tarang*.

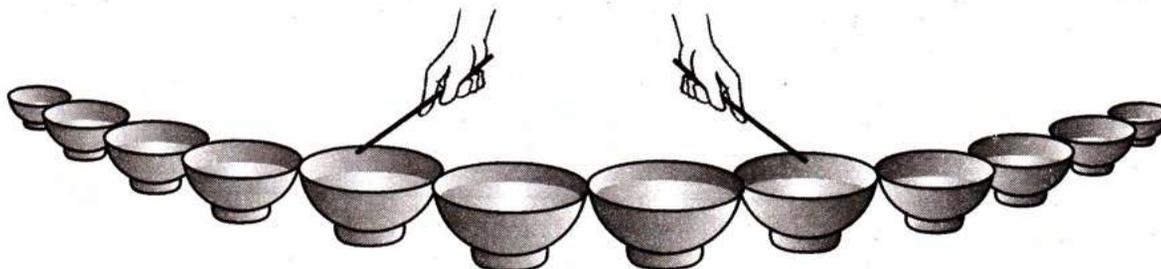
Materials Required: Twelve identical bowls, two drum sticks, water.

Procedure: Keep all the bowls in a row. Fill all of them with varying levels of water. Strike each bowl consecutively with the drum sticks. Observe it carefully.

Observation: You will notice that tinkling sounds of different pitches are heard on striking the bowls consecutively.

Conclusion: The pitch is the highest in bowl having maximum amount of water and lowest in tumbler having least amount of water.

Result: This is your *Jal Tarang*.



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CHEMICAL EFFECTS OF ELECTRIC CURRENT

SUBJECT ASSESSMENT

WORKSHEET-99

Name	Class	Roll No.	Time 30 Min.	Max. Marks 20	Marks Obtained
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POINTS TO REMEMBER

- **Electricity** plays a significant role in our daily life. It is an invisible form of energy.
 - Some liquids are good conductors of electricity and some are bad conductors of electricity.
 - Most liquids that conduct electricity are solutions of acids, bases and salts.
 - The passage of electricity (electric current) through a conducting liquid causes chemical reactions. The resulting effects are called **chemical effects of current**.
 - When salt is dissolved in distilled water, we obtain salt solution. This is a **conductor of electricity**.
 - Materials are classified as **good conductors** and **poor conductors**.
 - Lemon juice and tap water are conductors whereas distilled water and milk are insulators.
 - The process of depositing a layer of any desired metal on another material by means of electricity is called **electroplating**.
 - Electroplating is one of the most common applications of **chemical effects of electric current**.
 - The flow of charge through a body forms **electric current** or **current**. The SI unit of current is ampere.
 - Electric current flows from higher potential to lower potential.
 - **Electric potential** is a physical quantity whose values at different points indicate the direction of the electric current.
 - When potential difference acrosses the two bodies, then the resultant will be zero and flow of current will stop.
 - **There are two kinds of charges. These are:**
(i) Positive charge (ii) Negative charge.
 - We know that $I = \frac{Q}{t}$
or $Q = It$.
- Where I is the current, Q is charge and t is time.
- The full form of CFL is Compact Fluorescent Lamps.
 - Basically, secondary and primary cells are two types of cell.
 - Primary cells are used once whereas secondary cells are rechargeable.

MULTIPLE CHOICE QUESTIONS (MCQs)

20 × 1 = 20

1. Electricity cannot be passed through:
 (a) Acids (b) Bases (c) Salts (d) Distilled water.
2. Electric current is the flow of:
 (a) Positrons (b) Neutrons (c) Protons (d) Charge.
3. To get 8 volts, how many 2 volts cell would you connect in series?
 (a) 2 (b) 4 (c) 6 (d) 8.
4. Electroplating is based on the phenomenon of:
 (a) Chemical effect (b) Heating effect
 (c) Flow of electrons (d) Magnetic effect.

5. A positively charged ion is called:
 (a) Atom (b) Cation (c) Neutral ion (d) Anion.
6. The instrument needed to measure the current flowing through a circuit is:
 (a) Ammeter (b) Voltmeter (c) Voltmeter (d) None of these.
7. The process in which any electrolyte gets decomposed when electricity is passed through it, is called:
 (a) Dissociation (b) Splitting (c) Decomposition (d) Electrolysis.
8. The process of depositing a thin layer of any superior metal over an object of a cheaper metal with the help of electricity is called:
 (a) Electroshinning (b) Electrometallurgy (c) Electroplating (d) Electrorefining.
9. A weak current can be detected by replacing electric bulb in an electric tester with:
 (a) LED (b) a coil wound over a compass needle
 (c) both (a) and (b) (d) none of these.
10. The process of electrolysis is used in:
 (a) Electroplating (b) Refining of metals
 (c) Extraction of metals (d) All of the above.
11. Materials like iron and gold are:
 (a) poor conductors (b) good conductors (c) semi-conductors (d) none of these.
12. Milk is a:
 (a) poor conductor (b) good conductor (c) both (i) and (ii) (d) none of these.
13. Pure water is a:
 (a) poor conductor (b) good conductor (c) semi-conductor (d) none of these.
14. When salt is dissolved in water, it:
 (a) conducts electricity (b) does not conduct electricity
 (c) sometimes conducts, sometimes does not (d) none of these.
15. We should handle electrical appliances:
 (a) with wet hands (b) by standing on wet floor
 (c) with rubber glove wearing in hands (d) none of these.
16. Distilled water is:
 (a) best conductor of electricity. (b) good conductor of electricity.
 (c) bad conductor of electricity. (d) none of these.
17. When electric current is passed through acidulated water, the gases produced are:
 (a) Hydrogen and oxygen (b) Hydrogen and ozone
 (c) Oxygen and hydrogen peroxide (d) None of these.
18. The object to be electroplated is made at:
 (a) Anode (b) Cathode (c) Both of these (d) None of these.
19. The charge carried by anion is:
 (a) Positive (b) Negative (c) Anode (d) None of these.
20. In an electrolytic cell, the electrode that is connected to the positive terminal of the battery is called:
 (a) Cation (b) Anion (c) Cathode (d) Anode.

□□

CHEMICAL EFFECTS OF ELECTRIC CURRENT
SUBJECT ASSESSMENT
WORKSHEET-100

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 voltage?

Ans.

2. Define coulomb.

Ans.

3. Define good conductor of electricity.

Ans.

4. Does air behave as an insulator under all conditions?

Ans.

5. By which process bubbles of a gas may be formed?

Ans.

6. Define electric circuit.

Ans.

7. What happens when an electric current is passed through a conducting solution?

Ans.

8. Why is distilled water an insulator?

Ans.

9. Apart from chemical effect, what other effect does electric current produce?

Ans.

10. What are electrodes?

Ans.

11. Define electrolyte.

Ans.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. A child staying in a coastal region tests the drinking water and also the sea water with his tester. He finds that the compass needle deflects more in case of sea water. Can you explain the reason?

Ans.

**CHEMICAL EFFECTS OF ELECTRIC CURRENT
SUBJECT ASSESSMENT
WORKSHEET-101**

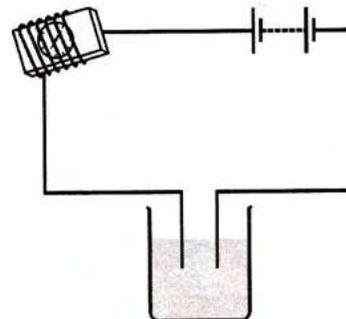
Name	Class	Roll No.	Time 40 Min.	Max. Marks 26	Marks Obtained
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SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. Does pure water conduct electricity? If not, what can we do to make it conducting?

Ans.

2. Name three liquids, which when tested in the manner shown in figure, may cause the magnetic needle to deflect.



Ans.

3. Why should you not touch electrical appliances with wet hands?

Ans.

4. Why are the iron cans electroplated with tin?

Ans.

SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. Explain electroplating with examples.

.....

.....
.....
2. With respect to electrorefining of copper, answer the following questions.

- (a) Which object is used as an anode?
- (b) Name the electrolyte used.
- (c) What is used as the cathode?

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.....
.....
.....
.....
3. (a) Why should you not do the experiments on electricity by using electric supply from mains?
(b) What are meant by ions?

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

4. Explain the process of electroplating of copper.

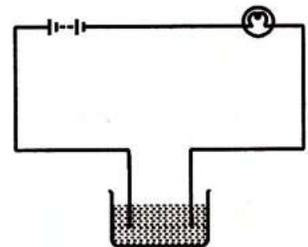
Ans.
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5. Give three applications of chemical effect of current.

Ans.
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6. The bulb does not glow in the setup shown in figure. List the possible reasons. Explain your answer.

Ans.
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□□

CHEMICAL EFFECTS OF ELECTRIC CURRENT
SUBJECT ASSESSMENT
WORKSHEET-102

Name	Class.....	Roll No.....	Time 40 Min.	Max. Marks 25	Marks Obtained
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SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. (a) A tester is used to check the conduction of electricity through two liquids, labelled A and B, it is found that the bulb of the tester glows brightly for liquid A while it glows very dimly for liquid B. You would conclude that:
- (i) liquid A is a better conductor than liquid B.
 - (ii) liquid B is a better conductor than liquid A.
 - (iii) both liquids are equally conducting.
 - (iv) conducting properties of liquid cannot be compared in this manner.

(b) How are bridges and automobiles prevented from rusting?

Ans.

2. Why does the bulb glow, when the electric current passes through it?

Ans.

3. Air is a poor conductor, but during lightning an electric current passes through air. Why?

Ans.

4. (a) What is the disadvantage of electroplating done in the factories?
 (b) What is an electric pen?

Ans.

.....
.....
5. What is the role of battery in electrolysis?

Ans.

LONG ANSWER TYPE QUESTIONS (5 MARKS)

- 1. (a) Why does compass needle deflect when it is kept nearby the wire through which current flows?
(b) Why is the current weak in the circuit?**

Ans.

- 2. What is the difference between the electronic flow and conventional flow of current in a conductor?**

Ans.



CHEMICAL EFFECTS OF ELECTRIC CURRENT
SUBJECT ASSESSMENT
WORKSHEET-103

Name	Class	Roll No.	Time 35 Min.	Max. Marks 20	Marks Obtained
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LONG ANSWER TYPE QUESTIONS (5 MARKS)

1. (a) If the current in the circuit is weak, how can we test its presence?
(b) What is the disadvantage of electroplating done in the factories?

Ans.

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2. What do you mean by electric circuit? What are various elements of electric circuit? Write their symbols.

Ans.

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3. (a) Why are LEDs more useful for testing the flow of electric current?
(b) Give some uses of LED. How should LED be connected?

Ans.

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CHEMICAL EFFECTS OF ELECTRIC CURRENT

SUBJECT ASSESSMENT

WORKSHEET-104

Name	Class	Roll No.	Time 45 Min.	Max. Marks 32	Marks Obtained
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ANSWER THE FOLLOWING

1. Fill in the blanks.

9

- (a) Metals are conductors of electricity.
- (b) Most liquids that conduct electricity are the solutions of,
..... or
- (c) During electrolysis of water, the and
gases are evolved.
- (d) Impurities present in water form which conduct electricity.
- (e) The electric current when passed through an electrolyte brings about
of ions in the solution.
- (f) Most liquids that conduct electricity are solutions of, and
.....
- (g) The passage of an electric current through a solution causes effects.
- (h) If you pass current through copper sulphate solution, copper gets deposited on the plate
connected to the terminal of the battery.
- (i) The process of depositing a layer of any desired metal on another material by means of
electricity is called

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

3

- (a) Jewellery makers electroplate silver and gold on very expensive metals. ()
- (b) Small amounts of mineral salts present naturally in water are not beneficial for
human health. ()
- (c) The process of depositing a layer of any desired metal on another material by means
of electricity is called hydrolysis. ()

3. Give one word for the following.

5

- (a) Charge carriers in liquids.
- (b) The process used for the refining of impure metals.
- (c) The method of coating one metal with another using an electric current.
- (d) Positively charged ions in an electrolyte.
- (e) Negatively charged ions in an electrolyte.

4. Define the following terms.

5

(a) Electrodes

.....

(b) Cathode

.....

(c) Anode

.....

(d) Electrical conductivity

.....

(e) Electrolyte

.....

5. Match the columns.

5

Column A	Column B
(a) Electrolyte	(i) Negative ions
(b) Cathode	(ii) Liquids
(c) Anode	(iii) Positive ions
(d) Anion	(iv) Negative electrode
(e) Cation	(v) Positive electrode

5. Give reasons for the following.

5

(a) Dilute acid is added in water to pass electric current.

.....

(b) Pure water is a poor conductor of electricity.

.....

(c) LED is a better option than bulbs for testing conduction.

.....

(d) Lime juice and vinegar are good electrolytes.

.....

(e) Sodium chloride solution is a good conductor of electricity.

.....

□□

CHEMICAL EFFECTS OF ELECTRIC CURRENT

SUBJECT ASSESSMENT

WORKSHEET-105

Name	Class.....	Roll No.....	Time 40 Min.	Max. Marks 19	Marks Obtained
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DO AS DIRECTED

6 × 1 = 6

1. Electric current flows through
2. A form of carbon which is good conductor, is
3. The negative terminal of the cell is
4. A liquid that conducts electricity is an electrolyte. (T/F)
5. Tap water is good conductor of electricity. (T/F)
6. Similar charges carrying objects attract each other. (T/F)

ANALOGY TYPE QUESTIONS

5 × 1 = 5

1. OH^- : Hydroxyl ion :: H^+ :
2. Pure water : Bad conductor of electricity :: Plastic :
3. Positively charged ion : Cation :: Negatively charge ion :
4. Voltaic cell : Alexandro Volta :: Daniel cell :
5. Primary cell : Used only once :: Secondary cell :

PAPER-PEN TEST

5 × 1 = 5

1. Define ions.

Ans.

2. Write LED in expanded form.
3. After dissociation of NaCl, does Na^+ lose or gain electron on moving towards cathode?

Ans.

4. Is kerosene non-electrolyte?
5. Name the gas that burns with pop sound.

FIND THE ODD ONE OUT

3 × 1 = 3

1. Electroplating, electrolysis, hydrolysis, refining of metals.
2. Salt water, tap water, copper sulphate, distilled water.
3. Electrodes, cathode, anode, diode.

CHEMICAL EFFECTS OF ELECTRIC CURRENT

ENRICHMENT ACTIVITY

WORKSHEET-106

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

Make a group of friends and prepare a list of electroplated objects in your house. Try to prepare a project report after discussing with your friends about these listed electroplated objects.

ACTIVITY-1

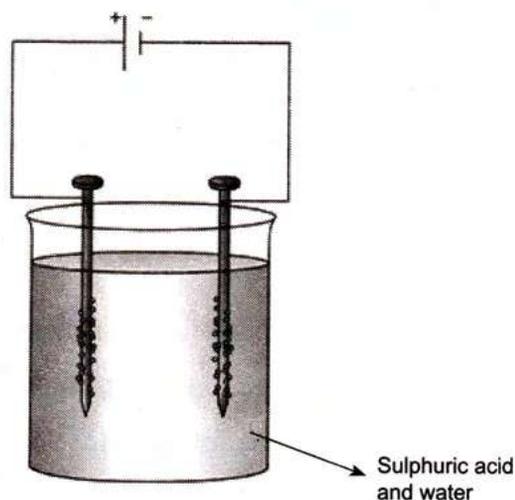
Aim: To demonstrate the effect of electric current on water.

Material Required: Beaker, two iron nails, wires, battery, water and sulphuric acid

Method: Take two iron nails and two copper wires. Wrap a copper wire around each nail and connect the free ends of both the wires to the two terminals of the battery. Now, dip the nails (they act as electrodes) in the beaker of water having little salt and few drops of sulphuric acid. Immerse both the nails in the beaker and observe what happens.

Observation: You will observe bubbles around the nails. The bubbles are of the gases evolved from water.

Conclusion: The electric current breaks down the water molecule into its constituent gases, that is, hydrogen and oxygen, which can be seen near the nails. This proves that the current has a chemical effect on water, bringing about a chemical change. The hydrogen and chlorine gases can also be obtained if the salt added in the water is concentrated.



ACTIVITY-2

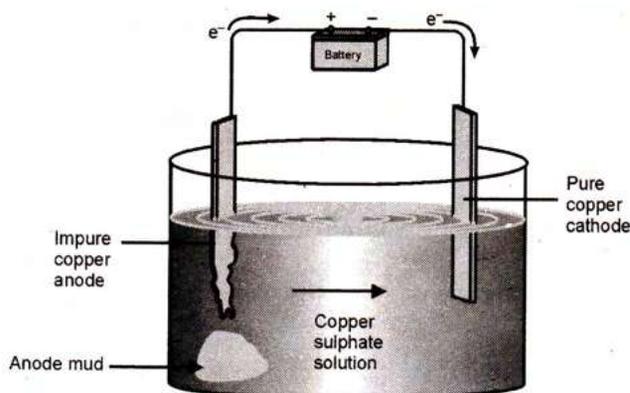
Aim: Pure copper is deposited at cathode after using copper electrode and copper sulphate solution.

Materials Required: Electrical wires, a battery, two thick copper strips, a thin copper wire, copper sulphate solution and a beaker.

Procedure: Take copper sulphate solution in beaker. Connect two copper strips to a battery by a thin copper wire and dip the ends of the wire into the copper sulphate solution. Leave the arrangement for sometime and observe it carefully.

Observation: We will see that the pure copper cathode increases in size and the impure copper anode decreases in size.

Result: Above observation shows that pure copper is deposited at cathode.



SOME NATURAL PHENOMENA SUBJECT ASSESSMENT WORKSHEET-107

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

- **Lightning** is caused by the accumulation of charges in the clouds.
- Some objects can be charged by rubbing with other objects.
- There are two types of charges: **positive charge** and **negative charge**. Like charges repel and unlike charges attract each other.
- When a plastic refill is rubbed with polythene, it acquires a small electrical charge. Similarly, when a plastic comb is rubbed with dry hair, it acquires a small charge. These objects are called **charged objects**.
- Charge acquired by glass rod when it is rubbed with silk, is **positive**.
- The earth has both positive and negative charges. An object can be charged by conduction.
- A device which can be used to test whether an object is carrying a charge or not, is known as **electroscope**.
- When a body loses its charges, it is said to be discharged.
- The process of transferring of charge from a charged object to the earth is called **earthing**.
- The process of electric discharge occurring between two or more clouds or between clouds and the earth is called **lightning**. The lightning strike could destroy life and property.
- To protect tall building from the effect of lightning, we should erect **lightning conductor** in the building.
- An earthquake is a sudden shaking or trembling of the earth due to the disturbances deep inside the earth's crusts and it lasts for a very short time.
- The occurrence of earthquakes cannot be predicted whereas occurrence of thunderstorm can be predicted.
- Earthquakes tend to occur at the boundaries of earth's plates. These boundaries are known as **fault zones**.
- **Seismic zones** are called weak zones.
- **Seismic waves** are produced on the surface of the earth by tremors.
- Magnitude of an earthquake is measured on the **richter scale**. The earthquake higher than 7 richter scale causes extensive damage to lives and properties.

MULTIPLE CHOICE QUESTIONS (MCQs)

17 × 1 = 17

1. When a glass rod is rubbed with a piece of silk cloth, the rod:
 - (a) and the cloth both acquire positive charge.
 - (b) becomes positively charged while the cloth has a negative charge.
 - (c) and the cloth both acquire negative charge.
 - (d) becomes negatively charged while the cloth has a positive charge.
2. Which of the following cannot be charged easily by friction?

<ol style="list-style-type: none"> (a) A plastic scale (c) A copper rod 	<ol style="list-style-type: none"> (b) An inflated balloon (d) A woollen cloth.
-------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------

3. **The process of transfer of charge from a charged object to the earth is called:**
 (a) Conducting (b) Earthing (c) Charging (d) None of these.
4. **Which can protect the buildings from the effects of lightning?**
 (a) Lightning conductor (b) Earthing (c) Conducting (d) None of these.
5. **Prediction of an earthquake is:**
 (a) Not possible (b) Possible (c) Measured (d) None of these.
6. **Earthquake can cause severe damage at:**
 (a) 5 richter scale (b) 6 richter scale
 (c) Higher than 7 richter scale (d) None of these.
7. **Earthquakes tend to occur at the boundaries of earth's plate. These boundaries are known as:**
 (a) Fault zones (b) Earth zone (c) Earthquake zone (d) None of these.
8. **Seismic waves are recorded by:**
 (a) Seismograph (b) Retrograph (c) Pictograph (d) None of these.
9. **In a neutral object, there are:**
 (a) equal number of atoms. (b) more negative charges than positive charges.
 (c) equal number of positively and negatively charged particles. (d) none of these.
10. **Electroscope can be used to:**
 (a) detect or measure charge only. (b) detect, measure and know the nature of charge.
 (c) detect charge only. (d) none of the above.
11. **Which of the following cannot be charged easily by friction?**
 (a) A plastic scale (b) A copper rod
 (c) An inflated balloon (d) A woollen cloth.
12. **When a glass rod is rubbed with a piece of silk cloth, the rod:**
 (a) and the cloth both acquire positive charge.
 (b) becomes positively charged while cloth has a negative charge.
 (c) and the cloth both acquire negative charge.
 (d) becomes negatively charged while the cloth has a positive charge.
13. **Tsunami is caused when:**
 (a) a volcano erupts near the coastal region. (b) a portion of lithosphere sinks in the mantle.
 (c) there is an earthquake near the coastal region undersea. (d) none of these.
14. **Power of an earthquake is expressed in terms of magnitude in:**
 (a) richter scale (b) meter scale (c) kilometre scale (d) light year.
15. **Take a used ballpen refill and rub it vigorously with a piece of polythene. Bring it close to small pieces of paper. Repeat the activity with small pieces of dry leaf and husk. What will you observe?**
 (a) Refill will attract dry leaf. (b) Refill will attract husk.
 (c) Both of these. (d) All of these.
16. **Accumulation of charges leads to:**
 (a) Lightning (b) Storming (c) Thundering (d) None of these.
17. **Most earthquakes are caused by:**
 (a) Tremors (b) Erruption of volcano
 (c) Underground nuclear explosion (d) Movement of earth's plate.

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**SOME NATURAL PHENOMENA
SUBJECT ASSESSMENT
WORKSHEET-108**

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 two charged bodies attract or repel?

Ans.

2. What is meant by static electricity?

Ans.

3. What is a lightning rod?

Ans.

4. How is earthquake caused?

Ans.

5. What is the safest place during lightning?

Ans.

6. Why is earthing provided in buildings?

Ans.

7. Can charge be transferred from a charged object to another through metal conductor?

Ans.

8. Name the scientist who first established the relationship between lightning and spark.

Ans.

9. Is the electric eel really electric?

Ans.

10. What is meant by hypocentre and epicentre?

Ans.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. Sometimes, a crackling sound is heard while taking off a sweater during winters. Explain.

Ans.

2. Explain why a charged body loses its charge if we touch it with our hand.

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

3. List three main states in India where earthquakes are more likely to strike.

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

4. The weather department has predicted that a thunderstorm is likely to occur on a certain day. Suppose we have to go out on that day. Should we carry an umbrella? Explain.

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

5. A glass rod is rubbed with a silk cloth. Which of the two, gets charged in this process?

Ans.
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.....

6. What is the effect of: (a) a charged object (b) an uncharged object, on small bits of paper?

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

7. (a) What is meant by a 'discharged body'?
(b) When did a major tsunami occur in India?

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

8. When is lightning seen?

Ans.
.....
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□□

**SOME NATURAL PHENOMENA
SUBJECT ASSESSMENT
WORKSHEET-109**

Name	Class	Roll No.	Time 40 Min.	Max. Marks 29	Marks Obtained
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SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. What steps should be taken to prevent damage during an earthquake?

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SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. (a) Are lightning and spark from your clothes, the same phenomena?

(b) What do you understand by charged objects?

Ans.

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2. What useful changes are caused by earthquakes?

Ans.

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3. (a) Which provides easy route for transference of electric charge to ground?

(b) How the tremors on the earth is caused?

Ans.

.....

.....

.....

4. Why do your hair stand on when you take off woollen clothes?

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

5. Why does a plastic refill acquire a small electric charge when rubbed with polythene?

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

6. In highly seismic areas, which material should be used for construction of houses?

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

7. To make the house quakesafe, what precautions should be taken?

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

8. Explain why a charged balloon is repelled by another charged balloon whereas an uncharged balloon is attracted by another charged balloon.

Ans.
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.....

9. Name the scale on which the destructive energy of an earthquake is measured. An earthquake measures 3 on this scale. Would it be recorded by a seismograph? Is it likely to cause much damage?

Ans.
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□□

**SOME NATURAL PHENOMENA
SUBJECT ASSESSMENT
WORKSHEET-110**

Name	Class	Roll No.	Time 40 Min.	Max. Marks 28	Marks Obtained
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SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. Suggest three measures to protect ourselves from lightning.

Ans.

LONG ANSWER TYPE QUESTIONS (5 MARKS)

1. Give one word for the following statements:

- (a) Each fragment of the outermost layer of the earth is known as
- (b) The process of transferring charge from charged objects to the earth is known as
- (c) The boundaries of the plates of earth's crust which are weak zones are also called
- (d) The instrument used to record the seismic (earthquake) waves is called
- (e) A device used to protect buildings from the effect of lightning is called

2. (a) Why should bathing be avoided during thunderstorm?

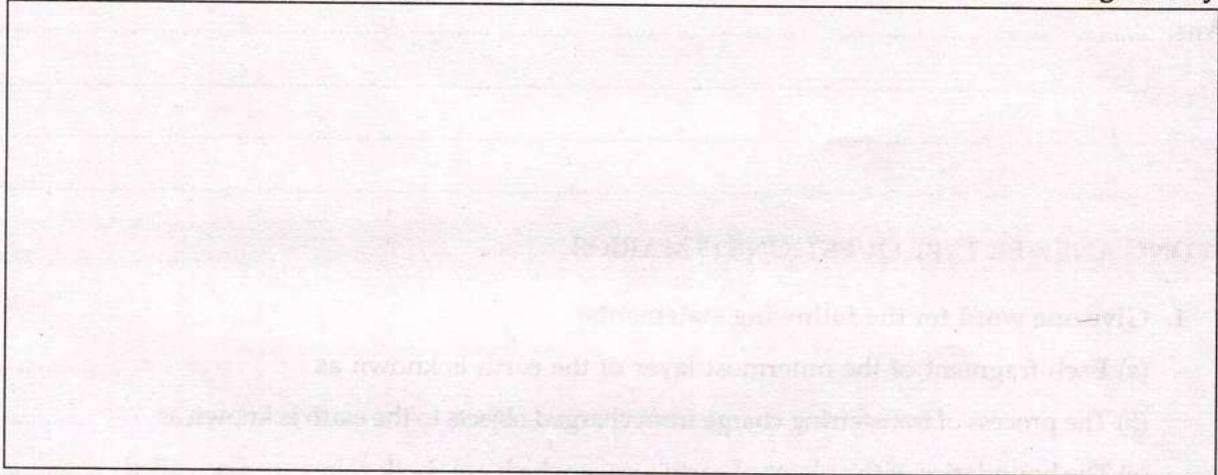
(b) Why do open fields, tall trees, shelter in parks and elevated places not protect us from lightning strokes?

Ans.

3. Suppose you are outside of your home and an earthquake strikes. What precautions would you take to protect yourself?

Ans.

4. Describe with the help of a diagram, an instrument which can be used to detect a charged body.



Ans.

5. (a) Why should we avoid contact with the electrical wires and metal pipes during a thunderstorm?
(b) Should we use telephone during a thunderstorm?

Ans.



**SOME NATURAL PHENOMENA
SUBJECT ASSESSMENT
WORKSHEET-111**

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

1. Give reasons for the following.

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(a) During lightning we should avoid going in the open.

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(b) Earthquake causes landslides on hills.

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(c) Buildings in the earthquake zone should be made with lighter building materials.

.....

(d) At the time of an earthquake, children should get under the table.

.....

(e) Lightning is accompanied by a large amount of electric current and high temperature.

.....

2. Write 'T' for True and 'F' for False statements.

4

(a) Like charges attract each other.

()

(b) A charged glass rod attracts a charged plastic straw.

()

(c) Lightning conductor cannot protect a building from lightning.

()

(d) Earthquakes can be predicted in advance.

()

3. Give one word for the following.

5

(a) Tremors caused due to the shifting of earth's plates below the earth crust

(b) The sudden flow of charges from the clouds to clouds or clouds to the ground

(c) The branch of science concerned with earthquakes and related phenomena

(d) waves created on the surface of the earth's crust due to the earthquake

(e) The theory that the surface of the earth is made of plates that move with respect to one another.

4. Define the following terms.

5

(a) Fault zone

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.....

(b) Focus

.....

.....

(c) Epicentre

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.....

(d) Plate tectonics

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.....

(e) Seismic zones

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.....

5. Match the columns.

5

Column A	Column B
(a) Charges by friction	(i) Destruction
(b) Epicentre	(ii) Discharge to the earth
(c) Earthquake	(iii) Test for the charge
(d) Earthing	(iv) Rubbing
(e) Electroscope	(v) Maximum intensity

6. Write in detail the causes of an earthquake?

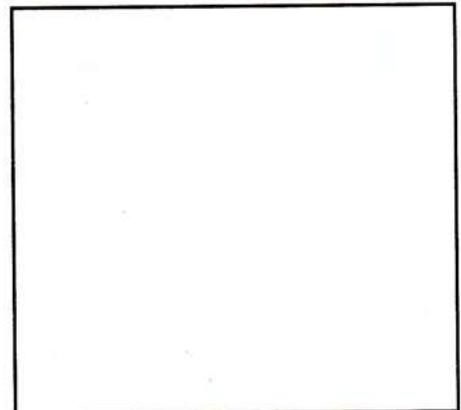
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7. Draw a labelled diagram of a gold leaf electroscope. How does it help to detect charges on a body?

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**SOME NATURAL PHENOMENA
SUBJECT ASSESSMENT
WORKSHEET-112**

Name	Class	Roll No.	Time 35 Min.	Max. Marks 16	Marks Obtained
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DO AS DIRECTED

6 × 1 = 6

1. Each fragment of outermost layer of the earth is called a
2. The weak zones are also called zones.
3. The process of transferring of charge from a charged object to the earth is called
4. Electroscope is used to test the charge carried out by an object. (T/F)
5. Earthquake is caused by disturbance deep inside the earth's crust. (T/F)
6. Lightning strike could not destroy life and property. (T/F)

ANALOGY TYPE QUESTIONS

5 × 1 = 5

1. Like charges : :: Unlike charges : Attract.
2. A major earthquake in Uri and Tangdhar of North Kashmir : 8 October 2005 :: A major earthquake in Bhuj district of Gujarat :
3. Vibration accompanying an earthquake : Tremor :: Shock waves generated by an earthquake :
4. The branch of science dealing with study of an earthquake : Seismology : Instrument used to detect the intensity of seismic waves :
5. Molten rocks constituting the mantle : Magma :: Molten material under the lithosphere of the earth :

QUIZ

5 × 1 = 5

1. When is lightning caused?

Ans.

2. What is hypocentre?

Ans.

3. Name the scale by which magnitude of an earthquake measured?

Ans.

4. Name the earthquake which occurs undersea.

Ans.

5. Which device is used to protect the tall building from the effect of lightning?

Ans.

SOME NATURAL PHENOMENA ENRICHMENT ACTIVITY WORKSHEET-113

Name

Class

Roll No.

Time
45 Min.Max.
Marks
25Marks
Obtained

PROJECT REPORT

Prepare a project report on the earthquakes occurred in India from 2001 to 2005. What are your conclusions.

SUGGESTED ACTIVITIES

1. To show that repulsion is the surest test for electrification.
2. To show that there are two kinds of charges.

ACTIVITY-1

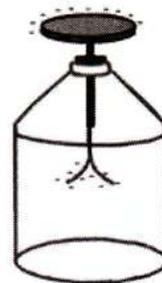
Aim: To construct a simple electroscope.

Materials Required: Glass bottle with wider mouth, small cardboard, paper clip, two small strips of aluminium foil.

Method: Take the bottle and the cardboard. Pierce the cardboard with a paper pin so that the paper pin can be inserted. Now open the paper clip and hang the aluminium foil on the clip. Cover the bottle with the cardboard. Fold the clip so that it stays partly above the cardboard. Bring a charged plastic strip near the clip and observe.

Observation: Similar charges will show repulsion and the aluminium foil strips will repel each other and become wide open. Repeat this with other charged bodies to test the charges on the body. Such a device that can be used to test for the presence of charge on an object is known as electroscope. The metal clip acts as a good conductor of electricity and transfers the electric charge from the charged object to another. Now, touch the clip with the hand. You will observe that the foil collapses.

Conclusion: When you touch the clip, it loses the charge which travels to the earth through your body. So, you can say that the foil gets discharged. When a charged object comes in contact with a body which is not charged, electric charges jump from the charged body till the charges on the two bodies are equalized. This process is called **discharging**. When a body comes in contact with the earth, either directly or indirectly, then the charges are discharged to the earth. The process of transfer of the charge from the charged body to the earth is called **earthing**.



ACTIVITY-2

Aim: To show that like charges repel and unlike charges attract each other.

Materials Required: Two glass rods, two plastic rods, a piece of silk cloth, furry object.

Procedure: 1. First of all, rub one glass rod with a silk cloth and suspend it. Now, rub the other glass rod with silk and bring it near the suspended glass rod. Observe it carefully.

2. Repeat the same activity by rubbing plastic rods on furry object. Now, bring the plastic rod near the suspended glass rod. You will see that glass rod moves towards the plastic rod due to attractive force. Observe it carefully again.

Observation: You will see that the suspended glass rod moves away due to repulsive force in (1), whereas glass rod moves towards the plastic rod in (2).

Result: These above observations show that like charges repel each other whereas unlike charges attract each other.

LIGHT SUBJECT ASSESSMENT WORKSHEET-114

Name	Class	Roll No.	Time 30 Min.	Max. Marks 19	Marks Obtained
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POINTS TO REMEMBER

- The sense of sight is one of the most important senses.
- **Eyes** alone cannot see any object. It is only possible when light from an object enters our eyes that we see any object.
- A polished surface can act as mirror. A mirror can change the direction of light that falls on it.
- There are two types of reflection: (i) regular reflection, (ii) diffused/irregular reflection.
 - (i) **Regular reflection** takes place when light is incident on smooth, polished and regular surfaces.
 - (ii) **Diffused/irregular reflection** takes place on rough surfaces.
- The ray of light which strikes any surface is called the **incident ray** and the ray that comes back from the surface after reflection is known as the **reflected ray**.
- The angle between the normal and incident ray is called the **angle of incidence**. The angle between the normal and the reflected ray is known as the **angle of reflection**.
- **The two laws of reflection are:**
 - (a) The angle of incidence is equal to the angle of reflection.
 - (b) Incident ray, reflected ray and the normal drawn at the point of incidence to the reflecting surface, all lie in the same plane.
- A kaleidoscope is a device used to produce beautiful pattern in the form of **multiple reflections**.
- Splitting of light into its constituent seven colours is known as **dispersion of light**. Rainbow is a natural phenomenon showing dispersion of light.
- The various important parts of eyes are **cornea, iris, pupil, lens, retina** and **optic nerve**.
- A normal eye can see nearby and distant objects clearly. Eye lens present in eye acts as convex lens.
- The most comfortable distance at which one can read with a normal eye, is about 25 cm.
- Visually challenged person can read and write using the **Braille system** which has 63 dot patterns or characters. Each character represents a letter, a combination of letters, a common word or a grammatical sign.

MULTIPLE CHOICE QUESTIONS (MCQs)

19 × 1 = 19

1. **Two mirrors inclined to each other give:**
 - (a) Multiple image (b) Double image (c) Single image (d) none of these.
2. **Beautiful patterns are formed in a kaleidoscope because of:**
 - (a) Single reflection (b) Double reflection
 - (c) Multiple reflection (d) Irregular reflection.
3. **Sunlight consists of:**
 - (a) 3 colours (b) 7 colours (c) 4 colours (d) None of these.
4. **Visually challenged persons can read and write using:**
 - (a) Braille system (b) Reflection of light (c) Light (d) None of these.
5. **What makes things visible?**
 - (a) Sun (b) Bulb (c) Presence of light (d) Eye.

6. Second law of reflection explains:

- (a) Angle of incidence = Angle of reflection (b) Angle of incidence > Angle of reflection
(c) Angle of incidence < Angle of reflection (d) None of these.

7. We can see the moon due to:

- (a) Reflection (b) Image formation (c) Rotation (d) None of these.

8. The impression of an image persists at retina for about:

- (a) $\frac{1}{6}$ th second (b) $\frac{1}{16}$ th second (c) 6 seconds (d) None of these.

9. Diffuse reflection occurs if a ray of light is reflected from:

- (a) Concave mirror (b) Convex mirror (c) Plane mirror (d) Rough surface.

10. Image formed by a plane mirror is:

- (a) virtual, behind the mirror and enlarged.
(b) virtual, behind the mirror and of the same size as the object.
(c) real, at the surface of the mirror and enlarged.
(d) real, behind the mirror and of the same size as the object.

11. When angle of incidence is equal to the angle of reflection?

- (a) Always (b) Sometimes
(c) Under special conditions (d) Never.

12. Image formed by a plane mirror is:

- (a) virtual, behind the mirror and enlarged.
(b) virtual, behind the mirror and of the same size as the object.
(c) real at the surface of the mirror and enlarged.
(d) real, behind the mirror and of the same size as the object.

13. Which mirror is used by dentists and in optical instruments?

- (a) Concave mirror (b) Convex mirror (c) Plane mirror (d) None of these.

14. The incident ray, reflected ray and the normal at the point of incidence lie on the same:

- (a) Line (b) Point (c) Plane (d) Circle.

15. When two plane mirrors are kept at 90°, we get:

- (a) only one image. (b) four images. (c) three images. (d) infinite number of images.

16. The image of an object is formed at the:

- (a) Iris (b) Pupil (c) Lens (d) Retina.

17. Cataract is the condition that affects the:

- (a) Retina (b) Iris (c) Lens (d) Pupil.

18. The reflection taking place from the walls of a building is:

- (a) Regular reflection (b) Multiple reflection (c) Diffused reflection (d) None of these.

19. The amount of light entering the eye is controlled by:

- (a) Retina (b) Cornea (c) Iris (d) Ciliary muscle.

□□

LIGHT
SUBJECT ASSESSMENT
WORKSHEET-115

Name	Class	Roll No.	Time 35 Min.	Max. Marks 25	Marks Obtained
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VERY SHORT ANSWER TYPE QUESTIONS (1 MARK)

1. Define lateral inversion.

Ans.

2. Name the colours in the order they appear in the spectrum of light.

Ans.

3. What do you mean by illuminated objects?

Ans.

4. What are luminous objects?

Ans.

5. How is night-blindness caused?

Ans.

6. What is the function of cornea?

Ans.

7. How many dot patterns Braille system has?

Ans.

8. What is a periscope?

Ans.

9. What are the functions of eyelids?

Ans.

10. Why a convex mirror is used in vehicles?

Ans.

11. Why red light is used at traffic signal for stopping the vehicles?

Ans.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. (a) What is meant by blind spot?
(b) What do you mean by short-sightedness?

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

2. (a) What is meant by normal?
(b) What do you mean by long-sightedness?

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

3. (a) What do you mean by tactual aids?
(b) How many images will be formed when two mirrors are placed edge to edge at an angle of 60° to each other?

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

4. (a) Define optical aids.
(b) Which colour has the highest dispersion of light?

Ans.
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.....

5. Distinguish between real and virtual images.

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

6. State the laws of reflection.

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

7. Why is it important to take care of our eyes? Mention any two activities that may cause damage to our eyes.

Ans.
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.....



**LIGHT
SUBJECT ASSESSMENT
WORKSHEET-116**

Name	Class	Roll No.	Time 35 Min.	Max. Marks 21	Marks Obtained
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SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. How do we see an object?

Ans.

2. What is the difference between angle of incidence ($\angle i$) and angle of reflection ($\angle r$)?

Ans.

3. Suppose you are in a darkroom. Can you see objects in the room? Can you see objects outside the room? Explain.

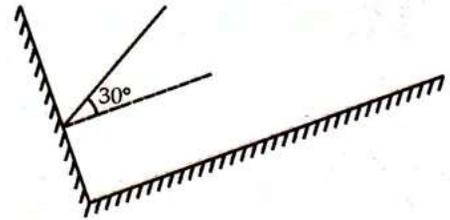
Ans.

SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. (a) Define lateral inversion.
- (b) What is spectrum?

.....

2. Two mirrors meet at right angles. A ray of light is incident on one at an angle of 30° as shown in Figure. Draw the reflected ray from the second mirror.



Ans.

3. Differentiate between regular and diffused reflection. Does diffused reflection mean the failure of the laws of reflection?

Ans.
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4. What are cones and rods? What are their functions?

Ans.
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.....

5. (a) Which part of the human eye makes a person 'blue eyed'?
(b) What role is played by ciliary muscles?
(c) What is the importance of retina in the eye.

Ans.
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□□

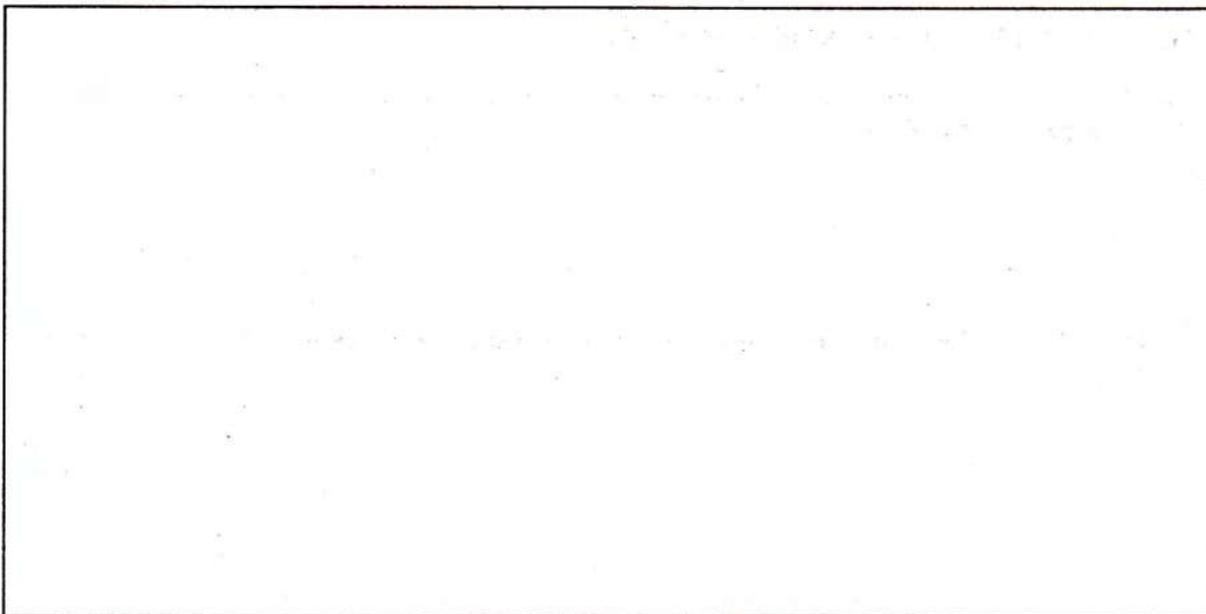
LIGHT
SUBJECT ASSESSMENT
WORKSHEET-117

Name	Class.....	Roll No.....	Time 40 Min.	Max. Marks 22	Marks Obtained
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SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. Draw a diagram to show dispersion of light.

Ans.



2. (a) How are we able to see the moon?
(b) What are non-optical aids?

Ans.

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3. Explain how can we take care of our eyes.

Ans.

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4. (a) What is meant by spectrum?
(b) What is the cataract of eye?

Ans.
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LONG ANSWER TYPE QUESTIONS (5 MARKS)

1. (a) How many images of a candle will be formed if it is placed between two parallel plane mirrors separated by 40 cm?

Ans.
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- (b) Calculate the number of images formed when the two mirrors are kept at the following angles.
(a) 45° (b) 30° (c) 60°

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2. Describe the construction of a Kaleidoscope.

Ans.
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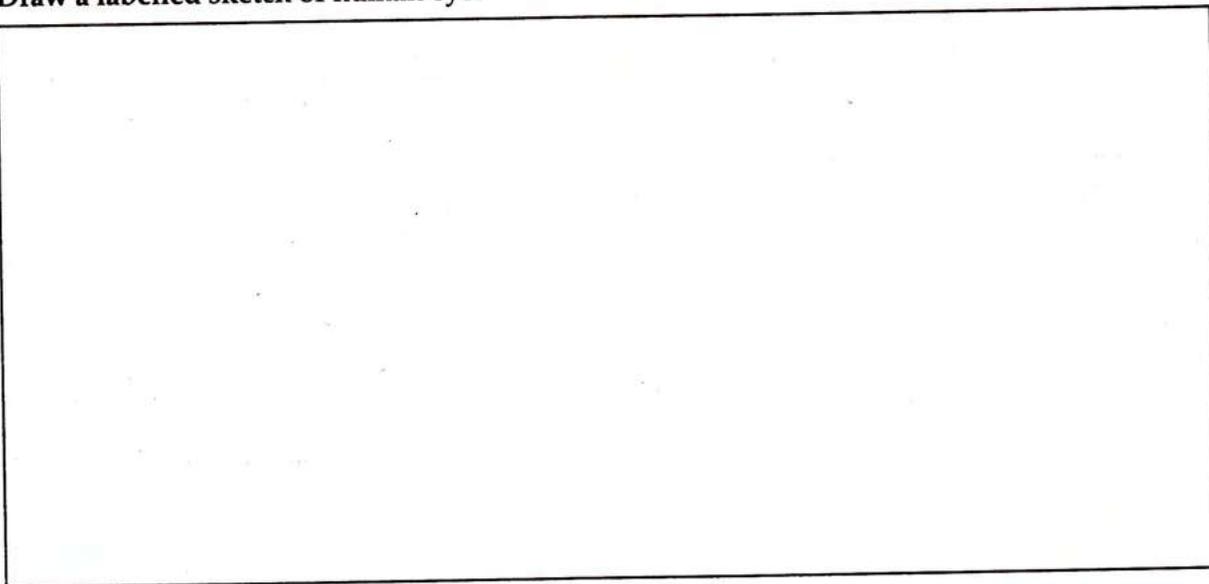
**LIGHT
SUBJECT ASSESSMENT
WORKSHEET-118**

Name	Class	Roll No.	Time 40 Min.	Max. Marks 20	Marks Obtained
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LONG ANSWER TYPE QUESTIONS (5 MARKS)

1. Draw a labelled sketch of human eye.

Ans.



2. Mention against each of the following whether regular or diffused reflection will take place when a beam of light strikes. Justify your answer in each case.

- | | |
|---------------------------|--------------------------------------------|
| (a) Polished wooden table | (b) Chalk powder |
| (c) Cardboard surface | (d) Marble floor with water spread over it |
| (e) Mirror | (f) Piece of paper. |

Ans.

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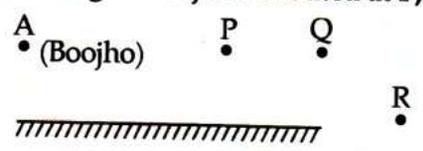
3. Describe an activity to show that the incident ray, the reflected ray and the normal at the point of incident lie in the same plane.

Ans.

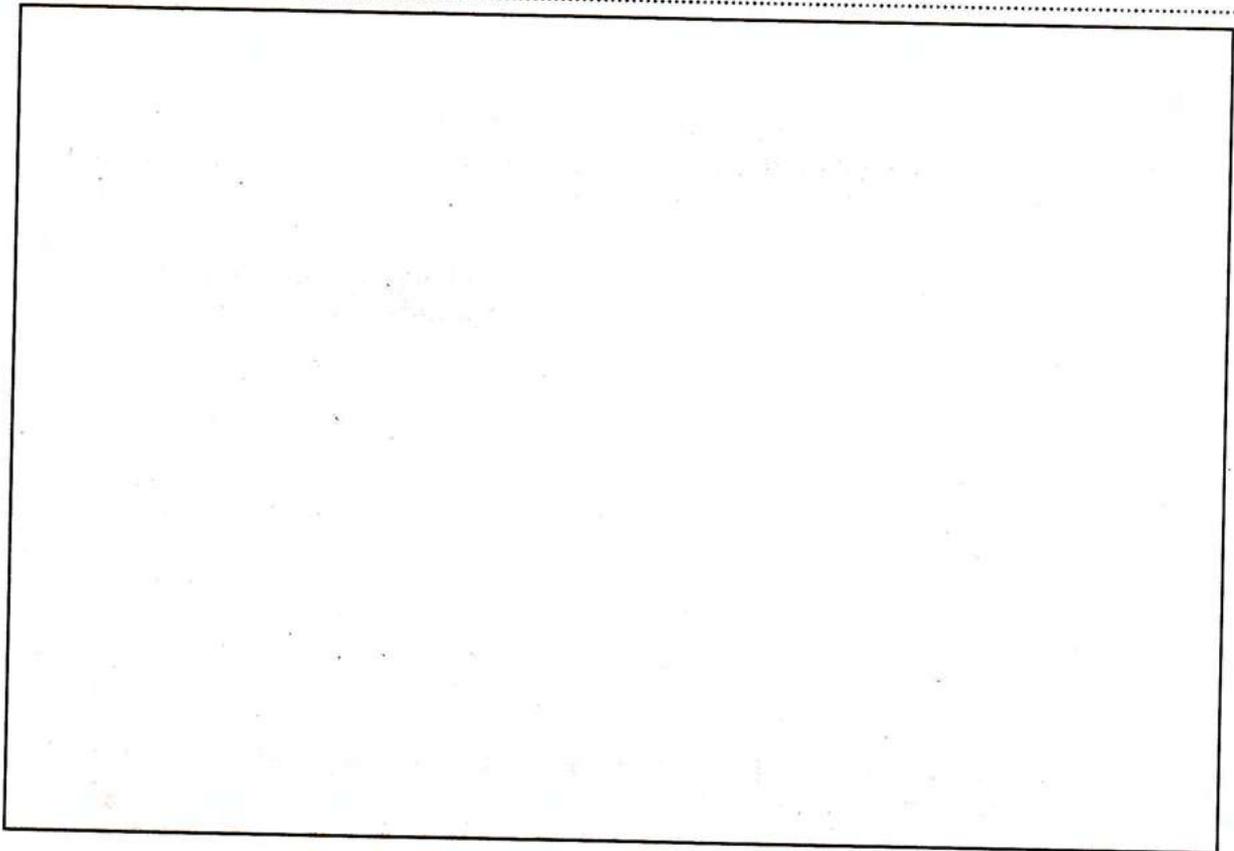
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4. Boojho stands at A just on the side of a plane mirror as shown in the figure. Can he see himself in the mirror? Also can he see the image of objects situated at P, Q and R?



Ans.



LIGHT
SUBJECT ASSESSMENT
WORKSHEET-119

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

1. Fill in the blanks.

12

- (a) In a regular reflection, the beam of light is reflected in direction.
- (b) Angle of incidence is equal to the angle of
- (c) A plane mirror shows inversion.
- (d) The distance of the object and the is same from the mirror.
- (e) In the plane mirror, the image formed is
- (f) The image formed by a plane mirror is inverted with respect to the object.
- (g) The uses two plane mirror strips each of which is kept inclined at 45° to the axis of tube.
- (h) Short-sightedness defect can be removed by using lens.
- (i) A person 1 m in front of a plane mirror seems to be m away from his image.
- (j) If you touch your ear with right hand in front of a plane mirror, it will be seen in the mirror that your right ear is touched with
- (k) The size of the pupil becomes when you see in dim light.
- (l) Night birds have cones than rods in their eyes.

2. Give reasons for the following.

5

- (a) You should wear sunglasses when going out in bright sunlight.

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- (b) We should see ourselves in a plane mirror.

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- (c) Multiple images can be obtained when two plane mirrors are used.

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.....

(d) Hair salons have parallel mirrors.

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(e) Periscopes are used in submarines. (give one line for each)

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.....

3. Define the following terms.

5

(a) Reflection

.....

(b) Refraction

.....

(c) Dispersion

.....

(d) Spectrum

.....

(e) Persistence of vision

.....

4. Match the columns.

5

Column A	Column B
(a) Retina	(i) Bending of light
(b) Optic nerve	(ii) Short sighted
(c) Myopia	(iii) Impulses
(d) Hypermetropia	(iv) Image formation
(e) Lens	(v) Long sighted

5. (a) What is irregular reflection?

3

(b) What is the function of optic nerve in the human eye?

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LIGHT

SUBJECT ASSESSMENT

WORKSHEET-120

Name	Class	Roll No.	Time 35 Min.	Max. Marks 16	Marks Obtained
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DO AS DIRECTED**6 × 1 = 6**

1. Light is an energy.
2. The angle of incidence is always equal to the angle of
3. image can be taken on screen.
4. Plane mirrors are used as looking glasses. (T/F)
5. Short-sightedness is also called hypermetropia. (T/F)
6. Blind spot is a region on the retina where the optic nerve enters into the eyeball. (T/F)

ANALOGY TYPE QUESTIONS**5 × 1 = 5**

1. Reflection from a polished surface : Regular reflection :: Reflection from a rough surface :
2. Long-sightedness : Convex lens :: Short-sightedness :
3. The phenomenon due to which white light splits into seven colours : Dispersion :: The band of seven colours :
4. Protection of interior of the eye from any damage : :: Amount of light entering into the eyes : Pupil.
5. Moon : :: Sun : Luminous object.

ONE WORDS SUBSTITUTION**5 × 1 = 5**

1. A ray of light which strikes any surface is known as
2. The perpendicular drawn at the point of incidence is known as
3. Objects reflect the light falling on them and can be seen are called
4. The colour which has the highest wavelength is
5. The colour which has the highest dispersion of light is

LIGHT ENRICHMENT ACTIVITY WORKSHEET-121

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

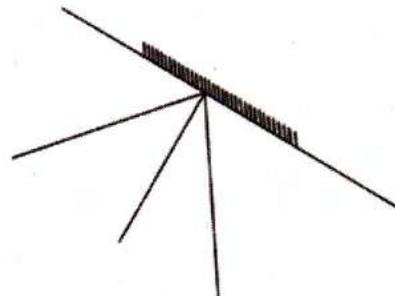
Make a group of friends and visit the clinic of eye specialist. See how he check-ups his patients, note the steps and prepare a project report on it.

ACTIVITY-1

Aim: To verify the laws of reflection.

Materials Required: A4 size white sheet small mirror 4" by 2", mirror clip, paper pins, pencil and a wooden board.

Method: Fix the A4 size paper on the wooden board. Draw a straight line AB and make the mirror stand perpendicular to the board on the line held with the mirror clip. Draw a normal XO at 90° , perpendicular to the straight line. Now draw an incident ray YO joining the point where the normal meets the line. Fix two paper pins on the incident ray. From the other side of the normal, observe the reflection in the mirror. Place two pins aligning to the pins seen in the reflection. Remove the mirror and the pins and draw a straight line ZO on the other side of the normal joining the points of the pins with the point on which the normal is perpendicular.



This is the reflected ray from the mirror. Now, measure the angle between the incident ray and the normal and the angle formed between the normal and reflected ray.

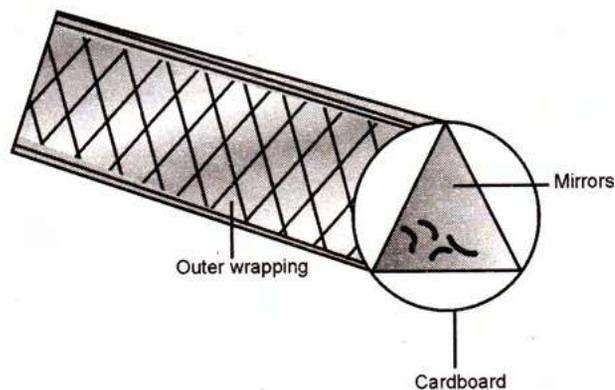
Conclusion: The line on the other side of the normal is the ray of reflection. All the three lines, incident ray, reflected ray and normal lie on the same plane. After measuring the angles, you will see that the angle of incidence and the angle of reflection are equal.

ACTIVITY-2

Aim: Preparation of kaleidoscope.

Materials Required: A cylindrical cardboard tube, three rectangular pieces of mirror, small coloured pieces of glass, half sheet each of white paper and cellophane paper, cellotape and a sheet of colourful gift-wrapping paper.

Procedure: Fix three rectangular pieces of mirror into cylindrical cardboard tube in the form of an equilateral triangle. Cover one end of tube with white paper. Fix it firmly so that the mirrors will not fall down if the tube is held vertical. Put the coloured glass pieces in it and cover the other end of the tube with cellophane paper. Cover the curved portion of the tube with gift-wrapping paper. Kaleidoscope is ready.



STARS AND THE SOLAR SYSTEM

SUBJECT ASSESSMENT

WORKSHEET-122

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

- **Night sky** in the village has no bright light, no smoke and dust whereas the sky of big cities are rarely clear. So, watching night sky can be fascinating in villages because there are no bright lights and the atmosphere is clear.
- The stars twinkle whereas planets do not twinkle.
- The stars, the planets, the moon and many other objects in the sky are called **celestial bodies or objects**.
- Stars emit their own light. Sun is one of the stars.
- The distances of the stars are expressed in unit known as **light year (L.Y.)**.
- The stars appear to move from east to west whereas the earth rotates from west to east.
- The stars forming a group that has a recognisable shape is called a **constellation**.
- A constellation named orion is known as hunter.
- A planet has a definite path in which it revolves around the sun. This path is called an **orbit**.
- The **pole star** appears to be stationary from the earth, because it is situated close to the direction of the axis of rotation of the earth.
- A solar system consists of eight planets and a host of **asteroids, comets and meteors**.
- A body revolving around another body is called **satellite**. A satellite is not a member of solar system.
- Venus is the brightest planet in the night sky.
- The Earth, Mercury, Venus, Jupiter, Mars, Saturn, Uranus and Neptune are the kinds of planets in the solar system. Mercury is red planet.
- Jupiter is the largest planet of the solar system.
- Two jovian planets are Jupiter and Saturn.
- Meteorites help scientists in investigating the nature of the material from which the solar system was formed.
- Artificial satellites are also used for long distance communication and remote sensing.

MULTIPLE CHOICE QUESTIONS (MCQs)

15 × 1 = 15

1. We see the only part of moon which:

- | | |
|--------------------------------|---------------------------------|
| (a) is in front of us. | (b) is in lower. |
| (c) reflects the light of sun. | (d) reflects the light of moon. |

2. Our sun is also star because:

- | | |
|-------------------------|----------------------------------|
| (a) of its larger size. | (b) it emits light of their own. |
| (c) of its brightness. | (d) none of these. |

3. Distances of stars are expressed in:

- | | |
|----------------|--------------------|
| (a) miles | (b) light years |
| (c) mega miles | (d) none of these. |

4. The artificial satellites revolve around the earth are much closer than:
- (a) The sun (b) The moon
(c) The earth (d) None of these.
5. Artificial satellites are used for:
- (a) weather forecasting (b) remote sensing
(c) long distance communication (d) all of these.
6. Stars, planets, moon and many other objects in the sky are called:
- (a) Celestial objects (b) Sky objects
(c) Superficial objects (d) All of these.
7. Time period between one full moon to the next full moon is slightly longer than:
- (a) 28 days (b) 30 days (c) 29 days (d) None of these.
8. Distance travelled by light in one year is called:
- (a) Star year (b) Solar year (c) Light year (d) None of these.
9. Stars forming a group that has a recognisable shape is called:
- (a) Constellation (b) Bright star (c) Star group (d) None of these.
10. Constellation which is seen in:
- (a) Western sky (b) Eastern sky (c) Southern sky (d) Northern sky.
11. Which planet is less denser than water?
- (a) Saturn
(b) Mars
(c) Jupiter
(d) None of these.
12. Halley's comet appears after nearly every:
- (a) 80 years
(b) 67 years
(c) 76 years
(d) none of these.
13. The first Indian artificial satellite is:
- (a) Apple
(b) INSAT
(c) Aryabhata
(d) None of these.
14. Which of the following is not a member of the solar system?
- (a) An asteroid (b) A constellation
(c) A satellite (d) A comet.
15. Which of the following is not a planet of the sun?
- (a) Sirius (b) Mercury
(c) Saturn (d) Earth.



**STARS AND THE SOLAR SYSTEM
SUBJECT ASSESSMENT
WORKSHEET-123**

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

1. Which objects do not twinkle on a dark clear night?

Ans.

2. At which place, watching night sky will be fascinating?

Ans.

3. What is meant by 'full moon day'?

Ans.

4. Why are stars not visible during the day?

Ans.

5. In which part of the sky, you can find venus if it is visible as an evening star?

Ans.

6. Name the instrument which is used to observe rings of the planet saturn.

Ans.

7. Name the constellation that can be seen during winter.

Ans.

8. On which day, moon is not visible?

Ans.

9. What is meant by period of revolution?

Ans.

10. How much time does sunlight take to reach the earth?

Ans.

ANSWER THE FOLLOWING

1. Mark the following statements as True (T) or False (F).

4

(a) Uranus is the farthest planet from the sun in the solar system.

()

- (b) There are nine planets in the solar system. ()
 (c) INSAT is an artificial satellite. ()
 (d) Nuclear fusion reaction takes place in the sun. ()

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

Ans.	Column A	Column B
	(a) Inner planet	(i) Venus
	(b) Outer planet	(ii) Proxima centauri
	(c) Nearest star to the solar system	(iii) Saturn
	(d) Planet nearest to the earth	(iv) Mars

Ans.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

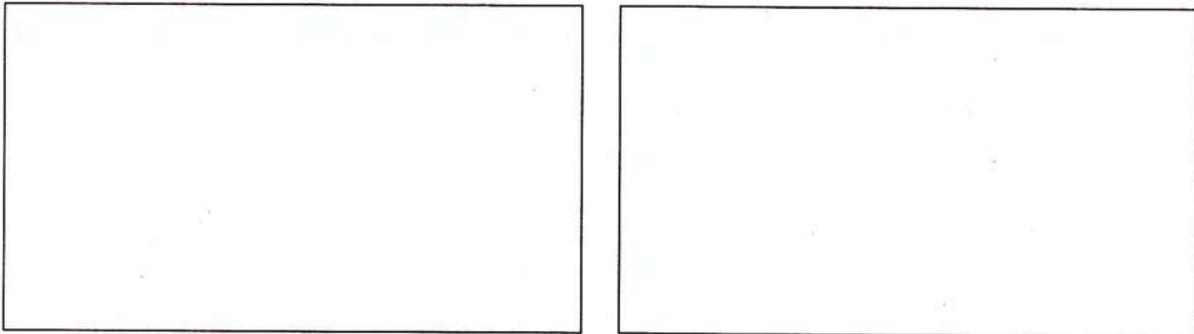
1. (a) What can only be seen through large telescopes?
 (b) Which least dense planet has less density than that of water?

Ans.

2. (a) Why do phases of moon occur?
 (b) Which is the smallest planet in size?

Ans.

3. Draw sketches to show the relative positions of prominent stars in (i) Ursa major and (ii) Orion, in a diagram.

Ans. 

4. Do all the stars move in the sky? Explain.

Ans.



**STARS AND THE SOLAR SYSTEM
SUBJECT ASSESSMENT
WORKSHEET-124**

Name	Class.....	Roll No.....	Time 40 Min.	Max. Marks 29	Marks Obtained
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SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. Why is venus called morning or evening star?

Ans.

2. (a) Name a star which does not appear to be moving the sky.
 (b) Name the planet which is farthest from the sun.

Ans.

3. (a) Name the comet which reappears after 76 years.
 (b) Which is the brightest planet in the sky?

Ans.

4. (a) Why venus is hotter than mercury, though it is farther away from sun?
 (b) What is the relation between light year and kilometres?

Ans.

SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. Give features of stars that make them different from planets. What is the Milky Way galaxy?

.....

2. Give one word for the following statements:

- (a) The stars forming a group that has a recognisable shape
- (b) The various shapes of the bright part of the moon as seen during a month
- (c) The stars, the planets, the moon and many other objects in the sky are known as

3. (a) What are the causes of the seasons on the earth?

(b) Name the galaxy in which our solar system is situated.

Ans.
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.....

4. (a) Can you hear sound on the moon?

(b) Mention any two differences between natural and artificial satellites.

Ans.
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5. The radius of jupiter is 11 times the radius of the earth. Calculate the ratio of the volumes of jupiter and the earth. How many earths can jupiter accommodate?

Ans.
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6. What is the difference between meteors and meteorites?

Ans.
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7. What is a shooting star? Why does it burn completely before reaching the earth's surface?

Ans.
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**STARS AND THE SOLAR SYSTEM
SUBJECT ASSESSMENT
WORKSHEET-125**

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

1. (a) How large is jupiter? How many earths can be placed inside jupiter?
(b) Name the astronauts who landed first on the moon in 1969.

Ans.

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2. (a) Name all the planets of the solar system in the order of their distance from sun.
(b) Name the gas found in stars.

Ans.

.....

.....

3. Explain how can you locate the pole star with the help of ursa major.

Ans.

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LONG ANSWER TYPE QUESTIONS (5 MARKS)

1. Though moon is a natural satellite, but it cannot be used for communication purpose. Give reason.

Ans.

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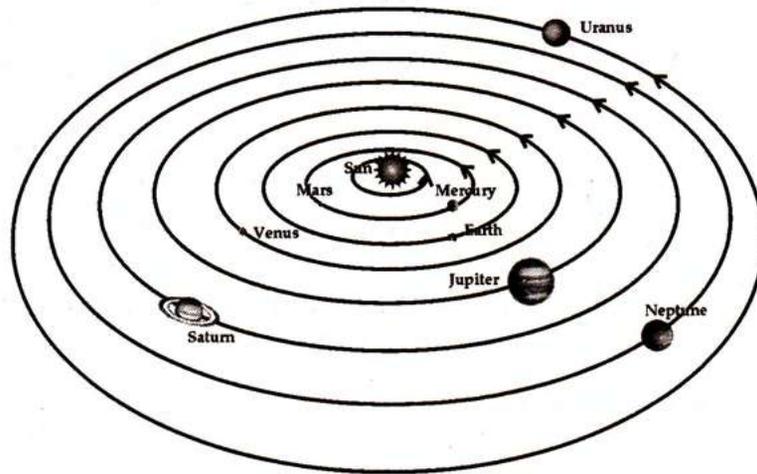
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2. Boojho made the following sketch of the solar system. Is the sketch correct? If not, correct it.



Ans.

3. Light travels with a speed of 3×10^8 m/s in vacuum. Sunlight takes 8.3 minutes to reach the earth. Calculate the distance between the earth and the sun.

Ans.

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**STARS AND THE SOLAR SYSTEM
SUBJECT ASSESSMENT
WORKSHEET-126**

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

1. Fill in the blanks. 10

- (a) There are planets in the solar system.
- (b) is the earth's satellite.
- (c) A is the distance travelled by light in one year.
- (d) Meteors are also called
- (e) Planets revolve around the
- (f) A group of stars that appear to form a pattern in the sky is known as
- (g) A celestial body that revolves around a planet is known as
- (h) Shooting stars are actually not
- (i) Asteroids are found between the orbits of and
- (j) The hottest planet of the solar system is

2. Give reasons for the following. 5

- (a) Mercury is very hot during the day.
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.....
- (b) There is no life on the moon.
.....
.....
- (c) Stars give out light.
.....
.....
- (d) Galaxies and constellations are both made of stars.
.....
.....
- (e) Pole star is useful for sailors.
.....
.....

3. Define the following terms.

5

(a) Astronomer

.....

(b) Light year

.....

(c) Celestial bodies

.....

(d) Satellite

.....

(e) Constellation

.....

4. Match the columns.

5

Column A	Column B
(a) Great Bear	(i) Hottest planet
(b) Orion	(ii) Large number of satellites
(c) Cassiopeia	(iii) Saptarshi
(d) Venus	(iv) The hunter
(e) Saturn	(v) Egyptian queen

5. Differentiate between:

3

(a) Meteors and Meteorites

(b) Natural and artificial satellites

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6. In detail, explain the phases of the moon.

3

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**STARS AND THE SOLAR SYSTEM
SUBJECT ASSESSMENT
WORKSHEET-127**

Name	Class	Roll No.	Time 30 Min.	Max. Marks 19	Marks Obtained
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DO AS DIRECTED

6 × 1 = 6

1. is the brightest planet of solar system.
2. The only natural satellite of the earth is
3. Second woman of Indian origin who went into space, was
4. Jupiter is the largest planet of solar system. (T/F)
5. Stars appear to move from east to west. (T/F)
6. The planet farthest from sun is mars. (T/F)

ANALOGY TYPE QUESTIONS

5 × 1 = 5

1. Ringed planet : Saturn :: : Dwarf planet.
2. Neptune : Two satellites :: Venus :
3. Smallest planet : :: Biggest planet : Jupiter.
4. The first satellite sent by USSR : : The first satellite sent by India : Aryabhata.
5. Ursa major : Great bear :: : Lesser bear.

ONE WORDS SUBSTITUTION

5 × 1 = 5

1. The star which appears to be almost stationary is
2. The star which is closest to us other than sun is
3. The planet which is closest to the sun is
4. The planet other than venus which has no satellite is
5. A group of stars which form a definite pattern is called

QUIZ

3 × 1 = 3

1. Which planet has maximum number of satellites?
2. How many major stars in the constellation?
3. Which is the brightest star in the sky?

STARS AND THE SOLAR SYSTEM

ENRICHMENT ACTIVITY

WORKSHEET-128

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

Visit a planetarium with elders and family members in nearest city where it is available. In the planetarium, observe the motion of the stars, planets and constellation in its big dome.

ACTIVITY-1

Aim: To show that pole star does not appear to move.

Materials Required: Umbrella, 10-15 stars of silver paper.

Procedure: Paste one star of silver paper at central rod of an umbrella and others paste near the end of each spoke. Now, rotate an umbrella by holding firmly the rod and observe it carefully.

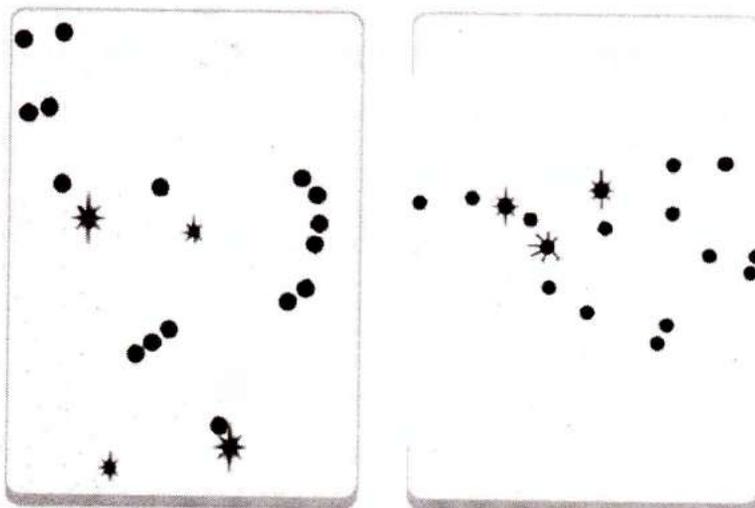
Observation: You will observe that star placed at central rod of an umbrella does not appear to move. Pole star situated in the direction of the earth's axis does not move because star situated in the direction of earth's axis does not appear to move.

ACTIVITY-2

On a sheet of paper, observe the moon every night and draw the picture of the moon as it appears. Start from one full moon to the next full moon. Note the direction where it is seen—east or west.

Conclusion: You will observe that there would be a day when the moon will appear full and a day when you will not see the moon at all, even if the sky is clear.

PICTURE-BASED QUESTION



1. Join the stars and identify the constellations and name them.
2. Give the significant features of these constellations.

POLLUTION OF AIR AND WATER

SUBJECT ASSESSMENT

WORKSHEET-129

Name	Class	Roll No.	Time 35 Min.	Max. Marks 20	Marks Obtained
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POINTS TO REMEMBER

- By volume, about 78% of air is nitrogen and about 21% is oxygen. Carbon dioxide, argon, methane, ozone and water vapour are also present in very small quantity.
- **Air pollution** is the contamination of air by impurities which may have a harmful impact on the living organisms and the non-living components.
- The substances which contaminate the air and water are called **pollutants**.
- When air and water are contaminated by unwanted substances, they affect harmfully both the living and non-living things.
- Chlorofluorocarbons (CFCs) are used in refrigerators, air conditioners and aerosol sprayers damaging the ozone layer which protects us from harmful ultraviolet rays of the sun. CFCs make hole in the ozone layer.
- Fog-like layer in the atmosphere especially during winters is known as **smog** which is made up of smokes and fogs, causing breathing difficulties such as asthma, cough and wheezing in children.
- Increased levels of greenhouse gases like CO₂, lead to **global warming**.
- **Water pollution** is the contamination of water by substances which is harmful to life.
- Water which is purified and fit for drinking is known as **potable water**.
- Water is a precious natural resource — we must learn to conserve it.
- Apart from gases like carbon dioxide, methane, nitrous oxide and water vapour also contribute towards **global warming**. These gases are called **greenhouse gases**.
- Ganga Action Plan was launched in 1985 to reduce the increasing pollution levels in the river.

MULTIPLE CHOICE QUESTIONS (MCQs)

20 × 1 = 20

1. Major pollutants of air produced by vehicles are:

(a) Carbon monoxide	(b) Nitrogen dioxide
(c) Carbon dioxide	(d) All of these.
2. Which gas is mainly responsible for global warming?

(a) N ₂	(b) CO ₂	(c) O ₂	(d) None of these.
--------------------	---------------------	--------------------	--------------------
3. Which of the following is not a greenhouse gas?

(a) Carbon dioxide	(b) Methane	(c) Hydrochloric acid	(d) None of these.
--------------------	-------------	-----------------------	--------------------
4. Main constituents of air are:

(a) N ₂ and O ₂	(b) CO ₂ and O ₂	(c) H ₂ and O ₂	(d) None of these.
---------------------------------------	----------------------------------------	---------------------------------------	--------------------
5. The pollutants which are used in refrigerators, air conditioners and aerosol sprayer are:

(a) Chlorofluorocarbons (CFCs)	(b) Sulphur dioxide
(c) Hydrogen	(d) Nitrogen.

6. Sulphuric acid and nitric acid make the rain:
 (a) Basic (b) Neutral (c) Acidic (d) None of these.
7. Acid rain causes:
 (a) Marble cancer (b) Dirty rain (c) Both of these (d) None of these.
8. Sewage, toxic chemicals, silt, etc., are responsible for:
 (a) Air pollution (b) Water pollution
 (c) Food pollution (d) None of these.
9. The major cause of air pollution includes:
 (a) burning of coal and petroleum. (b) afforestation.
 (c) recycling of paper. (d) none of these.
10. Pollution affects:
 (a) plants only. (b) animals and plants.
 (c) plants, animals and human beings. (d) human beings only.
11. Air pollution causes:
 (a) Global warming (b) Acid rain (c) Both of these (d) All of these.
12. Water pollution leads to:
 (a) Eutrophication (b) Soil erosion (c) Acid rain (d) Leaching.
13. Which of the following is not an air pollutant?
 (a) Fog (b) CFC (c) Sewage (d) Carbon dioxide.
14. Van Mahotsav is held during the month of:
 (a) January (b) July (c) December (d) None of these.
15. Pollution is caused in:
 (a) Air (b) Water (c) Land (d) All of these.
16. Air pollution is caused due to
 (a) burning of fuels (b) acid rain (c) sewage (d) industrial waste
17. Which of the following is the effect of global warming?
 (a) Melting of polar ice caps (b) Soil erosion
 (c) Destruction of marble (d) None of the above.
18. Which of these causes ozone layer depletion?
 (a) Carbon dioxide (b) Carbon monoxide
 (c) Chlorofluorocarbons (d) All of the above.
19. The less polluting fuel among the following is
 (a) petrol (b) diesel
 (c) kerosene (d) compressed natural gas (CNG)
20. Renewable source of energy is
 (a) solar energy (b) petrol (c) coal (d) CNG

□□

**POLLUTION OF AIR AND WATER
SUBJECT ASSESSMENT
WORKSHEET-130**

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

1. What is meant by water table?

Ans.

2. Which compound is added to petrol to prevent engines from 'knocking'?

Ans.

3. What is Van Mahotsav?

Ans.

4. What harm is caused by the presence of CFCs?

Ans.

5. Define acid rain.

Ans.

6. When should industrial waste be treated?

Ans.

7. Name one important monument which has been affected by air pollution.

Ans.

8. Write two causes of soil pollution.

Ans.

9. Name the pollutants which are added from natural sources.

Ans.

10. What is meant by water harvesting?

Ans.

11. How is carbon monoxide produced by the vehicles?

Ans.

12. How is suspended particulate matter harmful?

Ans.

SHORT ANSWER TYPE QUESTIONS (2 MARKS)

1. How does groundwater get polluted? How is it harmful?

Ans.

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2. "Fertilisers are good for crop but causing pollution of soil and water". Comment.

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

3. What should be our main strategy to deal with the environmental problems faced by us?

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

4. What are the two ways to conserve soil?

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

5. (a) Define greenhouse effect.

(b) How is sulphur dioxide produced in the atmosphere?

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

6. Clear and transparent water is always fit for drinking. Comment.

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

7. Explain the differences between pure air and polluted air.

Ans.
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□□

**POLLUTION OF AIR AND WATER
SUBJECT ASSESSMENT
WORKSHEET-131**

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

1. What is "Marble Cancer"? Which has contributed towards the yellowing of the marble?

Ans.

2. (a) How is smog produced?
 (b) Give two factors responsible for spoiling of Taj Mahal.

Ans.

3. Why was Ganga Action Plan started?

Ans.

SHORT ANSWER TYPE QUESTIONS (3 MARKS)

1. Why does the increased level of nutrients in the water affect the survival of aquatic organisms?

Ans.

2. Describe the "Greenhouse Effect" in your own words.

Ans.

3. Mention three causes for erosion of soil.

Ans.
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4. Why is greenhouse effect called so? How does it cause global warming?

Ans.
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.....

5. Explain circumstances leading to acid rain. How does acid rain affect us?

Ans.
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.....

6. (a) What steps have been taken by Delhi Government to check pollution produced by vehicles?
(b) What is the full form of CFCs?

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

7. How can water be made safe for drinking?

Ans.
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□□

**POLLUTION OF AIR AND WATER
SUBJECT ASSESSMENT
WORKSHEET-132**

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

1. Fill in the blanks. 3

- (a) are the substances which contaminate air and water.
- (b) Water which is purified and fit for drinking is known as
- (c) Increasing level of greenhouse gases like CO₂ are leading to

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

Ans.	Column A	Column B
	(a) Nitrogen in atmosphere	(i) 0.03% by volume
	(b) Oxygen in atmosphere	(ii) 78% by volume
	(c) Carbon dioxide in atmosphere	(iii) 21% by volume

Ans.

3. How is chemical contamination of water caused? 3

Ans.

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LONG ANSWER TYPE QUESTIONS (5 MARKS)

1. What are the different ways in which water gets contaminated?

Ans.

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2. At an individual level, how can you help reduce air pollution?

Ans.

3. Prepare a brief speech on global warming. You have to deliver the speech in your class.

Ans.

4. Describe the threat to the beauty of the Taj Mahal.

Ans.



**POLLUTION OF AIR AND WATER
SUBJECT ASSESSMENT
WORKSHEET-133**

Name	Class	Roll No.	Time 45 Min.	Max. Marks 34	Marks Obtained
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ANSWER THE FOLLOWING

1. Fill in the blanks.

5

- (a) The gases causes global warming.
- (b) Air pollution causes problems.
- (c) Carbon dioxide in air is used up by
- (d) Acid rain contains traces of
- (e) Smog is a combination of and

2. Write two examples for each of the following.

5

- (a) Acids that constitute acid rain.
.....
- (b) Chemical that can be added to purify water.
.....
- (c) Air pollutants.
.....
- (d) Methods to purify water.
.....
- (e) Water pollutants.
.....

3. Match the columns.

5

Column A	Column B
(a) Methane	(i) Respiratory diseases
(b) Poisonous gas	(ii) Supports life
(c) Particulate matter	(iii) Greenhouse gas
(d) Oxygen	(iv) Acid rain
(e) Nitric acid	(v) Carbon monoxide

4. Give one word for the following.

5

- (a) Suspended particles in the air
- (b) The phenomenon in which the heat rays are trapped when they enter
into the Earth's atmosphere due to the presence of carbon dioxide gas

- (c) Rain having traces of sulphuric and
- (d) The water that is suitable for drinking
- (e) The process in which the growth of algae shoots up due to the presence of chemicals in the water, resulting in the depletion of oxygen, causing death of aquatic plants and animals.

5. Define the following terms. 5

- (a) Global warming
.....
- (b) Pollutants
.....
- (c) Decantation
.....
- (d) Chlorination
.....
- (e) Sedimentation
.....

6. Differentiate between: 3

- (a) Clean water and portable water
 - (b) Smoke and smog
 - (c) Filtration and distillation
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7. Explain in detail, why is the River Ganga a matter of concern? What is the Ganga Action Plan? 3

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8. Describe the different means of purification of water at home. 3

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**POLLUTION OF AIR AND WATER
SUBJECT ASSESSMENT
WORKSHEET-134**

Name	Class	Roll No.	Time 40 Min.	Max. Marks 17	Marks Obtained
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DO AS DIRECTED

6 × 1 = 6

1. The rain carrying mild acids are called
2. The chemical used in purifying water is
3. Sewage water is the source of pollution.
4. Potable water is drinking water. (T/F)
5. Oxygen plays a major role in greenhouse effect. (T/F)
6. Sulphur dioxide is responsible for acid rain. (T/F)

ANALOGY TYPE QUESTIONS

5 × 1 = 5

1. Polythene : :: Pesticides : Chemical.
2. Faecal matter : Biological :: Paper :
3. Increasing population causes : Deforestation :: Vegetation destroyed of large population of animals :
4. Drinking water : Potable water :: Not able to drink :
5. Diarrhoea caused : Polluted water :: Jaundice caused :

CROSSWORD PUZZLE

6 × 1 = 6

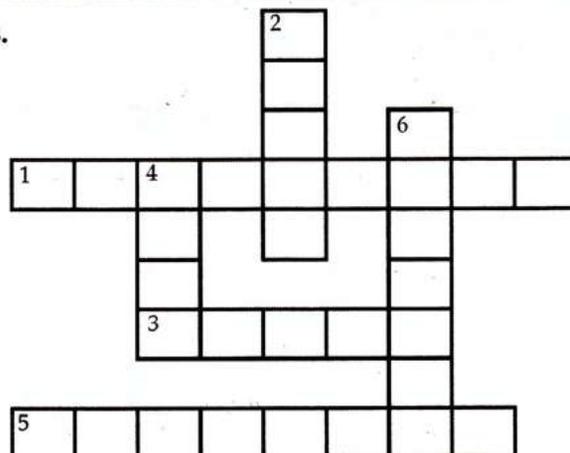
Across

1. A disease caused by water pollution
3. The river which has its origin from Gangotri
5. A gas used in preparing fertiliser

Down

2. The layer destroyed by CFCs
4. Combination of smoke and fog
6. A greenhouse gas

Ans.



POLLUTION OF AIR AND WATER

ENRICHMENT ACTIVITY

WORKSHEET-135

Name.....

Class.....

Roll No.

Time
40 Min.Max.
Marks
20Marks
Obtained

PROJECT REPORT

Make a group of friends and altogether try to collect a sample of soils and check their acidity and alkalinity by pH paper.

ACTIVITY-1

Aim: Compare the air quality in and around the following areas.

1. Park 2. Middle of the city market 3. Residential area 4. Busy road 5. A village

Make a note of the difference in the quality of air in these places.

Conclusion: The quality of air will be good in the areas where there is a green belt, such as a park, village or forest. On the other hand, the places where there are a lot of vehicles will have pollutants and you will not feel comfortable in breathing there.

ACTIVITY-2

Tie a white cloth on the exhaust tube of a scooter, car and a school bus. Start all three engines while they are parked. After a few minutes, switch off the engine and remove the cloth. Observe the change in the colour of the white cloth.

Observation: The white cloth becomes black due to the particulates that come out of the exhaust.

Conclusion: The vehicle exhaust gives out a lot of harmful particulates in the atmosphere, causing air pollution.

ACTIVITY-3

Aim: With the help of an activity, show how collected water samples differ from water sources.

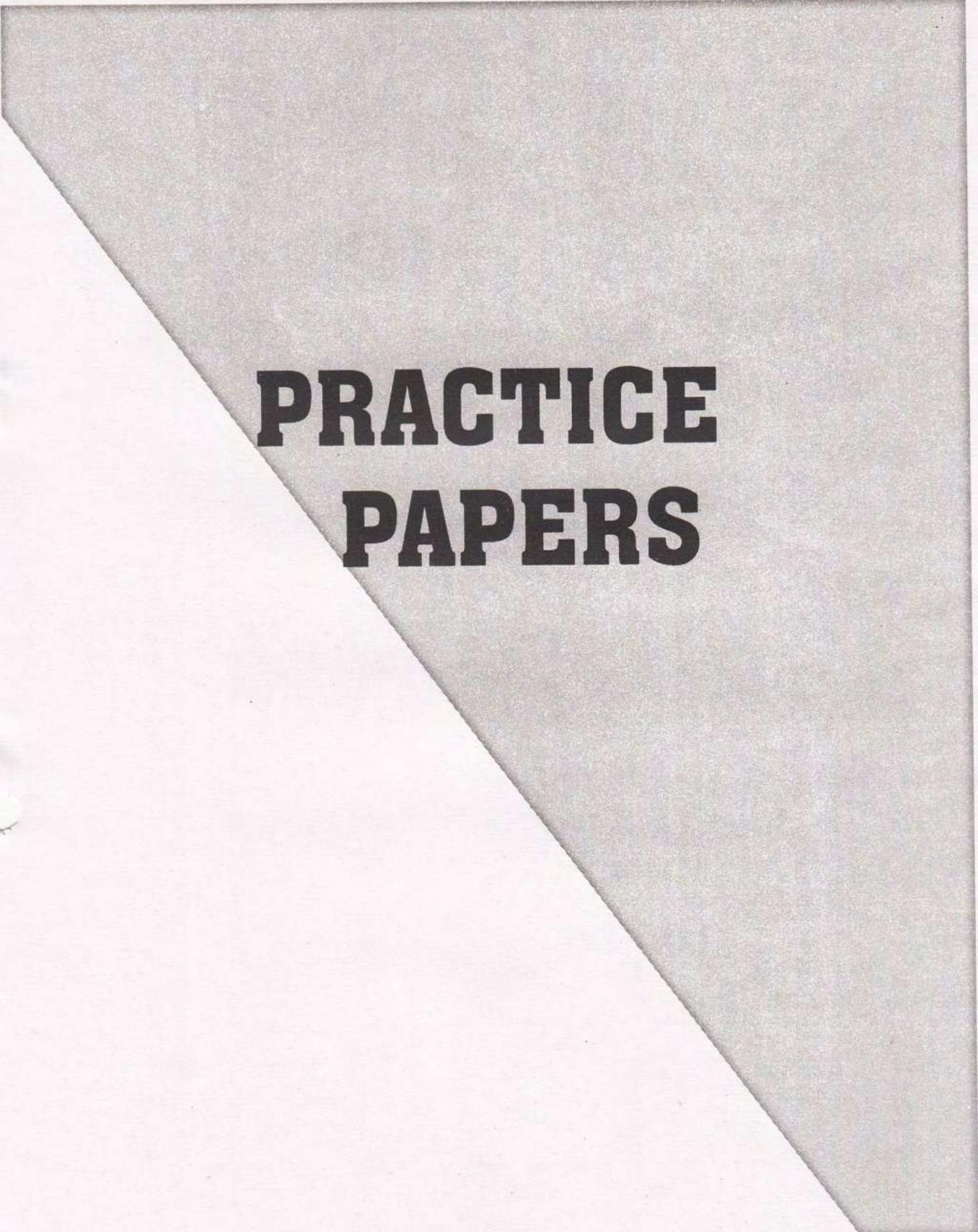
Materials Required: Six test tubes, pH paper strip.

Procedure: Take 5 ml of water each from different water sources, *i.e.*, pond, lake, river, well, tap, hand pump, and put into six taken tubes separately. Observe it carefully.

Observation:

S. No.	Source of water	Colour clarity	Smell	Acidity
1.	Lake			
2.	River			
3.	Pond			
4.	Tap			
5.	Well			
6.	Hand pump			





**PRACTICE
PAPERS**

PRACTICE PAPER-1

Name	Class	Roll No.	Time 3 Hrs.	Max. Marks 80	Marks Obtained
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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. Multiple Choice Questions (MCQs)

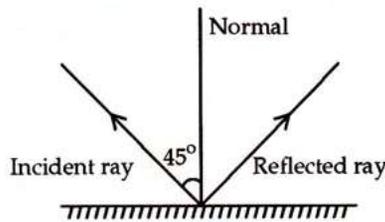
Part I

4 × 1 = 4

(a) We can observe the different phases of the moon because:

- (i) moon does not reflect sunlight.
- (ii) sunlight is reflected by some parts of the moon.
- (iii) the shadow of earth falls on moon.
- (iv) of the relative positions of moon, earth and sun.

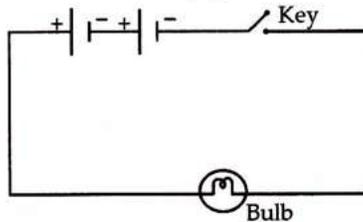
(b)



What will be the value of angle of reflection?

- (i) 90°
- (ii) 45°
- (iii) 60°
- (iv) 75° .

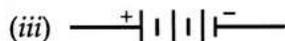
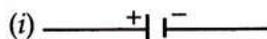
(c)



Above given circuit contains:

- (i) two cells
- (ii) one bulb
- (iii) key
- (iv) all of these.

(d) Which one is a diagram of dry cell?



Part II

6 × ½ = 3

- (a) Which mirrors are used to make Kaleidoscope?
(i) Plane mirrors (ii) Concave mirrors
(iii) Convex mirrors (iv) None of these.
- (b) The band of seven colours is called:
(i) Spectrum (ii) Dispersion (iii) Reflection (iv) None of these.
- (c) The weight of a body whose mass is 50 kg is: (Take $g = 10 \text{ m/s}^2$)
(i) 500 N (ii) 600 N (iii) 400 N (iv) 300 N.
- (d) Which kind of action of force is used in moving a book placed on table?
(i) Lifting (ii) Pushing (iii) Pulling (iv) None of these.
- (e) When a body rolls over the surface of another body, the friction is called:
(i) Rolling friction (ii) Sliding friction (iii) Static friction (iv) None of these.
- (f) Maximum displacement of an oscillating body is called:
(i) Amplitude (ii) Frequency (iii) Time-period (iv) Loudness.

2. (a) What is meant by the term 'atmospheric pressure'? 1

Ans.
.....

(b) Do fluids exert friction? 1

Ans.

(c) Which animal can able to hear sounds of frequencies higher than 20,000 Hz? 1

Ans.

(d) By which medium, sound can travel through? 1

Ans.

3. Which kind of spherical mirrors are used in vehicles? Why? 2

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

4. (a) Mention the star nearest to the earth. 1

Ans.

(b) Why venus is hotter than mercury, though it is farther away from the sun? 2

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

5. How is rainbow formed? 3

Ans.

6. Answer the following questions:

4 × ½ = 2

(a) How is night-blindness caused?

Ans.

(b) Which colour has the highest wavelength?

Ans.

(c) Which colour has the highest dispersion of light?

Ans.

(d) The other name of long-sightedness is

7. Explain why sliding friction is less than static friction.

2

Ans.

8. Name the following:

4 × ½ = 2

(a) Force acting per unit area

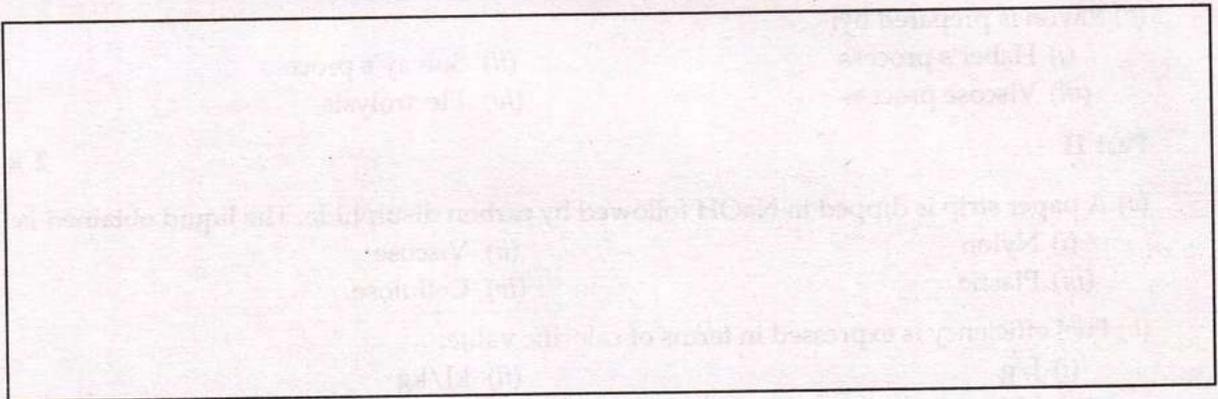
(b) Velocity = 3×10^8 m/s

(c) The medium in which sound cannot travel

(d) The to and fro motion of an object.

9. Describe with the help of a diagram, an instrument which can be used to detect a charged body. 5

Ans.



SECTION-B (CHEMISTRY)

1. Multiple Choice Questions (MCQs)

Part I

8 × ½ = 4

(a) Cellulose is a component in:

- (i) Nylon
- (ii) Rayon
- (iii) Polyester
- (iv) Polythene.

(b) Iron is galvanised by coating with:

- (i) Nickel
- (ii) Tin
- (iii) Zinc
- (iv) Copper.

(c) The most reactive metal among the following is:

- (i) Magnesium
- (ii) Gold
- (iii) Silver
- (iv) Sodium.

(d) Destructive distillation of coal produces:

- (i) Coal gas
- (ii) Petrol
- (iii) Diesel
- (iv) Wax.

(e) Which one of the following is solid fuel?

- (i) Kerosene
- (ii) Biogas
- (iii) Fuel oil
- (iv) Dung cake.

(f) Which one of these does not produce flame?

- (i) Candle
- (ii) Magnesium
- (iii) Camphor
- (iv) Charcoal.

(g) Metals combine with oxygen to form:

- (i) Acidic oxide
- (ii) Basic oxide
- (iii) Neutral oxide
- (iv) Amphoteric oxide.

(h) Rayon is prepared by:

- (i) Haber's process
- (ii) Solvay's process
- (iii) Viscose process
- (iv) Electrolysis.

Part II

2 × 1 = 2

(a) A paper strip is dipped in NaOH followed by carbon disulphide. The liquid obtained is:

- (i) Nylon
- (ii) Viscose
- (iii) Plastic
- (iv) Cellulose.

(b) Fuel efficiency is expressed in terms of calorific value:

- (i) J/g
- (ii) kJ/kg
- (iii) kJ/mg
- (iv) None of these.

2. (a) Name the plastic used for making non-stick pans.

1

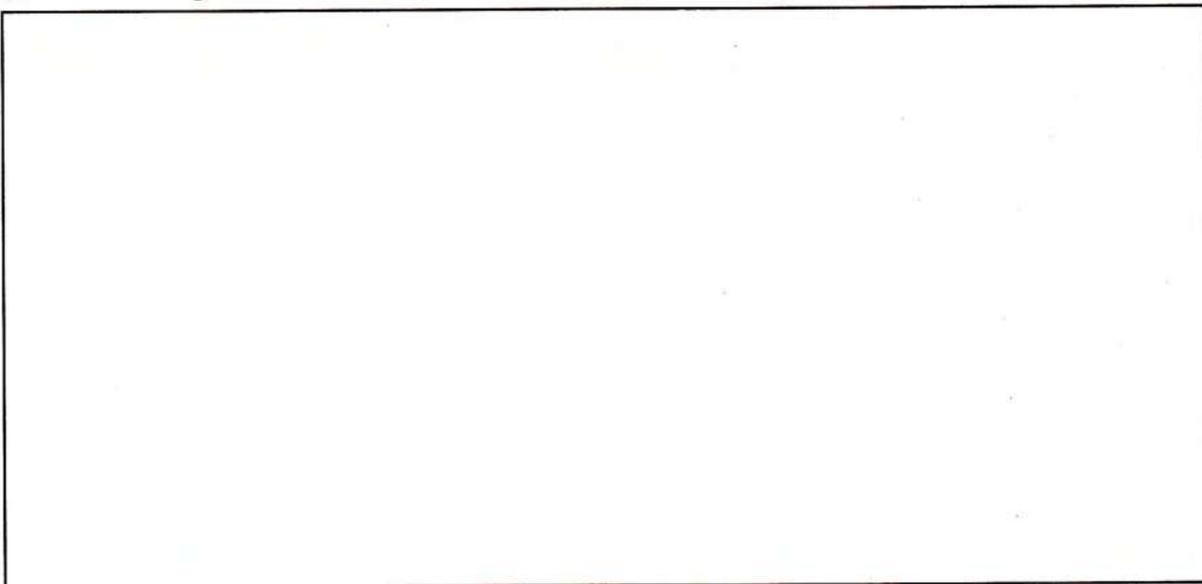
Ans.
.....

(b) Explain why some fibres are called synthetic. 1

Ans.
.....

3. (a) Draw the diagram of candle flame and indicate its outermost zone, middle zone and innermost zone. 2

Ans.



(b) (i) Name the ore from which aluminium is extracted. 1

Ans.

(ii) Which is the most abundant metal on the earth's crust? 1

Ans.

4. (a) What is displacement reaction? 5

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

(b) Can copper displace magnesium from magnesium sulphate? Give reason.

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

(c) What will happen when an iron nail is kept in copper sulphate solution?

Ans.
.....

.....
.....
5. If purity of gold is 15 carat, then find the percentage of gold in the ornaments. 2

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

6. (a) Write down any four amorphous forms of carbon. 3

Ans.
.....

(b) Explain how CO₂ is able to control fires.

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

7. Compare the following physical properties of metals and non-metals: 3

- (a) Hardness
- (b) Lustre
- (c) Malleability.

Ans.
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SECTION-C (BIOLOGY)

1. Multiple Choice Questions (MCQs)

Part I

4 × 1 = 4

(a) Burning of fossil fuels causes:

- (i) Air pollution
- (iii) Soil pollution

- (ii) Water pollution
- (iv) None of these.

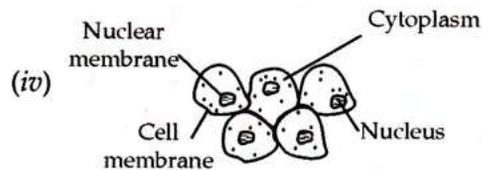
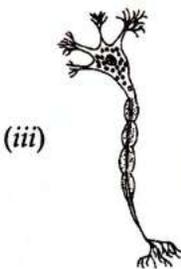
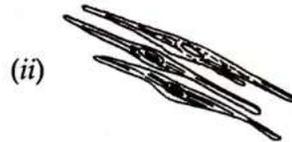
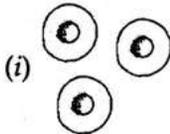
(b) Ganga Action Plan was launched in:

- (i) 1995
- (ii) 1985
- (iii) 1975
- (iv) 1945.

(c) Which crop is cultivated by transplantation method of sowing?

- (i) Wheat
- (ii) Paddy
- (iii) Maize
- (iv) Barley.

(d) Which one is long-branched nerve cell?



Part II

$6 \times \frac{1}{2} = 3$

(a) Which one of these does not belong to the group?

- (i) Weeds
- (ii) Insects
- (iii) Fungi
- (iv) Urea.

(b) Who was the father of microbiology?

- (i) A. V. Leeuwenhoek
- (ii) Louis Pasteur
- (iii) Edward Jenner
- (iv) Robert Koch.

(c) Which one is endangered species among the following?

- (i) Horse
- (ii) Cow
- (iii) Dog
- (iv) Tiger.

(d) Tomatoes are red in colour due to the presence of:

- (i) leucoplasts in it.
- (ii) chromoplasts in it.
- (iii) chloroplasts in it.
- (iv) none of these.

(e) AIDS is:

- (i) Viral disease
- (ii) Bacterial disease
- (iii) Both (a) and (b)
- (iv) None of these.

(f) Pollution of air is caused by:

- (i) Natural resources
- (ii) Human activities
- (iii) Both (a) and (b)
- (iv) None of these.

2. (a) Define pisciculture.

1

Ans.

(b) How is chickenpox caused?

1

Ans.
.....

(c) What is Red Data Book?

1

Ans.
.....

(d) What is the term used for secretions of endocrine glands responsible for changes taking place in the body?

1

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

3. Complete the following statements:

2 × 1 = 2

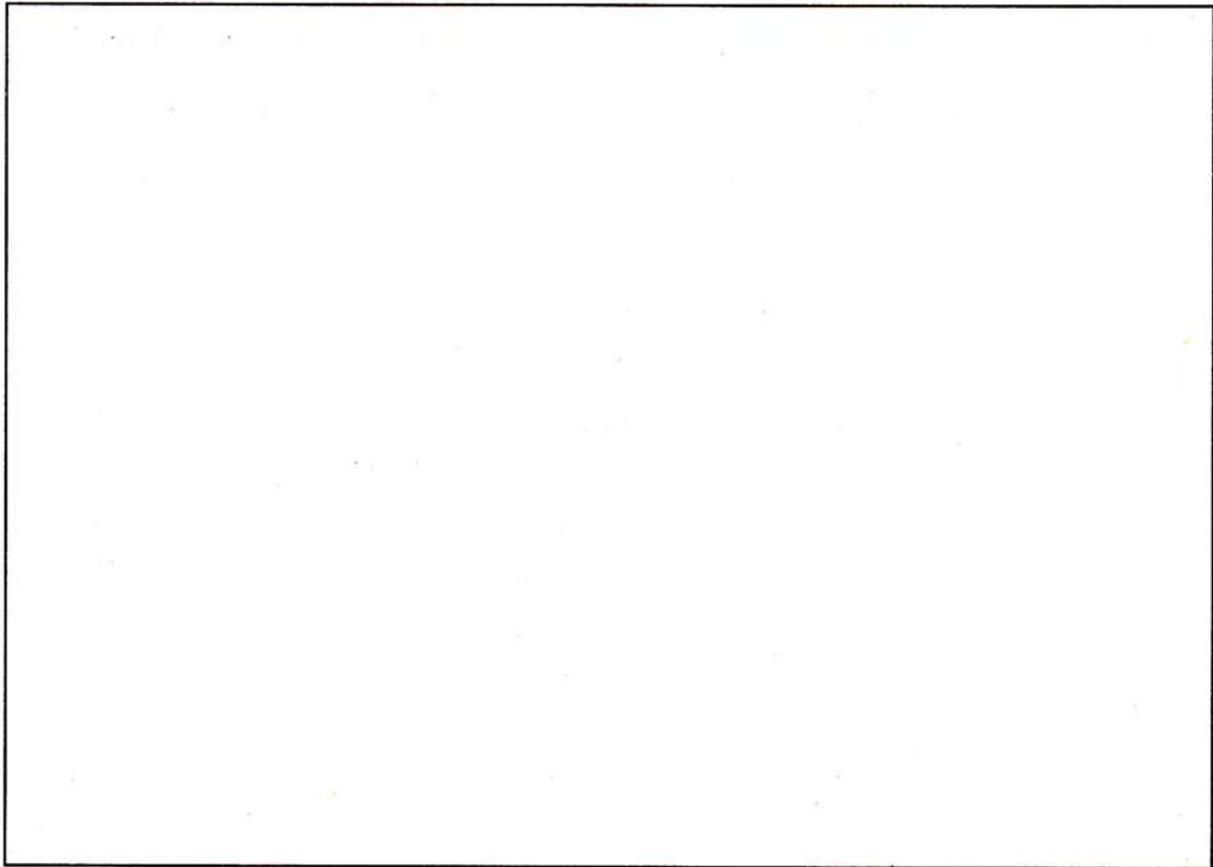
(a) The same kind of plants grown on a large-scale at a place is called

(b) Alcohol is produced with the help of

4. (a) Draw a labelled diagram to show the male reproductive system in human beings.

3

Ans.



(b) Name the largest and the smallest cells in the living world.

1

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

(c) Tomatoes are red and leaves are green. Why?

1

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

5. How is pasteurised milk obtained?

2

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

6. Write notes on:

5

(a) Adam's apple.

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

(b) Secondary sexual characters.

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

(c) Sex determination in the unborn baby.

Ans.
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PRACTICE PAPER-2

Name || Class || Roll No. || Time 3 Hrs. || Max. Marks 80 || Marks Obtained

Note: See Practice Paper-1 for General Instructions.

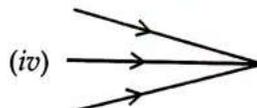
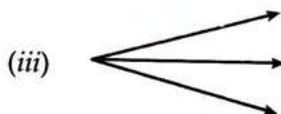
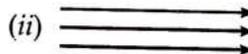
SECTION-A (PHYSICS)

1. Multiple Choice Questions (MCQs)

Part I

$4 \times 1 = 4$

(a) Which one is a divergent beam?



(b) To get 6 volts, how many 1.5 volts cell would you connect in series?

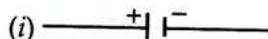
(i) 6

(ii) 4

(iii) 3

(iv) 5.

(c) Which one of the following indicates closed switch?



(d) What is the time-period of a pendulum which is vibrating with a frequency of 10 Hz?

(i) 0.1 s

(ii) 0.5 s

(iii) 0.6 s

(iv) 0.2 s.

Part II

(a) Friction due to water and air can be reduced by suitable designing of the shape of the objects called:

(i) Ball-bearing

(ii) Streamlining

(iii) Lubricants

(iv) Friction.

$6 \times \frac{1}{2} = 3$

(b) The speed of sound in water is:

(i) 330 m/s

(ii) 1500 m/s

(iii) 440 m/s

(iv) 1600 m/s.

(c) Sound cannot travel through:

(i) Air

(ii) Water

(iii) Wood

(iv) Vacuum.

(d) Electricity is invisible form of:

(i) Pressure

(ii) Volume

(iii) Energy

(iv) None of these.

(e) Electroplating is based on the phenomenon of:

- (i) Chemical effect of electricity
- (ii) Magnetic effect
- (iii) Heating effect
- (iv) Flow of electrons.

(f) Sudden shaking of earth is:

- (i) Lightning
- (ii) Earthquake
- (iii) Thunderstorm
- (iv) Landslide.

2. (a) Two friends A and B are applying a force of 2 newtons and 4 newtons on a box in the same direction, what will be the total force applied by them? 1

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

(b) Is the force of gravity a contact force or non-contact force? 1

Ans.
.....

(c) Which force helps the brake system to stop the car? 1

Ans.
.....

3. (a) Explain why sportsmen use shoes with spikes. 2

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

(b) The sound from a mosquito is produced when it vibrates its wings at an average rate of 500 vibrations per second. What is the time-period of the vibration? 2

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

4. (a) Define pitch. 3

Ans.
.....

8. (a) State the laws of reflection.

2

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

(b) Does pure water conduct electricity? If not, what can we do to make it conducting?

2

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

SECTION-B (CHEMISTRY)

1. Multiple Choice Questions (MCQs)

Part I

2 × 1 = 2

(a) A substance becomes soft on heating and can be moulded into different shapes. The substance is:

- (i) Rubber (ii) Nylon (iii) Rayon (iv) Polythene.

(b) In an experiment, 3.5 kg of a fuel was completely burnt. The heat produced was measured to be 1,40,000 kJ. The calorific value of the fuel is:

- (i) 40,000 kJ/kg (ii) 50,000 kJ/kg (iii) 60,000 kJ/kg (iv) 70,000 kJ/kg.

Part II

8 × ½ = 4

(a) Which one is synthetic fibre?

- (i) Cotton (ii) Wool (iii) Silk (iv) Nylon.

(b) Which one is called biodegradable?

- (i) Tin (ii) Aluminium (iii) Plastic bags (iv) Leftover foodstuff.

(c) Which one gets break down into a powdery mass after tapping with a hammer?

- (i) Iron (ii) Copper (iii) Aluminium (iv) Coal.

(d) When sulphur dioxide reacts with water, its forms:

- (i) Sulphuric acid (ii) Sulphurous acid
(iii) Hydrogen sulphide (iv) None of these.

(e) Petroleum is a:

- (i) Dark oily liquid (ii) Gaseous (iii) Solid (iv) None of these.

(f) Which one is used in ointments?

- (i) Bitumen (ii) Paraffin wax (iii) Diesel (iv) Petrol.

(g) Which one is non-combustible object?

- (i) Wood (ii) Paper (iii) Matchstick (iv) Stone piece.

(h) Which is obtained when iron reacts with steam?

- (i) Ferric oxide
(ii) Ferrous oxide
(iii) Hydrogen and ferric oxide
(iv) None of these.

2. (a) Which material is used for making plugs and switches? 1

Ans.

(b) Which metal can be extracted from magnetite? 1

Ans.

(c) Why do green leaves not catch fire easily? 1

Ans.

3. What is LPG? Mention its main components. Why is a smelling agent added to it? 2

Ans.

.....

.....

4. Name the following: 4 × ½ = 2

(a) A metal used for galvanising iron.

(b) A metal that reacts with oxygen without burning.

(c) One non-metal having lusture.

(d) Metal used for making radiators of cars.

5. (a) What are the properties of polythene? 3

Ans.

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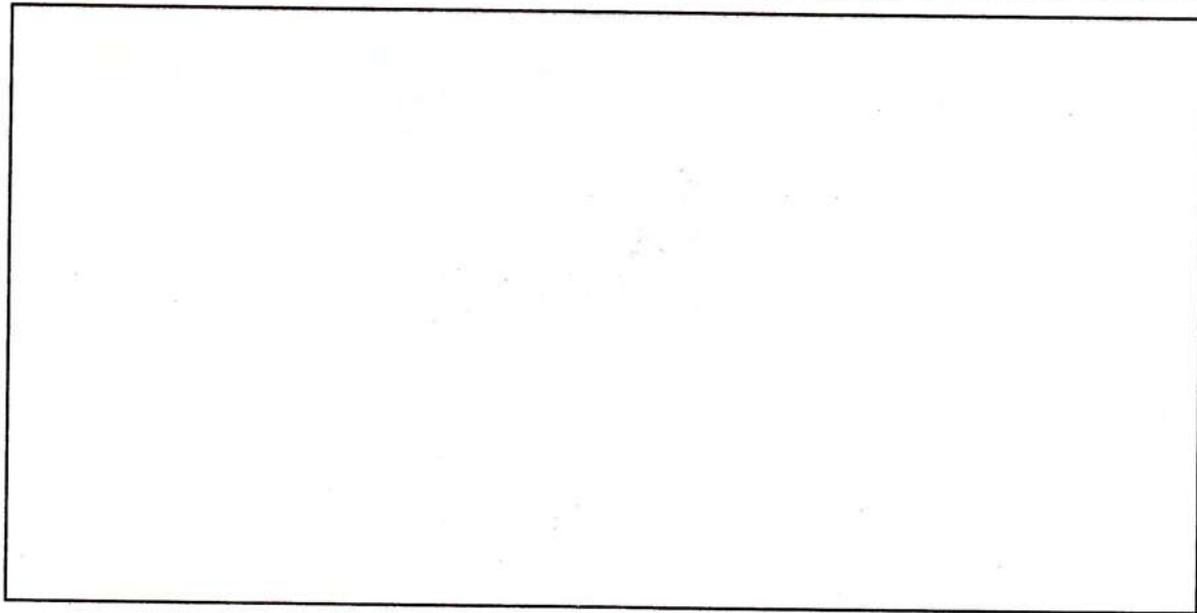
.....

(b) Describe an activity to show that thermoplastic is a poor conductor of electricity. 2

Ans.

.....

.....



6. Why should we not wear synthetic clothes in summer?

2

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

7. (a) Categorise the following materials into 'can be recycled' and 'cannot be recycled'. Telephone instruments, plastic toys, cooker handles, carry bags, ballpoint pens, plastic bowls, plastic covering on electrical wires, plastic chairs, electrical switches.

5

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

(b) You are given a piece of charcoal. How will you find out whether it forms basic oxide or acidic oxide?

Ans.
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SECTION-C (BIOLOGY)

1. Multiple Choice Questions (MCQs)

Part I

4 × 1 = 4

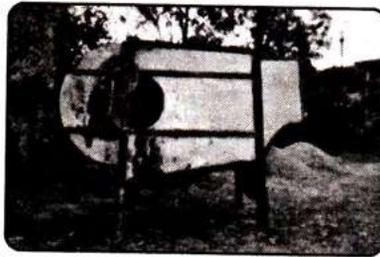
(a) The main tools used to break soil to the size of grains to get better yield are:

- (i) Plough (ii) Hoe (iii) Cultivator (iv) All of these.

(b) Which one of these is manure?

- (i) Nitrogen (ii) Phosphorus (iii) Potassium (iv) Cattle dung.

(c)



The given machine is used in:

- (i) Winnowing (ii) Harvesting (iii) Storage (iv) Silos.

(d)



The given figure is:

- (i) Bread mould (ii) *Penicillium* (iii) *Aspergillus* (iv) *Paramoecium*.

Part II

$$6 \times \frac{1}{2} = 3$$

(a) Areas where animals are protected from any disturbance to them and their habitat are called:

- (i) Sanctuary (ii) National Park (iii) Biosphere Reserve (iv) None of these.

(b) Which one is called fauna?

- (i) Leopard (ii) Fern (iii) Wild mango (iv) Jamun.

(c) Cork cells was observed by:

- (i) Robert Hooke (ii) Robert Koch
(iii) Alexander Fleming (iv) Louis Pasteur.

(d) Foetus is developed in:

- (i) Uterus (ii) Embryo (iii) Zygote (iv) None of these.

(e) Budding is used in the reproduction of:

- (i) Hydra (ii) *Amoeba* (iii) Human beings (iv) Fish.

(f) The first menstrual flow begins at puberty and is termed:

- (i) Menstruation (ii) Menarche (iii) Menopause (iv) None of these.

2. (a) What are weeds?

1

Ans.
.....

(b) Name the toxin released by T.B. bacteria.

1

Ans.

(c) In which part of the female reproductive organ, the embryo gets embedded? 1

Ans.
.....

3. (a) Explain how soil gets affected by the continuous plantation of crops in a field. 2

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

(b) (i) Name the virus responsible for the disease chickenpox. $2 \times 1 = 2$

Ans.

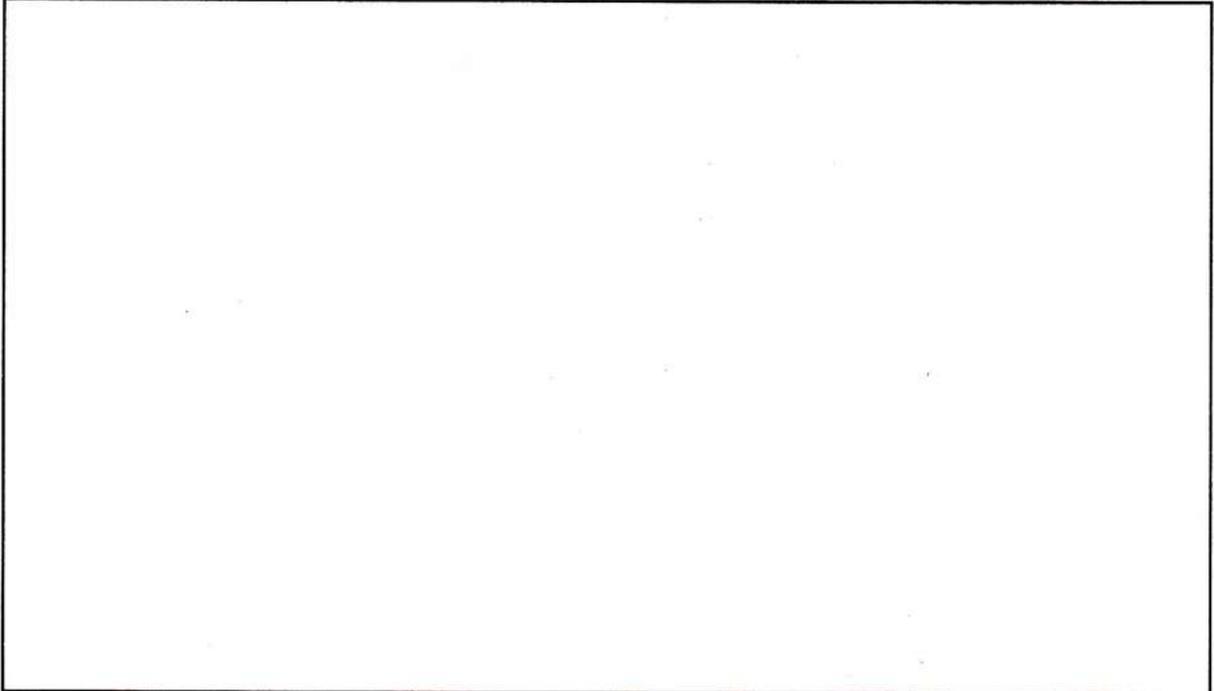
(ii) Define vaccination.

Ans.
.....

4. Distinguish between exocrine and endocrine glands. 2

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

5. (a) Draw a labelled diagram of plant cell. 2

Ans. 

(b) Mention two steps needed for conserving wildlife. Name two endangered species of animals. 2

Ans.
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.....

6. List changes in the body that take place at puberty in both sexes. 5

Ans.
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□□

PRACTICE PAPER-3

Name..... || Class..... || Roll No. || Time 3 Hrs. || Max. Marks 80 || Marks Obtained

Note: See Practice Paper-1 for General Instructions.

SECTION-A (PHYSICS)

1. Multiple Choice Questions (MCQs)

Part I

4 × 1 = 4

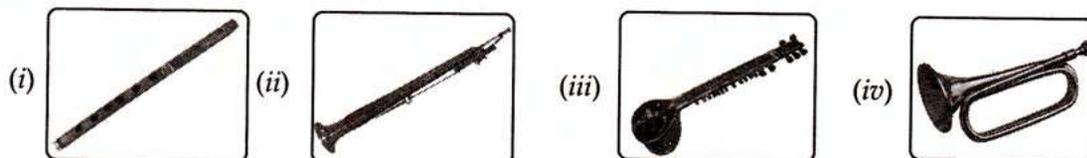
(a) Which one has magnitude as well as direction?

- (i) Force (ii) Work (iii) Speed (iv) Energy.

(b) Static friction comes into play when:

- (i) we try to move an object at rest. (ii) we try to move an object at motion.
(iii) an object is sliding over another. (iv) none of these.

(c) Which one is odd among the following?



(d) Frequencies of sound higher than 20,000 Hz are called:

- (i) Ultrasonic (ii) Infrasonic (iii) Ultraviolet (iv) None of these.

Part II

6 × ½ = 3

(a) Sound travels in steel than in water.

- (i) Faster (ii) Slower (iii) Equal (iv) None of these.

(b) Which one is insulator?

- (i) Lead (ii) Moist air (iii) Tap water (iv) Distilled water.

(c) The point of an earthquake above the ground level is called:

- (i) Hypocentre (ii) Epicentre
(iii) Seismic belt (iv) None of these.

(d) Which one is an example of translucent materials?

- (i) Butter paper (ii) Wooden plank
(iii) Spectacle (iv) Cardboard book.

(e) Which is the hottest and brightest planet of the solar system?

- (i) Venus (ii) Earth (iii) Mercury (iv) Mars.

(f) How much time does sunlight take to reach the earth?

- (i) 7.9 minutes (ii) 8.2 minutes (iii) 8.3 minutes (iv) 8.5 minutes.

2. (a) How would 'thrust' on the bottom of a liquid level change if 'area' is doubled keeping the 'pressure' same? 1

Ans.
.....

(b) Why is distilled water an insulator? 1

Ans.
.....

(c) Why do two charged bodies attract or repel? 1

Ans.
.....

(d) Define dispersion of light. 1

Ans.
.....

3. Give any points of difference between comets and meteors. 2

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

4. Why do mountaineers suffer from nose bleeding at high altitudes? 2

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

5. Why is the charging by rubbing known as static electricity? 1

Ans.
.....

6. Why do astronauts wear specially made suits while going into space? 2

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

7. (a) Why are the soles of shoes grooved? 2 × 1 = 2

Ans.
.....

(b) Why do we sprinkle talcum powder on the carrom board?

Ans.
.....

8. (a) How is the tail of a comet formed?

3

Ans.
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.....

(b) What do you understand by a constellation? Give two examples.

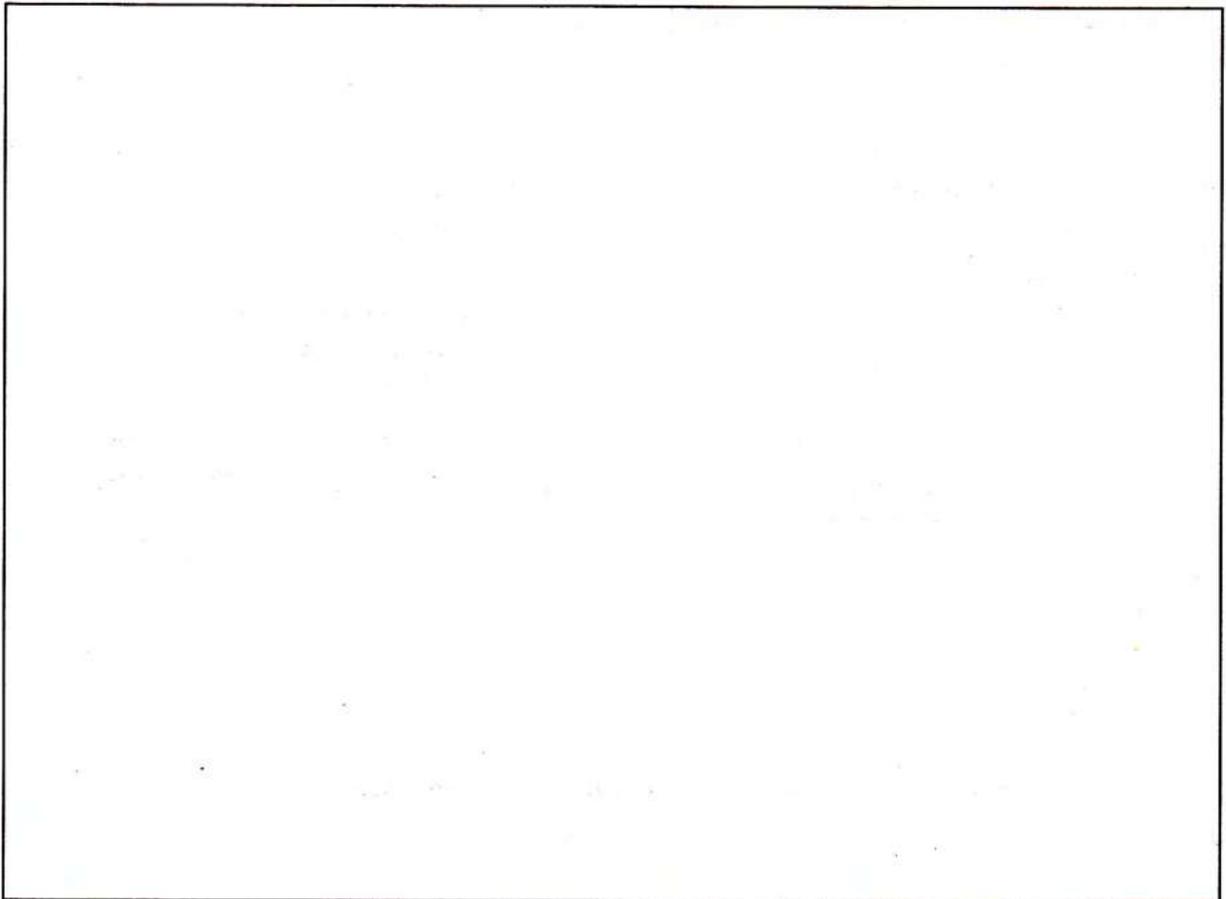
2

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

9. Draw a labelled sketch of human eye.

5

Ans.



SECTION-B (CHEMISTRY)

1. Multiple Choice Questions (MCQs)

Part I

2 × 1 = 2

- (a) How much per cent nitrogen has in atmosphere?
(i) 78 % (ii) 25 % (iii) 80 % (iv) 45 %.
- (b) When metals react with water, they form metal oxide or hydroxide and form gas is:
(i) Oxygen (ii) Hydrogen (iii) Potassium (iv) Nitrogen.

Part II

8 × ½ = 4

- (a) The best electrical conductor is:
(i) Gold (ii) Silver (iii) Copper (iv) Aluminium.
- (b) Natural gas contains:
(i) Methane (ii) Ethane (iii) Butane (iv) Propane.
- (c) An eco-friendly fuel is:
(i) Petrol (ii) Diesel (iii) CNG (iv) Coal.
- (d) Which one of these is rapid combustion?
(i) Burning of matchstick (ii) Burning of a cracker
(iii) Digestion of food (iv) Rusting of iron.
- (e) Which one is used as road surfacing?
(i) Bitumen (ii) Lubricating oil
(iii) Diesel (iv) Kerosene.
- (f) Stainless steel is an alloy of:
(i) Aluminium (ii) Iron
(iii) Magnesium (iv) Copper.
- (g) Metals can be drawn into thin wires because:
(i) they are sonorous. (ii) they are malleable.
(iii) they are ductile. (iv) they are dense.
- (h) Virus is a:
(i) Living (ii) Cell (iii) Bacteria (iv) Particle.

2. A person tries to make electrical switches and plugs. Out of teflon, PVC and bakelite, which plastic will he use and why? **2**

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

3. (a) Give one reason to support the use of teflon in non-stick pans. **1**

Ans.
.....

(b) Why is aluminium used for making cooking utensils?

1

Ans.

.....

4. (a) State one use of each of the following:

3

(i) Charcoal (ii) Bone charcoal (iii) Coke.

Ans.

.....

.....

(b) Write one ore for each of the following elements:

$4 \times \frac{1}{2} = 2$

(i) Iron (ii) Manganese (iii) Lead (iv) Gold.

Ans.

.....

.....

5. (a) Why is rayon also known as artificial silk? Give its two uses.

3

Ans.

.....

.....

.....

(b) Why is petroleum also known as 'black gold'?

2

Ans.

.....

.....

6. Give reasons.

5

(a) Water is not used to control fire involving electrical equipment.

Ans.

.....

.....

(b) LPG is a better domestic fuel than wood.

Ans.

.....
.....
(c) Paper by itself catches fire easily whereas a piece of paper wrapped around an aluminium pipe does not.

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

SECTION-C (BIOLOGY)

1. Multiple Choice Questions (MCQs)

Part I

4 × 1 = 4

(a) The process of separation of grains from the harvested crops is called:

- (i) Winnowing (ii) Threshing (iii) Storage (iv) Harvesting.

(b) Microorganisms can be grouped as:

- (i) Bacteria and fungi (ii) Viruses
(iii) Algae and protozoa (iv) All of these.

(c) Which one of these is house sparrow?

(i)



(ii)



(iii)



(iv)



(d) Total national parks in India are:

- (i) 40 (ii) 50 (iii) 103 (iv) 77.

Part II

6 × ½ = 3

(a) A cell is:

- (i) Prokaryote (ii) Eukaryote (iii) Both of these (iv) None of these.

(b) Number of endocrine systems in human is:

- (i) 9 (ii) 10 (iii) 7 (iv) 8.

(c) Chlorophyll is present in:

- (i) Leucoplasts (ii) Chloroplasts (iii) Chromoplasts (iv) None of these.

(d) Sariska tiger reserve forest is situated in Ranthambhore of state:
(i) Rajasthan (ii) Bihar (iii) M. P. (iv) U. P.

(e) In food preservation techniques, the methods used in:
(i) killing the microbes. (ii) making them inactive.
(iii) both of these. (iv) none of these.

(f) Teenage exists from:
(i) 13 years to 19 years (ii) 14 years to 18 years
(iii) 15 years to 18 years (iv) 16 years to 19 years.

2. (a) Why is it important to conserve wildlife? Give three reasons. 2

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

(b) Why are mitochondria known as the "powerhouse of the cell"? 2

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

3. What steps would you take to conserve endangered species? 2

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

4. Give the right word for: 4 × ½ = 2

- (a) A hormone that helps in reproduction.
- (b) A gland in the neck, which when it gets swollen causes goitre.
- (c) A hormone which helps in balancing the sugar in the body.
- (d) An element without which thyroxine hormone cannot be formed.

5. (a) (i) What is topsoil? 3

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

(ii) Mention two ways by which soil erosion can be prevented.

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

(b) What are the two ways to which soil is conserved?

2

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

6. Write short notes on the following:

5

(a) Cytoplasm (b) Nucleus of a cell.

Ans.
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□□

PRACTICE PAPER-4

Name..... || Class..... || Roll No. || Time 3 Hrs. || Max. Marks 80 || Marks Obtained

Note: See Practice Paper-1 for General Instructions.

SECTION-A (PHYSICS)

1. Multiple Choice Questions (MCQs)

Part I

6 × ½ = 3

- (a) Which of the following materials has maximum speed of sound?
(i) Air (ii) Sea water (iii) Iron (iv) Freshwater.
- (b) An electric circuit is a path along which an electric current may flow. The main part of an electric circuit is:
(i) Connecting wire (ii) Output device
(iii) Source of energy (iv) All of these.
- (c) Undersea earthquake is called:
(i) Tsunami (ii) Cyclone (iii) Lightning (iv) Seismic wave.
- (d) Real image is:
(i) Inverted (ii) Erect (iii) Both of these (iv) None of these.
- (e) The point of entry of optic nerve into eyeball is:
(i) Blind spot (ii) Rods (iii) Cones (iv) Retina.
- (f) Which is the largest and heaviest planet of our solar system?
(i) Jupiter (ii) Venus (iii) Mercury (iv) Earth.

Part II

4 × 1 = 4

- (a) A tin weighing 8 N rests on top of table have dimensions 10 cm × 10 cm. Calculate the pressure exerted by tin on table.
(i) 500 N/m² (ii) 600 N/m²
(iii) 800 N/m² (iv) 400 N/m².
- (b) By applying a force of 1 N, we can hold a body of mass in our hand, is approximately :
(i) 10 g (ii) 1 kg (iii) 100 mg (iv) 100 g.
- (c) Two bodies in contact but not moving with respect to each other can exert:
(i) no friction on each other. (ii) sliding friction on each other.
(iii) static friction on each other. (iv) rolling friction on each other.
- (d) The length of vocal cords of men is about:
(i) 20 mm (ii) 10 mm (iii) 12 mm (iv) 5 mm.

2. (a) Which force is responsible for the weight of objects?

1

Ans.

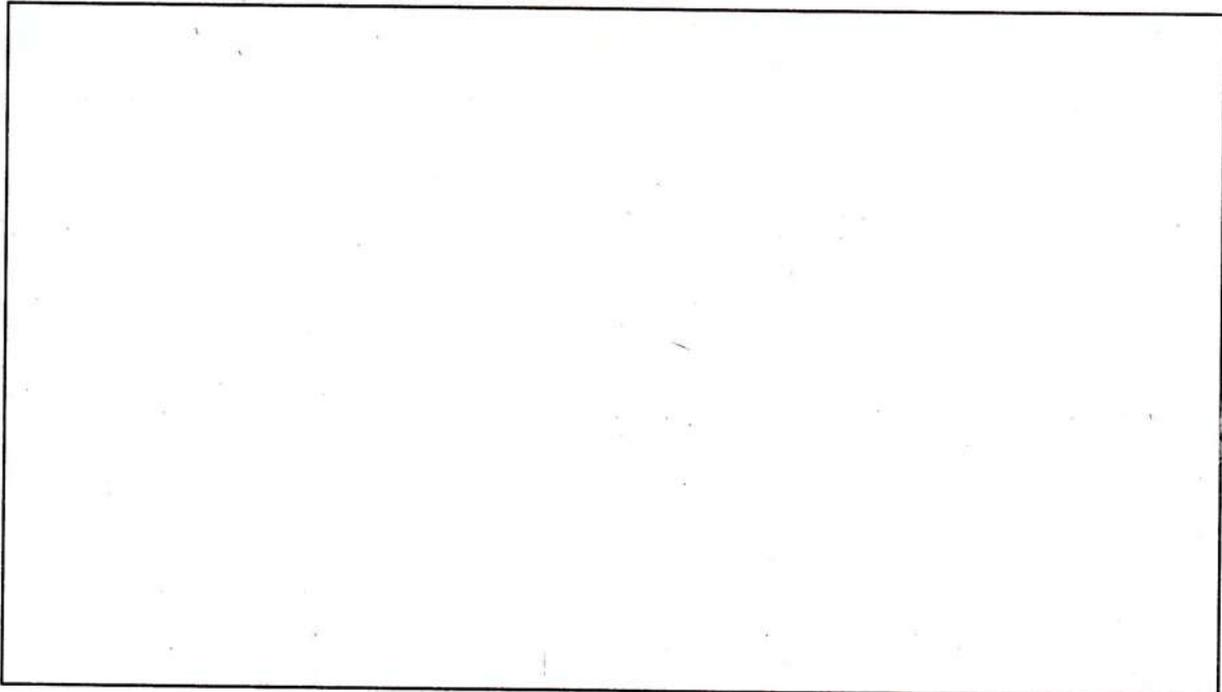
(b) Name the gases formed when electric current is passed in water containing a few drop of acid. 1

Ans.
.....

3. (a) The weather department has predicted that a thunderstorm is likely to occur on a certain day. Suppose you have to go out on that day. Would you carry an umbrella? Explain. 2

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

(b) Draw a diagram to show dispersion of light. 2

Ans. 

4. Define light year. What is the relation between light year and kilometres? 2

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

5. (a) A person weighing 60 kg stands on an area of 50 m². Calculate the pressure exerted by him. (g = 10 m/s²) 1

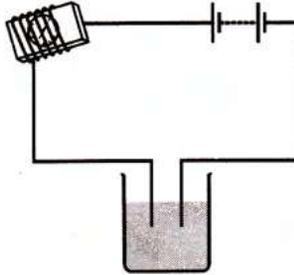
Ans.
.....
.....

(b) How is lightning caused?

1

Ans.

6. Name three liquids, which when tested in the manner shown in Fig. may cause the magnetic needle to deflect. 3



Ans.

7. (a) Give an example each of:

2

- (i) Stringed instrument
- (ii) Percussion instrument
- (iii) Wind instrument
- (iv) Striking instrument.

(b) Why should you not touch electrical appliances with wet hands?

3

Ans.

8. What is the basic principle of electric pen? Explain how it can be used for writing.

5

Ans.

SECTION-B (CHEMISTRY)

1. Multiple Choice Questions (MCQs)

Part I

2 × 1 = 2

- (a) In an experiment, on burning 2 kg of candle, 10,000 kJ of energy was produced. The calorific value is:
 (i) 6,000 kJ/kg (ii) 5,000 kJ/kg
 (iii) 7,000 kJ/kg (iv) 4,000 kJ/kg.
- (b) Which is the hardest non-metal?
 (i) Graphite (ii) Diamond (iii) Bromine (iv) None of these.

Part II

8 × ½ = 4

- (a) Nylon is a:
 (i) Polyester (ii) Protein (iii) Polyamide (iv) Cellulose.
- (b) The chemical name of marble is:
 (i) Calcium carbonate (ii) Calcium hydroxide
 (iii) Magnesium carbonate (iv) Calcium oxide.
- (c) Aqua regia is a mixture of conc. HNO₃ and conc. HCl in the ratio of:
 (i) 3 : 1 (ii) 1 : 3 (iii) 1 : 4 (iv) 4 : 1.
- (d) A substance which produces sufficient energy on burning is called:
 (i) Biogas (ii) Biomass (iii) Fuel (iv) Oxidising agent.
- (e) Which is the hottest part of the zone?
 (i) Central zone (ii) Yellow zone (iii) Outermost zone (iv) Innermost zone.
- (f) Which one of the following is gaseous fuel?
 (i) Ethanol (ii) Diesel (iii) Coal (iv) Natural gas.
- (g) The best quality of coal is:
 (i) Peat (ii) Lignite (iii) Anthracite (iv) Bituminous.
- (h) A liquid metal is:
 (i) Nitrogen (ii) Bromine (iii) Mercury (iv) Iodine.

2. (a) Name two non-metallic minerals.

1

Ans.

(b) Name a metal which can be beaten into thin sheets.

1

Ans.

(c) Classify into thermosetting plastic and thermoplastic.

1

- (i) Melamine
 (ii) Thermocole.

Ans.

3. (a) Give one use each of bakelite, nylon and acrylic.

2

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

(b) (i) Name the type of nuclear reaction taking place in atmosphere of sun.

2 × 1 = 2

Ans.

(ii) Why should water not be used to put off fire caused by burning of petrol?

Ans.
.....

4. Give reasons for the following:

2 × 1 = 2

(a) Why metals are used for making bells?

Ans.
.....

(b) Why can we not use pure gold to make jewellery?

Ans.
.....

5. Name the products obtained when coal is heated in the absence of air.

2

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

6. Compare the action of hydrogen with metals and non-metals. Give chemical equations also.

3

Ans.
.....
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7. (a) What do you mean by calorific value of fuel? Hydrogen gas has the highest calorific value, however, it is not used as domestic fuel, why? Give reason.

5

Ans.
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.....

.....
.....
.....
.....
(b) Why should the handle and bristles of a toothbrush be made of the same material? Give reason.

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

SECTION-C (BIOLOGY)

1. Multiple Choice Questions (MCQs)

Part I

4 × 1 = 4

- (a) The process of loosening and turning of the soil is called:
(i) Tilling (ii) Threshing (iii) Winnowing (iv) Harvesting.
- (b) Which is not used in plough?
(i) Beam (ii) Ploughshare (iii) Ploughshaft (iv) None of these.
- (c) The process of conversion of sugar into alcohol is known as:
(i) Fermentation (ii) Antibodies (iii) Antibiotics (iv) Carriers.
- (d) Which one of these is flora?

(i)



(ii)



(iii)



(iv)



Part II

6 × ½ = 3

- (a) Wild mango is a kind of:
(i) Endemic species (ii) Endangered species
(iii) Rare species (iv) Vulnerable species.

- (b) Nucleus contains thread-like structures called:
 (i) Chromosomes (ii) Organelles (iii) Cell wall (iv) Cell membrane.
- (c) Human cheek cells do not contain:
 (i) Nuclear membrane (ii) Cytoplasm
 (iii) Cell membrane (iv) Cell wall.
- (d) The reproductive organs in the female do not include:
 (i) Testes (ii) Sperm ducts (iii) Uterus (iv) None of these.
- (e) A female has:
 (i) two X chromosomes. (ii) one X and one Y chromosomes.
 (iii) two Y chromosomes. (iv) none of these.
- (f) Water which is suitable for drinking is:
 (i) Potable water (ii) Freshwater
 (iii) Sea water (iv) Groundwater.

2. (a) Name any two items that are prepared by using yeast. 1

Ans.

(b) Name the carrier of malarial parasite. 1

Ans.

(c) Name two organelles present in plant cell but not in the animal cell. 1

Ans.

3. What should be our main strategy to deal with the environmental problems faced by us? 2

Ans.

4. Name the following: 2 × ½ = 1

(a) Green-coloured plastid, present in plant cell.

(b) Other name of cell membrane.

5. (a) How can the cutting of trees affect the ecological balance of a particular area? 3

Ans.

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(b) What are communicable diseases? Name any two communicable diseases.

2

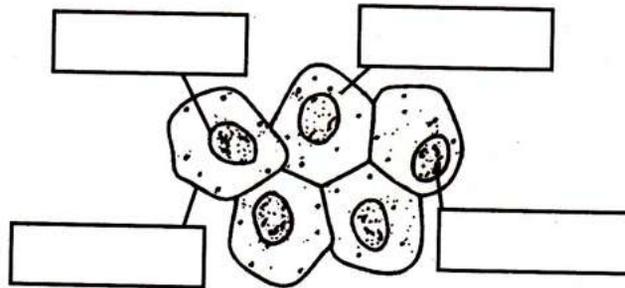
Ans.

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6. Write the names of parts of given cheek cells in blank space.

2

Ans.



7. Answer in brief:

5

(a) Why should we conserve biodiversity?

Ans.

(b) Protected forests are also not completely safe for wild animals. Why?

Ans.

(c) Some tribals depend on the jungle. How?

Ans.

(d) What are the causes and consequences of deforestation?

Ans.

(e) What is Red Data Book?

Ans.

(f) What do you understand by the term 'migration'?

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)

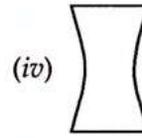
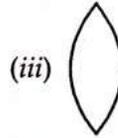
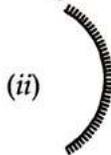
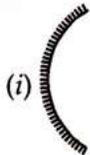
1. Multiple Choice Questions (MCQs)

Part I

4 × 1 = 4

- (a) Time taken by an object to complete one oscillation is called:
 (i) Frequency (ii) Time-period (iii) Amplitude (iv) None of these.

- (b) Which one of the following is convex lens?



- (c) The constellation that resembles a 'question mark' in the sky is:
 (i) Ursa minor (ii) Ursa major (iii) Orion (iv) Scorpio.
- (d) Light travels with a speed of 3×10^8 m/s in vacuum. Sunlight takes 8.3 minutes to reach the earth. Calculate the distance between the earth and the sun.
 (i) 1.5×10^{11} m (ii) 1.6×10^{12} m (iii) 1.7×10^{15} m (iv) 1.8×10^{16} m.

Part II

6 × ½ = 3

- (a) The SI unit of frequency is:
 (i) newton (ii) hertz (iii) pascal (iv) dyne.
- (b) The instrument used to measure atmospheric pressure is:
 (i) Manometer (ii) Hygrometer (iii) Lactometer (iv) Barometer.
- (c) Maximum value of static friction is called:
 (i) Dynamic friction (ii) Sliding friction
 (iii) Limiting friction (iv) Rolling friction.
- (d) Which one is odd among the following:
 (i) Silver (ii) Copper (iii) Gold (iv) Glass.
- (e) Electric current is the flow of:
 (i) Electrons (ii) Protons (iii) Neutrons (iv) Charges.
- (f) Intensity of earthquake is measured in:
 (i) Richter scale (ii) Earthquake meter (iii) Newton scale (iv) Galileo's scale.

2. (a) Write one method by which object can be charged. **1**

Ans.

- (b) Name the constellation that can be seen during the winter. **1**

Ans.

3. Name the following:

2 × ½ = 1

(a) A planet having the largest number of satellites.

(b) Two natural satellites of mars.

4. Name the type of force in the following cases:

4 × ½ = 2

(a) Raindrops falling on the earth

(b) Holding a book on your hand

(c) A bar magnet suspended freely

(d) Running a comb through your dry hair

5. What are vocal cords? What are their functions?

2

Ans.

.....

.....

6. What happens when an electric current is passed through a conducting solution?

1

Ans.

.....

7. Why does white light disperse when it passes through a glass prism?

3

Ans.

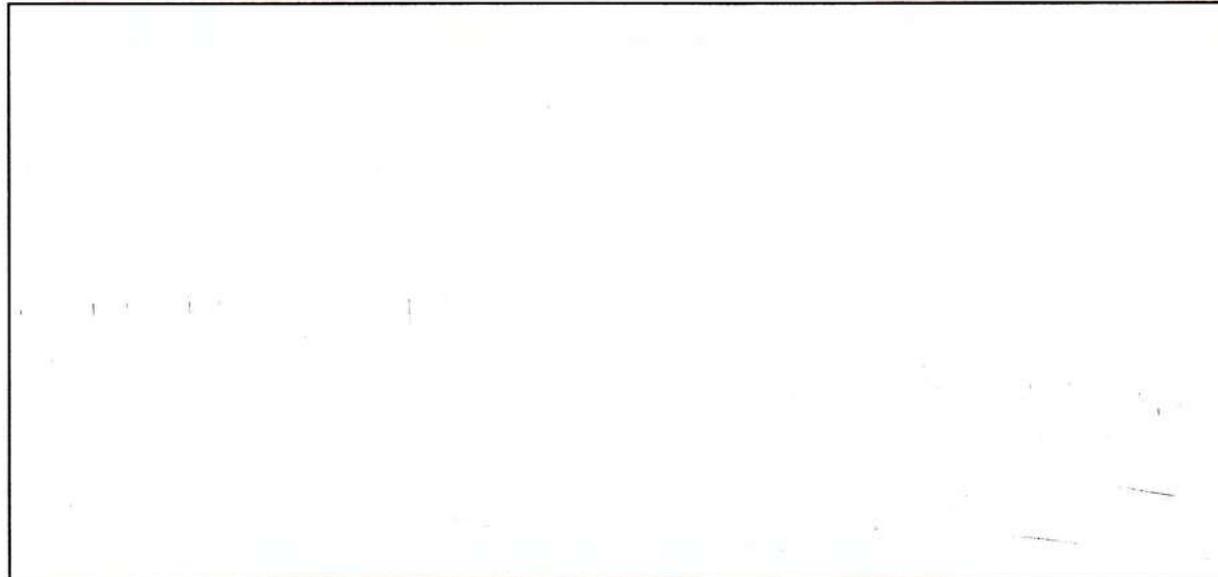
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8. (a) Draw sketches to show the relative positions of prominent stars in (i) Ursa major and (ii) Orion in a diagram.

3

Ans. 

(b) Name any three celestial bodies.

1

Ans.

9. What happens to the atmospheric pressure if,

3

(a) the temperature is high

(b) the humidity in air increases

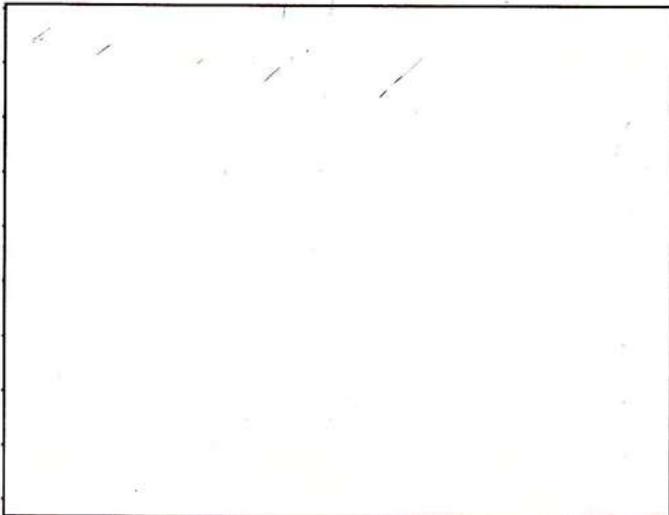
(c) there is a storm?

Ans.

10. Sketch larynx and explain its function in your own words.

5

Ans.



SECTION-B (CHEMISTRY)

1. Multiple Choice Questions (MCQs)

Part I

2 × 1 = 2

(a) Which one of the following is non-biodegradable?

(i) Plastic bags

(ii) Cotton

(iii) Wood

(iv) Paper.

(b) When a copper vessel is exposed to moist air for long time, it acquires a dull green coating. The green material is a mixture of copper hydroxide $[\text{Cu}(\text{OH})_2]$ and

(i) CuCO_3

(ii) CuO

(iii) CuCO_2

(iv) None of these.

Part II

8 × ½ = 4

(a) Which one of these is metal?

(i) Carbon

(ii) Phosphorus

(iii) Calcium

(iv) Oxygen.

(b) Which one of these is inexhaustible natural resource?

(i) Coal

(ii) Petroleum

(iii) Sunlight

(iv) Natural gas.

(c) Incomplete combustion of fuel gives:

- (i) Carbon monoxide (ii) Oxygen gas
(iii) Nitrogen gas (iv) None of these.

(d) When a cracker is ignited, a sudden reaction takes place with the evolution of heat,
..... and sound.

- (i) Pressure (ii) Volume (iii) Light (iv) Electricity.

(e) Which one of these is thermosetting plastic?

- (i) Polythene (ii) PVC (iii) Melamine (iv) None of these.

(f) Which one of these is not a property of plastic?

- (i) Light (ii) Strong (iii) Durable (iv) Heavy.

(g) Which one of these shows the property of malleability?

- (i) Aluminium (ii) Coal (iii) Pencil (iv) None of these.

(h) Petrol and diesel are obtained from a natural resource called:

- (i) Petroleum (ii) Natural gas (iii) Coal (iv) None of these.

2. (a) Out of three materials polythene, polyvinyl chloride and polystyrene, which material is best suited for covering electric wire and why? 1

Ans.
.....

(b) Why non-metals cannot be drawn into wires? 1

Ans.
.....

3. A person has to make a non-stick pan. He has three types of plastic—Bakelite, teflon and PVC. Which plastic will he use for coating and why? 2

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

4. (a) Name two polymers. Write down four advantages polythene has over natural materials because of which it is widely used. 3

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

(b) Name one metal which satisfies each of the following description choosing a different metal each time. Also, write the equation of the reaction. 2

- (i) A metal that replaces silver from silver nitrate solution.

Ans.
.....
(ii) A metal that burns in oxygen with a bright white light.

Ans.
.....

5. (a) Differentiate between thermoplastic and thermosetting plastic. 2

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

(b) (i) Identify the most reactive and least reactive metal amongst the following: 3
Al, K, Cu, Au.

Ans.
(ii) An iron knife kept dipped in blue copper sulphate solution changes to light-green, why?
Write the equation also.

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

6. What happens when: 5

(a) Hydrochloric acid is poured on aluminium foils?

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

(b) Sodium is placed in water?

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

(c) Sulphur dioxide is dissolved in water?
(Write the chemical equation of the reaction involved)

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

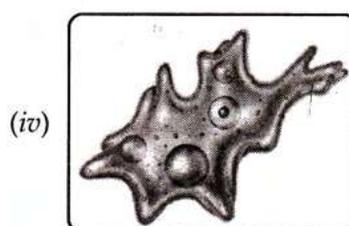
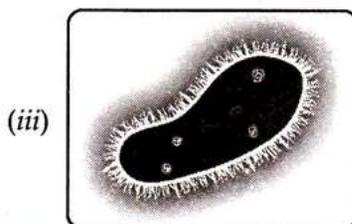
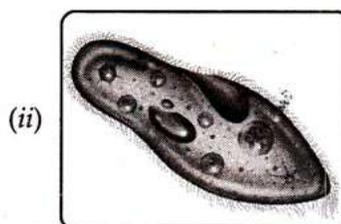
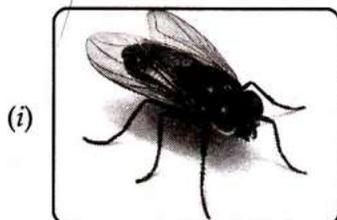
SECTION-C (BIOLOGY)

1. Multiple Choice Questions (MCQs)

Part I

4 × 1 = 4

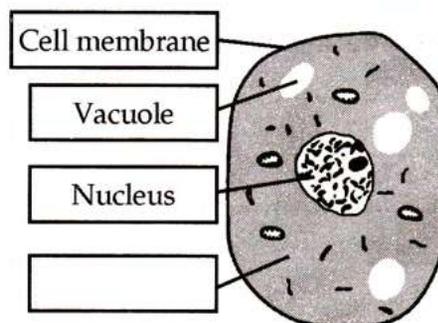
(a) Which one of the following is *Paramecium*?



(b) Wildlife conservation in natural habitats is done in:

- (i) Sanctuaries (ii) National parks
(iii) Biosphere reserves (iv) All of these.

(c) Which one has been not indicated in figure of animal cell?



- (i) Plastid (ii) Cytoplasm (iii) Cell wall (iv) Nuclear membrane.
(d) Adolescence begins around the age of:
(i) 11 years (ii) 12 years (iii) 13 years (iv) 15 years.

Part II

6 × ½ = 3

(a) Which one of these is a fertiliser?

- (i) Compost (ii) Green manure (iii) Urea (iv) None of these.

(b) Ploughing is done for:

- (i) Harvesting (ii) Irrigation
(iii) Weeding (iv) Preparation of the soil.

(c) Hormones are secreted by:

- (i) Cells (ii) Pituitary glands (iii) Endocrine glands (iv) Exocrine glands.

(d) Potable water must be:

- (i) Clear (ii) Odourless (iii) Tasty (iv) All of these.

(e) Acid rain is the result of:

- (i) Land pollution (ii) Air pollution (iii) Water pollution (iv) All of these.

(f) Nucleus is:

- (i) the brain of the cell. (ii) body of the cell.
(iii) stomach of the cell. (iv) all of these.

2. (a) Who discovered *Penicillin*? 1

Ans.

(b) What are migratory birds? 1

Ans.

(c) Name the jelly-like fluid inside the nucleus. 1

Ans.

3. What do you understand by X and Y chromosomes? 2

Ans.

4. Name the following: 2 × ½ = 1

(a) The glands which secrete juices.

(b) The glands which secrete hormones.

5. (a) (i) Name any three elements which form major part of protoplasm. 3 × 1 = 3

Ans.

(ii) Name the smallest and the largest cells in the world.

Ans.

(iii) Write two causes of soil pollution.

Ans.

(b) Why do we feel the need for conserving natural resources more than our ancestors felt? Give two reasons. 2

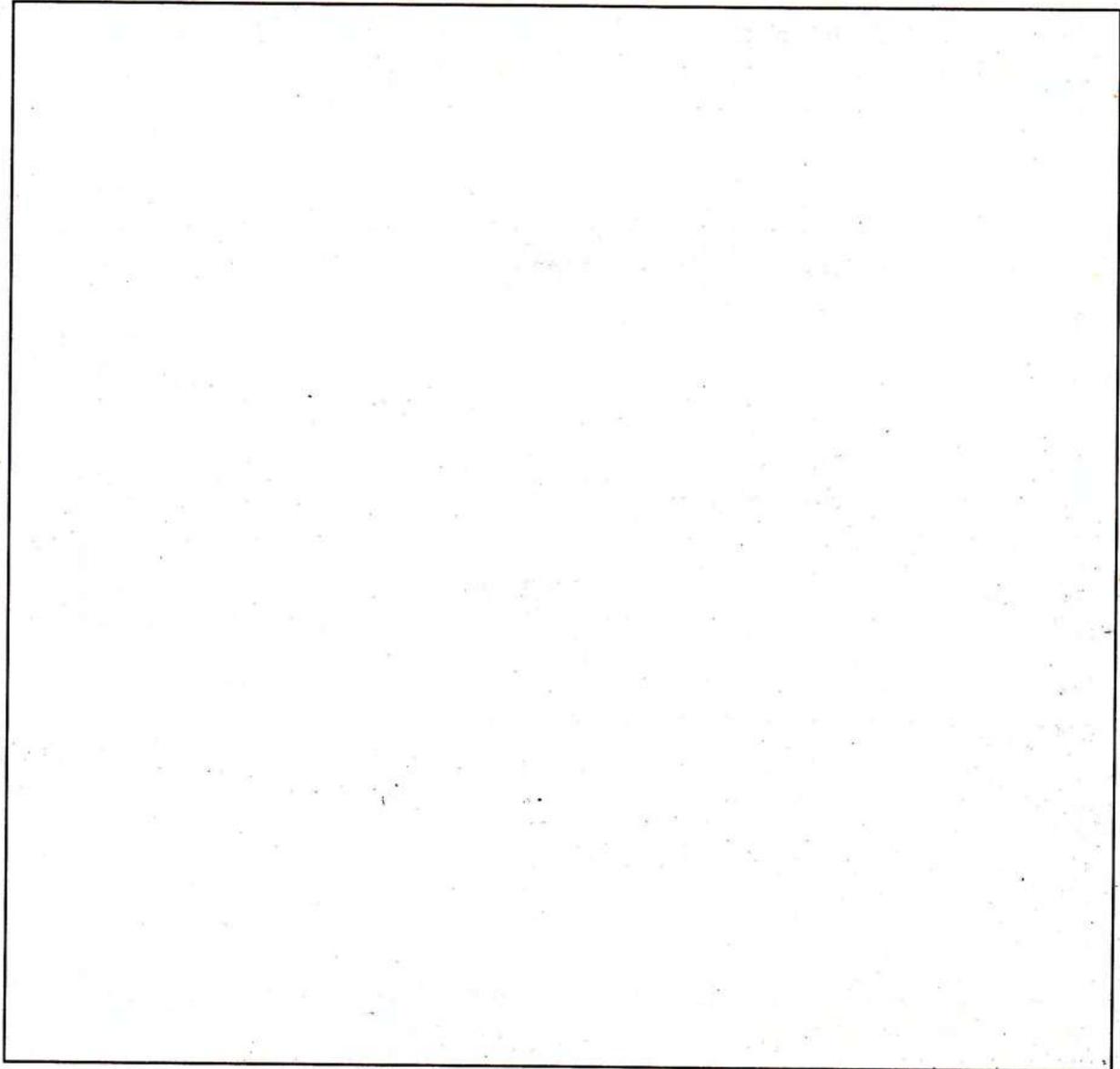
Ans.

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6. Why is greenhouse effect called so? How does it cause global warming? 2

Ans.
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7. Explain binary fission in *Amoeba* with the help of diagram. 5

Ans.



□□