**PHYSICS:**

1. Fill in the blanks in the following statements.

 (a) To draw water from a well, we have to \_\_\_\_\_\_\_\_\_\_ at the rope.

 (b) A charged body \_\_\_\_\_\_\_\_\_\_ an uncharged body towards it.

 (c) To move a loaded trolley, we have to \_\_\_\_\_\_\_\_\_\_ it.

 (d) The north pole of a magnet \_\_\_\_\_\_\_\_\_\_the north pole of another magnet.

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

3. Give two examples of situations in which applied force causes a change in the shape of an object.

4. An archer stretches her bow while taking aim at the target. She then releases the arrow, which begins to move towards the target. Based on this information, fill up the gaps in the following statements using the following terms.

muscular, contact, non-contact, gravity, friction, shape, attraction

(a) To stretch the bow, the archer applies a force that causes a change in its \_\_\_\_\_\_\_\_\_\_.

(b) The force applied by the archer to stretch the bow is an example of \_\_\_\_\_\_\_\_\_\_ force.

(c) The type of force responsible for a change in the state of motion of the arrow is an example of a \_\_\_\_\_\_\_\_\_\_ force.

(d) While the arrow moves towards its target, the forces acting on it are due to \_\_\_\_\_\_\_\_\_\_ and that due to \_\_\_\_\_\_\_\_\_\_ of air

5. 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

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

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

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

9. A rocket has been fired upwards to launch a satellite in its orbit. Name the two forces acting on the rocket immediately after leaving the launching pad.

10. When we press the bulb of a dropper with its nozzle kept in water, the 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 rubber bulb

(d) atmospheric pressure

11. Fill in the blanks.

(a) Most liquids that conduct electricity are solutions of \_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

(b) The passage of an electric current through a solution causes \_\_\_\_\_\_\_\_\_\_\_\_\_\_ effects.

(c) If you pass current through copper sulphate solution, copper gets deposited on the plate connected to the \_\_\_\_\_\_\_\_\_\_\_terminal of the battery.

(d) The process of depositing a layer of any desired metal on another material by means of electricity is called \_\_\_\_\_\_\_\_\_.

12. When the free ends of a tester are dipped into a solution, the magnetic needle shows deflection. Can you explain the reason?

13. Name three liquids, which when tested in the manner shown in Fig.14.9, may cause the magnetic needle to deflect.



14. The bulb does not glow in the setup shown in Fig.14.10. List the possible reasons. Explain your answer.



15. 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.

16. Does pure water conduct electricity? If not, what can we do to make it conduct?

17. In case of a fire, before the firemen use the water hoses, they shut off the main electrical supply for the area. Explain why they do this.

18. A child staying in a coastal region tests the drinking water and also seawater with his tester. He finds that the compass needle deflects more in the case of seawater. Can you explain the reason?

19. Is it safe for the electrician to carry out electrical repairs outdoors during heavy downpours? Explain.

20. Paheli had heard that rainwater is as good as distilled water. So she collected some rainwater in a clean glass tumbler and tested it using a tester. To her surprise, she found that the compass needle showed deflection. What could be the reasons?

21. Prepare a list of objects around you that are electroplated.

22. The process that you saw in Activity 14.7 is used for the purification of copper. A thin plate of pure copper and a thick rod of impure copper are used as electrodes. Copper from the impure rod is sought to be transferred to the thin copper plate. Which electrode should be attached to the positive terminal of the battery and why?

**CHEMISTRY**

**I. Fill in the blanks**

1.\_\_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_\_\_ are fossil fuels.

2.\_\_\_\_\_\_\_\_ were formed from the dead remains of living organisms millions of years ago.

3.\_\_\_\_\_\_\_\_ are exhaustible resources.

4.\_\_\_\_\_\_\_ are inexhaustible resources.

5.\_\_\_\_,\_\_\_\_\_\_ and \_\_\_\_\_ are the products of coal.

6.\_\_\_\_\_ and \_\_\_\_\_\_ are obtained from a natural resources

7.\_\_\_\_\_ and \_\_\_\_\_\_ resources are limited.

8.The substances which burn in air are called \_\_\_\_\_\_\_

9.\_\_\_\_\_\_\_ is essential for combustion.

10.During the process of combustion, \_\_\_\_ and \_\_\_\_ are given out.

11.Inflammable substances have very \_\_\_\_\_\_ ignition temperature.

12.\_\_\_\_\_\_ is commonly used to control fires.

13.There are various typs of combustion such as \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_\_\_.

14.Incomplete combustion of a fuel gives poisonous \_\_\_\_\_\_\_\_\_ gas.

15.Burning of wood and coal causes \_\_\_\_\_\_ of air.

16.Fuel must be heated to its \_\_\_\_\_\_\_\_ before it starts burning.

17.Fire produced by oil cannot be controlled by\_\_\_\_\_\_\_.

18.Least pollution fuel for vehicle is \_\_\_\_\_\_.

19.Process of separation of different constituents from petroleum is called\_\_\_\_\_.

20.Procss of separation of different constituents from petroleum is called \_\_\_\_\_.

**II. Answer the following**

1. What are inexhaustible Natural resources. Give an examples

2.What are exhaustible Natural resources. Give an example.

3.what are fossil fuels? Give Examples

4.What is coke?

5.What is Coal tar?

6.What is Coal Gas?

7.What is Petroleum?

8.What is Natural Gas?

9.Full form of PCRA

10.What is Combustion?

11.What is fuel?

12.What is Ignition Temperature?

13.What are inflammable substances? Give Examples.

14.What is Explosion?

15.Define Calorific value?

16.What is Global warming?

17.What is Acid rain?

18.Full form of CNG.

19.Name the unit in which the calorific value of a fuel is expressed.

**III. Answer the following.**

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

2.Describe how coal is formed from dead vegetation. What is this process called?

3.Explain why fossil fuels are exhaustible natural resources.

4.Describe characteristics and uses of following

a)Coal b)Coke c)Coal tar d)Coal gas

5.Explain the process of formation of petroleum.

6.What is combustion ? Explain types of Combustion.

7.List conditions under which combustion can take place.

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

9.Compare LPG and wood as fuels.

10.Give Reasons

 A) Water is not used to control fires involving electrical equipment.

 B) LPG is better domestic fuel than wood.

 C) Paper by itself catches fire easily whereas a piece of paper wrapped around an aluminum pipe does not.

11. Make a labeled diagram of a candle flame.

12.Explain how CO2 is able to control fires.

13.It is difficult to burn a heap of green leaves but dry leaves catch fire easily. Explain.

14.Which zone of a flame goldsmith use for melting gold and silver and why?

15.In an experiment 4.5kg of a fuel was completely burnt. The heat produced was measured to be 180000kJ. Calculate the calorific value of the fuel.

16.Can the process of rusting be called combustion? Discuss.

**BIOLOGY**

1. When plants of the same kind are cultivated at one place on a large scale, it is called\_\_\_\_\_\_.

2. The plants which are sown in the rain season are called \_\_\_\_\_\_\_\_\_.

3. The crops grown in the winter season (October to march) are called \_\_\_\_\_\_\_.

4.The tasks and activities carried out by famers are referred to as \_\_\_\_\_\_\_.

5.The process of loosening and turning of the soil is called \_\_\_\_\_\_ or \_\_\_\_\_\_\_.

6.The Substances which are added to the soil in the from of nutrients for healthy growth of plants are \_\_\_\_\_\_\_ and \_\_\_\_\_\_\_.

7.\_\_\_\_\_\_ supplies mineral nutrients to the crop plants.

8.Farmers add \_\_\_\_\_\_\_ to to the fields to replenish the soil with nutrients.

9.\_\_\_\_\_\_\_ is an organic substance obtained from decomposition of plant or animal wastes.

10.The supply of water to crops at regular intervals is called \_\_\_\_\_\_.

12.The cutting of crop after its mature is called \_\_\_\_\_\_.

13.Weeds are also controlled by using certain chemicals, called \_\_\_\_\_\_.

14.Separation of the grains from the chaff is called \_\_\_\_.

15.\_\_\_\_\_\_\_ are too small and are not visible to the unaided eye.

16.\_\_\_\_\_\_ cause serious diseases like dysentery and malaria.

17.When a disease-carrying microbe enters our body, the body produces \_\_\_\_\_\_.

18.The process of conversion of sugar into alcohol is known as \_\_\_\_\_\_.

19.\_\_\_\_\_\_ reproduces rapidly and produces carbon dioxide during Respiration.

20.Blue green algae fix \_\_\_\_\_ directly from air and enhance fertility of soil.

21.Alcohol is produced with help of \_\_\_.

22.Cholera is caused by\_\_\_\_\_.

**I. Answer the following**

1.What is crop?

2.What is Kharif crops?

3.What is rabi crops?

4.Give an Example of each

a) Kharif crop b) Rabi crop

5.What is ploughing Or Tilling?

6.What is manure?

7.What is fertilizers?

8.What is crop rotation?

9.What is irrigation?

10.What are weeds? What are weedicides?

11.What is threshing?

12. What is winnowing?

13.What is animal husbandry?

14.What are microorganisms?

15.What are Antibiotics and antibodies?

16.What are pathogens?

17.What are communicable diseases?

18.What are carriers?

**II. Answer the following**

1.What are crops ? Explain types of crops.

2.List the agricultural practices

3.Write a note on plough and Hoe.

4.Write a note on Traditional tool and seed drill.

5.Explain how fertilizers are different from manure.

6.Write advantages of manure.

7.What is irrigation? Explain Modern methods of irrigation or describe two methods of irrigation which conserves water.

8.What are weeds? How can we control Weeds?

9.What is Harvesting? Explain the methods of harvesting.

10.Write a short notes of Storage of Grains.

11.If wheat is sown in the kharif season, what would happen? Discuss.

12. Write a paragraph in your own words on each of the following.

a) Preparation of soil b) Sowing c)Weeding d)Threshing

13.What are the major groups of microorganisms?

14. Write five lines on the usefulness of microorganisms in our lives

15.write few points on medicinal use of microorganisms

16.What precautions must be taken while taking antibiotics?

16.Explain chemical method of preservations

17.Write a short paragraph on the harmful effects of microorganisms.

18.Write short notes on some common human diseases caused by microorganisms

17.Write short note on Pasteurization

18.Explain Nitrogen Fixation or Draw a neat labeled diagram of Nitrogen Cycle.