

**Class VIII Session 2024-25**  
**Subject - Science**  
**Sample Question Paper - 3**

**Time Allowed: 3 hours**

**Maximum Marks: 80**

**General Instructions:**

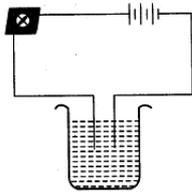
1. The question paper consists of 34 questions and is divided into four sections, A, B, C and D.
2. All questions are compulsory.
3. Section A comprises question numbers 1 to 15. These are multiple choice questions carrying one mark each. You are to select one most appropriate response out of the four provided options.
4. Section B comprises question numbers 16 to 22. These are SAQs carrying two marks each.
5. Section C comprises question numbers 23 to 31. These are SAQs carrying four marks each.
6. Section D comprises question numbers 32 to 34. These are SAQs carrying five marks each.

**Section A**

1. The science of improving crop varieties is called [1]
  - a) Introduction
  - b) Plant breeding
  - c) Hybridization
  - d) Selection
2. Nostoc and Volvox are [1]
  - a) Fungi
  - b) Algae
  - c) Protozoa
  - d) Bacteria
3. Natural gas is a fossil fuel because [1]
  - a) it is formed from dead remains of organisms.
  - b) it is a non-renewable natural resource.
  - c) it is an exhaustible natural resource.
  - d) it is found in the earth's crust.
4. Which of the following represents the characteristics of a good fuel? [1]
  - a) High calorific value and high ignition temperature
  - b) High calorific value and low ignition temperature
  - c) Low calorific value and low ignition temperature
  - d) Low calorific value and high ignition temperature
5. The species, which is going to become extinct due to the lack of proper care would be called [1]
  - a) flora
  - b) extinct
  - c) endangered
  - d) fauna
6. The faulty functioning of an endocrine gland can make a person very short or very tall. This gland is [1]



21. Name three liquids, which when tested in the manner shown in Fig. may cause the magnetic needle to deflect. [2]



22. State the laws of reflection. [2]

### Section C

23. Why an appropriate distance between the seeds while sowing is important? [4]

24. What do you mean by natural resources and man-made resources? [4]

25. What does Fig. represent? [4]

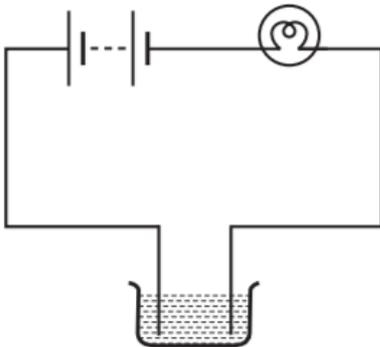


26. What are the secondary sexual characters in girls? [4]

27. It is much easier to burst an inflated balloon with a needle than by a finger. Explain. [4]

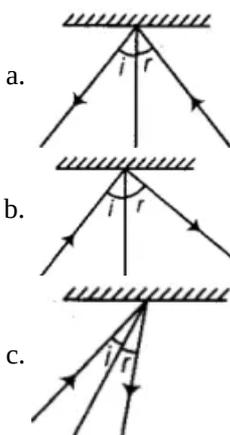
28. What is frequency range for human ear? What is audible and inaudible sounds? [4]

29. The bulb does not glow in the setup shown in Fig. List the possible reasons. Explain your answer. [4]



30. Draw a well labelled diagram of structure of the earth. [4]

31. There is a mistake in each of the following ray diagrams given as a figure a, b, and c. Make the necessary correction (s). [4]



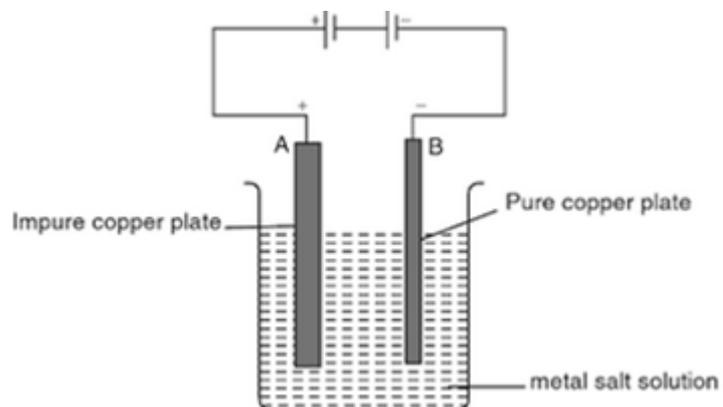
### Section D

32. What is fertilization? Explain the different types of fertilization with example. [5]

33. a. How does the pressure of a liquid depend on its depth? [5]

b. Explain why, the walls of a dam are thicker near the bottom than at the top?

34. The diagram shows the process of purification of copper metal. A thick copper plate A of impure copper and thin copper plate B are immersed in a metal sulphate solution and an electric current is passed through it. [5]



Answer the following question:

- i. Which metal solution is taken as electrolyte?
- ii. Which electrode is connected to the positive terminal of the battery?
- iii. What is liberated at the cathode? Explain.
- iv. Does the copper anode (increase/decrease/ remains unchanged) in weight?

# Solution

## Section A

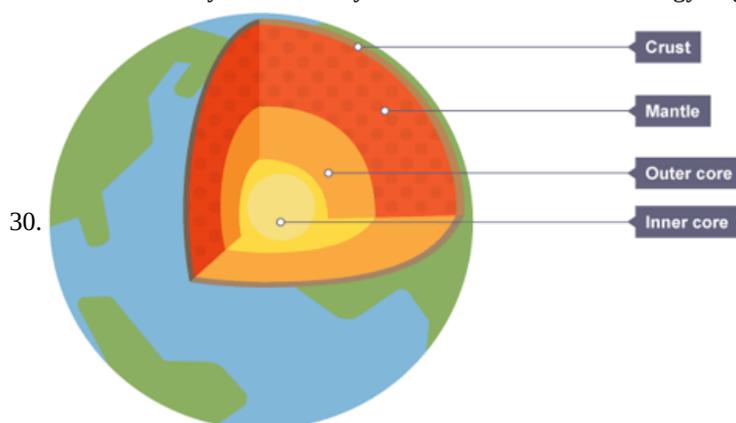
1. **(b)** Plant breeding  
**Explanation:** Plant breeding
2. **(b)** Algae  
**Explanation:** Algae
3. **(a)** it is formed from dead remains of organisms.  
**Explanation:** Natural gas is formed from fossils (dead remains) of organisms.
4. **(b)** High calorific value and low ignition temperature  
**Explanation:** High calorific value and low ignition temperature
5. **(c)** endangered  
**Explanation:** endangered
6. **(a)** pituitary  
**Explanation:** pituitary
7. **(a)** Thyroxin  
**Explanation:** Metamorphosis in frogs is controlled by thyroxin hormone. Metamorphosis is a drastic change in the shape of organisms as a tadpole to frog.
8. **(b)** It increases the area of contact, decreasing pressure.  
**Explanation:** Cushion gives us comfort to sleep on, because it increases the area of contact, and decreasing pressure.
9. **(a)** stone  
**Explanation:** Stone will exert more friction and reaction which helps to sharpen the blade of the knife.
10. **(c)** Amplitude  
**Explanation:** Amplitude
11. **(b)** Cathode  
**Explanation:** Since metals from the electrolyte is deposited at cathode, the sample which is likely to be electroplated, has to be used as cathode.
12. **(c)** Tsunami, Floods, Landslide  
**Explanation:** Earthquake can cause Tsunami, Floods and Landslide. When the lithospheric plates moves, the surface of the earth vibrates. The vibrations can travel all round the earth. These vibrations are called earthquake.
13. **(c)** 5m  
**Explanation:** 5m
14. **(a)** True  
**Explanation:** True
15. **(a)** True  
**Explanation:** True

## Section B

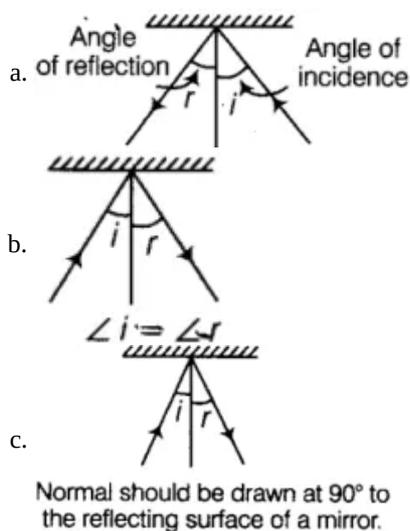
16. Microorganisms are also used in cleaning up of the environment. The organic wastes like vegetable peels and remains of animals are broken down into harmless and usable substances by the action of microorganisms. In agriculture they are used to increase soil fertility by fixing nitrogen and by making manure.
17. i. Coal is a natural occurring substance whereas Coke prepared material with few impurities and high Carbon content, usually made from Coal.  
 ii. Coal has a Volatile matter content whereas Coke has relatively very low Volatile matter content which suits it for a better fuel.
18. The ignition temperature of paper is lower compared to that of aluminium. When paper is wrapped around an aluminium pipe; the ignition temperature increases. That is why paper itself catches fire easily whereas a piece of paper wrapped around an aluminium pipe does not.
19. (i) Everyone should have a bath daily because increased activity of sweat glands makes the body smelly.  
 (ii) Girls should take special care of cleanliness during the time of menstrual flow.
20. The vibrating objects produce sound. In some cases the vibrations are easily visible to us. But in most of the cases, the vibrations are not visible due to very small amplitude. But the vibrations in all the cases can be felt.
21. Tap water, sodium chloride solution, hydrochloric acid, lemon juice, vinegar.
22. Laws of reflection:
- The angle of incidence is always equal to the angle of reflection.
  - The incident ray, the reflected ray and the normal to the surface at the point of incidence lie in the same plane.

### Section C

23. **Sowing of seeds:** One of the important part of crop production is sowing. Good quality seeds are selected and are sown in prepared soil with the help of various tools like traditional tools and seed drill. In order to avoid overcrowding of plants it is very important to leave some space between two seeds. This also allows plants to get sufficient sunlight, nutrients and water from the soil. Otherwise the seed may compete for water and sunlight to grow. In this way some of the seeds may die.
24. Natural resources are the materials present in nature that are useful to human beings like air, water, soil, minerals, sunlight etc. Man-made resources are the materials which is made by man such as plastic, glass, rayon, synthetic, rubber etc.
25. The figure represents binary fission method of asexual reproduction, in which the division of a nucleus into two halves is shown. The given figure is of an amoeba undergoing the first stage of binary fission.
26. In girls, breasts begin to develop at the time of puberty. These features help us to distinguish the male from the female. These characters are called secondary sexual characters. Hair grows under the arms and in the region above the thighs or the pubic regions in girls.
27. It is much easier to burst an inflated balloon with a needle than by a finger because the pressure is inversely proportional to the area of cross-section. Hence, the smaller the area, the larger will be the pressure. The needle has a smaller area of contact compared to the finger. Thus, the needle will exert more pressure on the balloon. Larger pressure by needle burst an inflated balloon.
28. The range of human ear is between **20Hz to 20000Hz**.  
 The sound frequency between this range is called **audible sound**.  
 The sounds having frequency less than 20 Hz is known as **inaudible sounds**.
29. The bulb may not glow because of the following reasons:
- Liquid in the beaker is non-conducting. In such case, the electric current would not be able to pass through the liquid. Hence, the circuit is not complete.
  - Electric current in the circuit is very weak. This can happen if the material used for making the circuit is not a good conductor of electricity or the battery does not have sufficient energy to generate electricity.



31. The correct diagrams are as given below:



#### Section D

32. The fusion of male gamete with a female gamete to form a zygote during sexual reproduction is called fertilisation..

The first step in the process of reproduction is the fusion of a sperm and an ovum.

During fertilization nuclei of the sperm and the egg fuse to form a single nuclei.

The different types of fertilization are as follows:-

- **Internal fertilization**:- fertilization which takes place inside the female body. It usually occurs in animals including humans and cows etc.
- **External fertilization**:- fertilization which takes place outside the female body. Usually in this case lots of gametes are released at a time. Usually occurs in frogs etc.

33. a. The pressure of the liquids is not same at all depths. It changes with the depth.

The pressure exerted by a liquid increases with increasing depth inside the liquid. As the depth increases, the weight of liquid column pushing down from above increases and hence the pressure increases too.

b. The walls of a dam are thicker at the bottom because the pressure exerted at the bottom is more than the top, so to bear the pressure and the weight of the liquid, the walls are made thicker.

34. i. Copper sulphate solution is taken as electrolyte.

ii. The thin plate of pure copper is made the negative electrode (cathode)

iii. Copper is liberated at the cathode, impure copper metal of anode goes on dissolving in copper sulphate solution making it thinner whereas the pure copper from copper sulphate solution goes on depositing on pure copper plate making it thicker.

iv. The copper anode decrease in weight.