Class VIII Session 2024-25
Subject - Science
Sample Question Paper - 1

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 carry four marks each.
6. Section D comprises question numbers 32 to 34. These carry five marks each.

Section A

1. The method of transferring seedlings from nursery to field is known as **[1]**

   a) transplantation b) broadcasting

   c) crop rotation d) harvesting

2. Fungal hyphae that help in absorption of food materials are called **[1]**

   a) Stolonic hyphae b) Fibrilluar hyphae

   c) Reproduction hyphae d) Absorptive hyphae

3. The type of coal that can be used to produce coke is: **[1]**

   a) lignite b) bituminous

   c) anthracite d) magnetite

4. During combustion temperature rises considerably because burning: **[1]**

   a) not uses air b) uses oxygen

   c) rapidly d) produces light

5. Match the column I with the column II. Select the CORRECT option. **[1]**

Column I	**Column II**
A. Dodo	i. Extinct
B. Blue whale	ii. Endangered
C. Cheetah	iii. Vulnerable
D. Oliver Ridley Turtle	iv. Gahirmatha Sanctuary in Orissa

a) a - i, b- ii, c - iii, d - iv

b) a - iv, b - iii, c - ii, d - i

c) a - ii, b - iv, c - i, d - iii

d) a - iv, b - iii, c - i, d - ii

6. Reproduction by budding takes place in **[1]**

a) amoeba

b) bacteria

c) paramecium

d) hydra

7. One ovum is released in females once in every **[1]**

a) 28 days

b) 38 days

c) 18 days

d) 08 days

8. Why the food is cooked quickly in pressure cooker? **[1]**

a) Steam cooks food quickly

b) Water boils at low temperature

c) Steam doesn't go waste

d) Increased pressure, increases the boiling point

9. In a large commercial complex, there are four ways to reach the main road. One of the paths has loose soil, the second is laid with polished marble, the third is laid with bricks and the fourth has a gravel surface. It is raining heavily and Paheli wishes to reach the main road. The path on which she is least likely to slip is **[1]**

a) bricks

b) loose soil

c) gravel

d) polished marble

10. The range of human audibility lies between **[1]**

a) 30 to 30,000 Hz

b) 20 to 20,000 Hz

c) 40 to 40,000 Hz

d) 10 to 10,000 Hz

11. Electrolysis of salt solution is due to the formation of **[1]**

a) Electrons

b) Oxides

c) Ions

d) Acids

12. Natural disaster can not be predicted as **[1]**

a) They occurs suddenly

b) They last for short duration

c) They do not provide clue

d) They are rare

13. In eye donation, which part of donor's eye is transplanted? **[1]**

a) Cornea

b) Lens

c) Complete lense

d) Retina

14. State true or false: **[1]**

Sanctuaries are places where poaching and capturing of animals is allowed.

15. State true or false: **[1]**

Sliding friction is another name for static friction.

Section B

16. Give an account of two important discoveries in the past those had made the study of microorganisms interesting. **[2]**

17. Describe how coal is formed from dead vegetation. What is this process called? **[2]**

18. What are the three essential requirements to produce fire? How fire extinguisher is useful for controlling the fire? **[2]**

19. What do you mean by secondary sexual characters? **[2]**

20. Two astronauts are floating close to each other in space. Can they talk to each other without using any special device? Give reasons. **[2]**

21. 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 **[2]**

(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.

22. Write the laws of reflection. **[2]**

Section C

23. Define ploughing. **[4]**

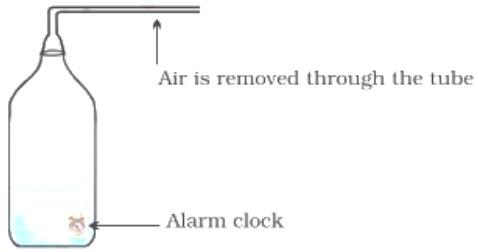
24. While driving what are the tips we must follow to save petrol/diesel/natural gas? **[4]**

25. Explain the formation of clone Dolly. **[4]**

26. Write some secondary sexual characters in boys. **[4]**

27. Show that the force has a magnitude as well as direction. **[4]**

28. An alarm bell is kept inside a vessel as shown in Fig. A person standing close to it can distinctly hear the sound of the alarm. Now if the air inside the vessel is removed completely how will the loudness of alarm get affected for the same person? **[4]**



29. What is the actual direction of electric current? **[4]**

30. If the materials used for constructing a building were good conductors, do you think lightning will strike the building? Will the lightning conductor be still required to be installed in the building? **[4]**

31. Differentiate between regular and diffused reflection. Does diffused reflection mean the failure of the laws of reflection? **[4]**

Section D

32. What is asexual reproduction? Write various methods of asexual reproduction. **[5]**

33. When a person stands on a cushion, the depression is much more than when he lies down on it. Explain with a reason. **[5]**

34. Explain the process of electroplating along with its advantages and uses. **[5]**

Solution

Section A

1. **(a)** transplantation
   Explanation: transplantation
2. **(d)** Absorptive hyphae
   Explanation: Absorptive hyphae
3. **(b)** bituminous
   Explanation: Coke is produced by destructive distillation of bituminous coal. Bituminous coal contain very less amount of moisture in it.
4. **(d)** produces light
   Explanation: During combustion temperature rises considerably because burning produces heat and light due to the breaking of carbon bonds in them.
5. **(a)** a - i, b- ii, c - iii, d - iv
   Explanation: a - i, b- ii, c - iii, d - iv
6. **(d)** hydra
   Explanation: In Hydra, reproduction takes place by budding. A small part of the body of an organism grows as 'bud' which then detaches and becomes a new organism. The other options Amoeba, Paramecium, and bacteria reproduce asexually by binary fission.
7. **(a)** 28 days
   Explanation: 28 days
8. **(d)** Increased pressure, increases the boiling point
   Explanation: The pressure cooker traps that hot air and moisture with the food, which expedites the cooking process. In other words, the moisture surrounding the food itself reaches higher temperatures than it would without the pressure, which speeds up the chemical processes involved in cooking.
9. **(c)** gravel
   Explanation: Gravel because the contact area is rough thus the friction is more.
10. **(b)** 20 to 20,000 Hz
    Explanation: 20 to 20,000 Hz
11. **(c)** Ions
    Explanation: Ions
12. **(a)** They occurs suddenly
    Explanation: Natural disaster cannot be predicted in advance because natural disaster occurs suddenly although a warning or predication of its occurrence is nowdays is given with the help of the pictures sent by weather satellites.
13. **(a)** Cornea
    Explanation: Eye donation involves donating corneas. Sometimes it called a keratoplasty, or a corneal graft, a cornea transplant could give someone back the gift of sight.
14. **(b)** False

Explanation: False

15.

(b) False

Explanation: False

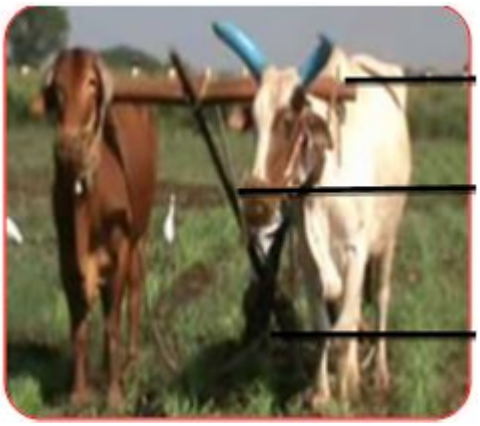
Section B

16. In 1857, Pasteur observed that fermentation is a biochemical process. Later it was discovered that all microorganisms are not harmful. In 1924 Fleming prepared antibiotic penicillin from a microorganisms called Penicillium notatum.
17. About 300 million years ago the earth had dense forests in low lying wetland areas. Due to natural processes, like flooding, these forests got buried under soil. As more soil deposited over them, they were compressed. The temperature also rose as they sank deeper and deeper. Under high pressure and high temperature, dead plants got slowly converted to coal.
    As coal contains mainly carbon, the slow process of conversion of dead vegetation into coal is called carbonisation.
18. Three essential requirements.
    i. Fuel
    ii. Air
    iii. Heat to acquire the ignition temperature.

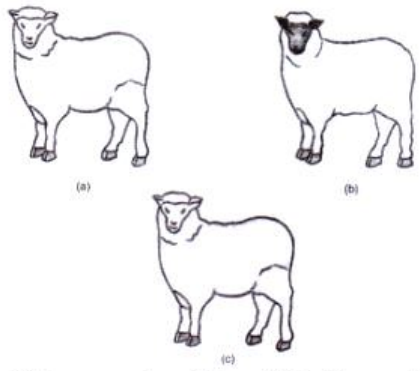
    The job of fire extinguishers is to cut off the supply of air or to bring down the temperature of fuel or both.
19. The features that help to distinguish the male from the female is called secondary sexual characters. In females, breasts begin to develop and boys begin to grow facial hair.
20. No, they cannot talk to each other without using any special device because there is no medium in space and sound needs the medium to travel.
21. Liquid A is a better conductor than liquid B.
    The conductivity of the solution determines the amount of current flowing through the solution. Greater the conductivity, greater will be the quantity current passing through the solution and lesser the conductivity, the quantity of current passing through will be correspondingly less. So, the conductivity of liquid A is more than the conductivity of liquid B.
22. **LAWS OF REFLECTION**
    First Law- According to first law of reflection, the incident ray, the reflected ray and the normal at the point of incidence, all lie in the same plane.
    Second Law- According to second law of reflection, the angle of incidence is always equal to the angle of reflection.

Section C

23. The process of loosening and turning of the soil is called tilling or ploughing and is carried on by using a plough. plough are made by wood or iron material, it is being used since ancient time for different purposes like tilling the soil, adding fertilisers to crops, removing weeds etc. this implement is drawn by a pair of bulls or other animals like camels, horses etc.



24. The following tips we must follow to save petrol/diesel/natural gas as below:
    i. Ensure correct air pressure in the tires.
    ii. Ensure regular maintenance of the vehicle.
    iii. Drive at a constant and moderate speed as far as possible.
    iv. Switch off the engine at traffic lights or at a place where you have to wait.
25. Cloning is the production of an exact copy of a cell, a part or complete body. Dolly was the first clone born on 5th July 1996 and was the first mammal to be cloned. It is cloned by Ian Wilmut and his colleagues. During the process of cloning Dolly, a cell was collected from the mammary gland of female Finn Dorsett sheep.



(a) Finn Dorsett sheep (b) Scottish blackface ewe (c) Dolly

Simultaneously, an egg was obtained from a Scottish blackface ewe. The nucleus was removed from the egg, then the nucleus of mammary gland cell from the Finn Dorsett sheep was inserted into egg of Scottish blackface ewe. Development of this egg followed normally and finally Dolly was born. It was found to be absolutely identical to the Finn Dorsett sheep and produced several offspring of her own through normal sexual means. Dolly died on 14th February 2003 due to a certain lung disease.

26. **The secondary sexual characteristics in males are:**

    1) Hairs grow on face in the form of beard and moustache.

    2) Shoulders and chest broadens.

    3) A deeper voice or low pitched voice.

    4) Adam's apple develops in front of throat in boys.

    The secondary sexual characteristics in boys are produced by the male sex hormone called testosterone made in testes.

27. Force can be smaller or larger, that means it has a magnitude. Its magnitude can be expressed in Newton which is the SI unit of force.

    If the two forces are applied on an object in the same direction, then the resultant force acting on the object is the sum of the two forces. For ex two boys pushing a heavy box in the same direction, their combined force is the resultant force on the box.

    If the two forces applied to an object are equal but in opposite direction, then the total force is zero or nil. They are balanced or cancelled.

    If the two forces applied to an object are in the opposite directions, then the resultant force is the difference of the two forces.

28. Initially, the person is able to hear the sound coming from air and water distinctly. But after some time, when the air is completely removed from the bottle, the sound will pass through the water and not reached to man. So, the man will not hear the sound which was coming through the air initially.

29. Electrons flow from an electron rich body/object to an electron deficit one. In other words from a body that is negatively charged to a body that is positively charged. However, scientists from earlier days thought that electric current is the flow of positive charge from a positively charged body to a negatively charged body. Therefore, they took this as the direction of flow of current. Today, we consider the flow of conventional electric current to be from positive to negative electrode.

30. Lightning will not strike the building because charge separation cannot take place in conductors and so, all the lightning falling on the building will reside bn the surface of the building. So, there is no need of installing any lightning conductor because all the work of lightning conductor is done by the conducting material itself.

31.

Regular reflection	Diffused reflection
1) Occurs from shiny and smooth surfaces.	1) Occurs from unpolished and rough surfaces.
2) Reflected rays are parallel to each other.	2) Reflected rays are not parallel to each other.
3) Clear images are formed .	3) Blurred images are formed .

The laws of reflection are followed in every situation. Hence, diffused reflection does not mean the failure of the laws of reflection.

Section D

32. Asexual reproduction is a mode of reproduction in which the new offspring are produced from a single parent. The offspring produced are identical to each other, both physically as well as genetically. They are the exact copies of their parent cell. Hence, they are called clones. Asexual reproduction is observed in both unicellular and multicellular organisms.

    (i) By budding: Some organisms develop buds on their body. These buds develop into a new individual. This is called budding. An example is a hydra. From the parent hydra, a bud arises which eventually matures into a new hydra. Once it is matured, it detaches from the parent body.

    (ii) By binary fission: In binary fission, parent cell divides into two equal halves called daughter cells. Daughter cells are identical to each other and to their parent cell. Organisms like amoeba, bacteria, euglena, etc., exhibit binary fission.

(iii) By vegetative reproduction: Plants reproduce asexually through their vegetative parts such as leaves, roots, stem, and buds. This is called vegetative propagation. For example, onion bulbs, tubers of potato, runners/stolon, etc.Vegetative propagation is much faster than the sexual reproduction in plants. This can be done artificially as well, which is widely employed in horticulture.

33. When a man stands on a cushion then his two feet are in contact with the cushion. Due to this his body weight falls on a small area. On the other hand when a man lies on the cushion, his whole body comes in contact with the cushion. His weight falls over the large area because of which the depression in the cushion is less than when he stands on it.
34. One of the most common applications of the chemical effect of electric current is electroplating. In this process, there exists a liquid, usually called the electrolyte, through which current passes. Two electrodes, connected to the terminals of a battery with a switch in between, are inserted in the liquid. The electrode that is connected to the positive terminal of the battery is called the "anode," and the other connected to the negative terminal is called the "cathode".

Uses

i. Electroplating is done in industries to have an anti-reactive coating on the parts of machines so that they do not react with the raw material, to have an anti-corrosive coating for the machines so that they do not get corroded, and a heat- resistive coating for parts like boilers to resist the heat produced by the machinery.
ii. The process of electroplating is used for plating parts of vehicles with nickel and chromium, which protects them from corrosion.

Advantages:

i. Corrosion resistance: a corrosion-prone substance such as iron can be coated with a layer of non-corrosive material, thereby protecting the original material.
ii. Decorative items: shine and luster can be imparted to otherwise dull surfaces. This makes for great decorative items.