Class VIII Session 2023-24
Subject - Science
Sample Question Paper - 2

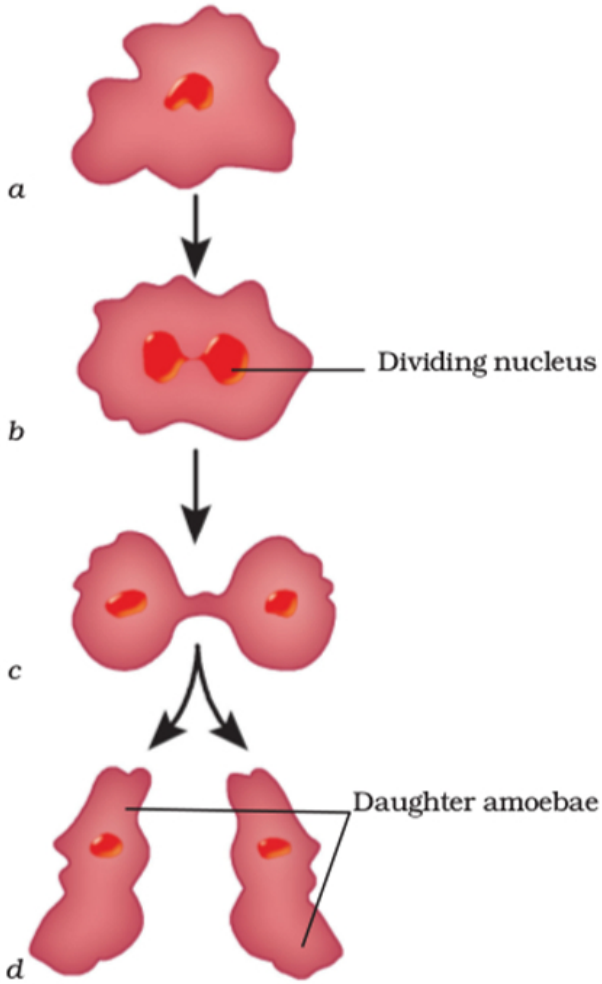
Time Allowed: 3 hours **Maximum Marks: 80**

General Instructions:

1. The question paper consists of 34 questions and is divided into four sections, A, B and C.
2. All questions are compulsory.
3. Section A comprises question numbers 1 to 3. These are SAQs carrying five marks each.
4. Section B comprises question numbers 4 to 18. These are multiple choice questions carrying one mark each. You are to select one most appropriate response out of the four provided options.
5. Section C comprises question numbers 19 to 34. These are SAQs carrying two marks each from question 19 to 25.
6. Section C comprises question numbers 19 to 34. These are SAQs carrying four marks each from question 26 to 34.

1. **Read the text carefully and answer the questions:** **[5]**

The type of reproduction in which only a single parent is involved is called asexual reproduction. Organism reproduce by different method. Yeast, amoeba reproduction by single parent.



(i) Binary fission is observed in

a) human being b) yeast

c) Amoeba d) Hydra

(ii) Asexual reproduction is observed in

a) buffalo b) Hen

c) cow d) sponge

(iii) Budding occurs in

a) Amoeba b) Dog

c) Paramecium d) Yeast

(iv) Fertilisation is not necessary in asexual reproduction.

a) True b) False

(v) All living organisms have the power to _____.

2. **Read the text carefully and answer the questions:** **[5]**

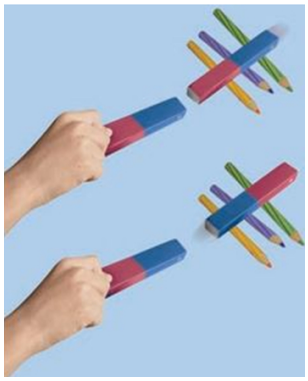
There are 3 type of non-contact forces following activity describe one of them.

Step 1 - Take a pair of bar magnets. Place the longer side of one of the magnets over three round shaped.

Step 2 - Bring one end of the other magnet near the end of the magnet placed on the rollers.

Step 3 - Make sure that the two magnets do not touch each other.

Step 4 - Bring the other end of the magnet near the same end of the magnet placed on the rollers.



(i) The force describe in the above activity is.

a) Gravitation force b) electrostatic force

c) Magnetic force d) None of these

(ii) The force that exerted by a charged body on another charged or uncharged body is known as

a) Gravitation force b) electrostatic force

c) None of these d) Magnetic force

(iii) Objects or things fall towards the earth because it pulls them. This force is called

a) force of gravity b) Force of magnetic

c) All of these d) Force of electrostatic

(iv) The force exerted by a magnet in the above activity is an example of a _____.

(v) In the above activity attraction or repulsion between objects can also be seen as another form of pull or push.

a) True b) False

3. **Read the text carefully and answer the questions:** **[5]**

Reena performed the activity to show Chemical Effects of Electric Current she takes the help of her friends.

Step 1 - Take out carbon rods carefully from two discarded cells.

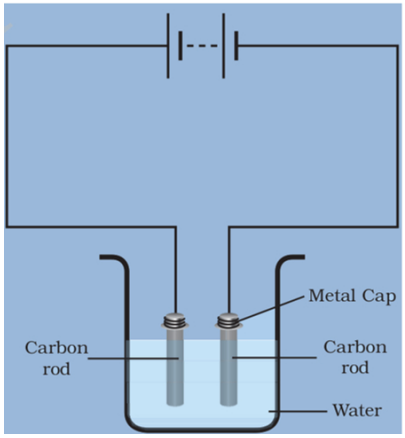
Step 2 - Clean their metal caps with sand paper.

Step 3 - Wrap copper wires around the metal caps of the carbon rods and join them to a battery

Step 4 - Pour a cupful of water in a glass/plastic bowl.

Step 5 - Add a teaspoonful of salt or a few drops of lemon juice to water to make it more conducting.

Step 6 - Now immerse the electrodes in this solution.



(i) An electric current can produce

a) Magnetic effect b) Chemical effect

c) Heating effect d) All of these

(ii) Copper is

a) Both good conductor and an insulator b) None of these

c) An insulator d) A good conductor

(iii) An electrolyte is

a) a non-metal b) a metal

c) a liquid that conducts current d) none of these

(iv) The passage of an electric current through a conducting solution causes _____.

(v) William Nicholson (1753–1815), had shown that if electrodes were immersed in water, and a current was passed, bubbles of oxygen and hydrogen were produced.

a) True b) False

4. The crop field is irrigated before sowing because: **[1]**

a) different irrigation systems prevent weed growth b) moisture is necessary for seed germination

c) irrigation works as bio fertiliser for seed germination d) watering increases content of soil air for seed germination

5. We study about microorganisms to: **[1]**

a) develop strategies to kill them and make earth disease free b) be aware of their positive and negative effects

c) increase our knowledge about science d) create database for future generations

6. What is absent in coal? **[1]**

a) Oxygen b) Phosphorus

c) Sulphur d) Nitrogen

7. The main component of natural gas is: **[1]**

a) Propane b) Ethane

c) Methane d) Butane

8. Maintaining the organism in nature, refers to: **[1]**

a) migration b) reforestation

c) conservation d) Preservation

9. Endemic plants are those, which are **[1]**

a) restricted to grow over certain areas b) found in Arctic region

c) gregarious in habit d) Cosmopolitan in distribution

10. By which physical process, thrombin is related? **[1]**

a) Blood Clotting b) Growth

c) Reproduction d) Excretion

11. Acne and pimples on face is due to secretion: **[1]**

a) Tear from tear gland b) Enzymes in mouth

c) Oil glands during puberty d) Bile from liver

12. A body will remain in state of motion on rolling on ground if **[1]**

a) Friction is very large b) Friction is absent

c) All of the above d) Friction is acting on same direction

13. Sprinkling of powder on the carom board **[1]**

a) Maintain the friction b) Reduce friction

c) Increase friction d) Make the board durable

14. The frictional force exerted by fluids is also called **[1]**

a) Drag b) Smug

c) Slag d) Rung

15. Voice of which of the following is likely to have minimum frequency? **[1]**

a) Baby boy b) Baby girl

c) A man d) A woman

16. The two rods that are dipped in solution for electrolysis is called **[1]**

a) Electrodes b) Cathode

c) Conductor d) Electrolyte

17. What happen when glass rod is rubbed with silk and attain positive charge? **[1]**

a) Proton moves out from glass rod
b) Electron moves out from glass rod
c) Electron moves into atmosphere
d) Electron moves out from silk

18. The human eye has a converging lens system that produces an image just like a camera. If the eye views a distant object, which type of image is produced? **[1]**

a) Virtual, erect, diminished
b) Real, erect, same, size
c) Real, inverted, diminished
d) Virtual, inverted, magnified

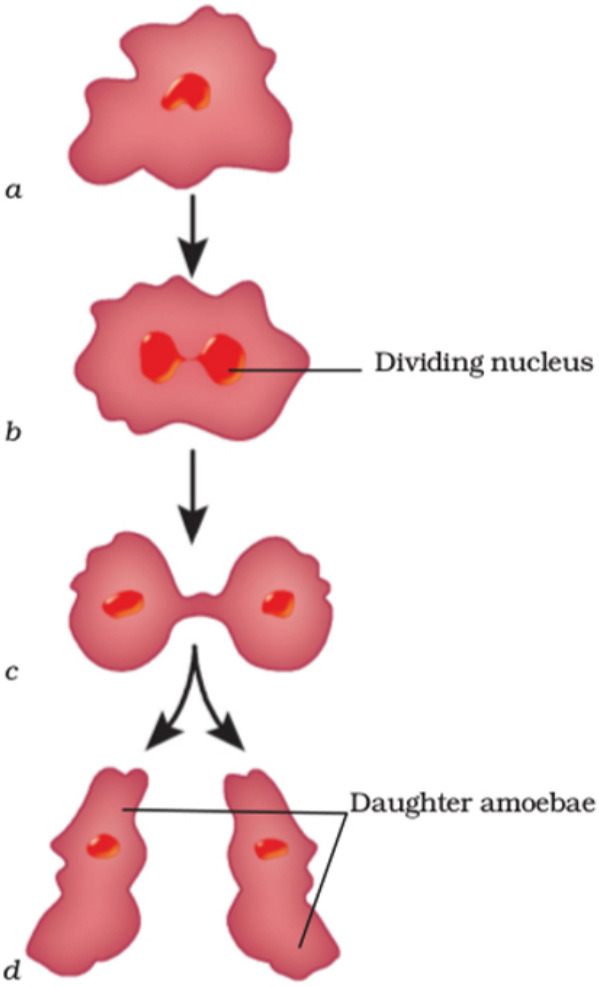
19. How do vaccines work? **[2]**
20. Explain the process of formation of petroleum. **[2]**
21. What are the three essential requirements to produce fire? How fire extinguisher is useful for controlling the fire? **[2]**
22. How does recycling and saving of papers related to deforestation? **[2]**
23. 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. **[2]**
24. Why is tin electroplated on iron to make cans used for storing food? **[2]**
25. (1) The objects which emit the light is called _____objects. **[2]**
(2) Plane mirror forms only a _____ image of an object.
(3) When two mirrors are set parallel to each other then they form _____ images of an object.
26. What is weeding? List the various ways by which weeding is done. **[4]**
27. Discuss problems associated with using fossil fuels for energy? **[4]**
28. How is the reproduction in hydra different from that in amoeba? **[4]**
29. How is the sex of a baby determined? **[4]**
30. An archer shoots an arrow in the air horizontally. However, after moving some distance, the arrow falls to the ground. Name the initial force that sets the arrow in motion. Explain why the arrow ultimately falls down. **[4]**
31. What is speed of sound? A child receives his echo 4 sec later. Find the distance of the reflecting surface from the child if speed of sound in air is 342 m/s. **[4]**
32. What are the two methods of testing an insulator or a conductor? **[4]**
33. What were things used in Benjamin Franklin's kite experiment? **[4]**
34. **[4]**
i. In how many hours after the death of donor, the eyes should be removed?
ii. What kind of persons cannot donate their eyes?
iii. Explain why we cannot see our surroundings clearly when we enter a darkened cinema hall from a bright sunshine but our vision improves after some time.

Solution

Section A

1. **Read the text carefully and answer the questions:**

   The type of reproduction in which only a single parent is involved is called asexual reproduction. Organism reproduce by different method. Yeast, amoeba reproduction by single parent.



   (i) **(c)** Amoeba
   Explanation: Amoeba

   (ii) **(d)** sponge
   Explanation: sponge

   (iii) **(d)** Yeast
   Explanation: Yeast

   (iv) **(a)** True
   Explanation: True

   (v) 1. reproduction

2. **Read the text carefully and answer the questions:**

   There are 3 type of non-contact forces following activity describe one of them.

   Step 1 - Take a pair of bar magnets. Place the longer side of one of the magnets over three round shaped.

   Step 2 - Bring one end of the other magnet near the end of the magnet placed on the rollers.

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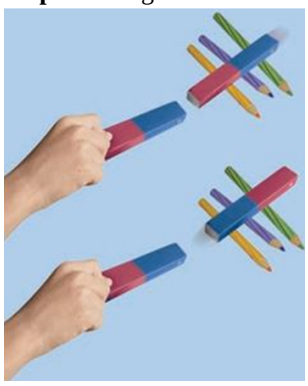

(i) **(c)** Magnetic force
Explanation: Magnetic force

(ii) **(b)** electrostatic force
Explanation: electrostatic force

(iii) **(a)** force of gravity
Explanation: force of gravity

(iv) 1. non-contact force

(v) **(a)** True
Explanation: True

3. **Read the text carefully and answer the questions:**

Reena performed the activity to show Chemical Effects of Electric Current she takes the help of her friends.

Step 1 - Take out carbon rods carefully from two discarded cells.

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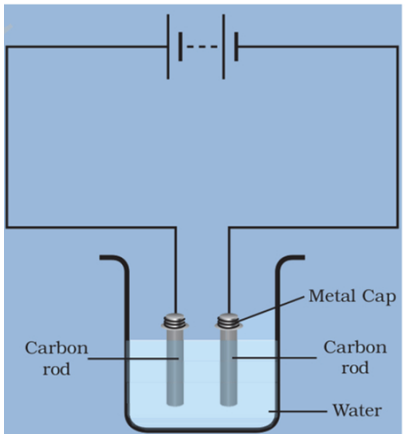


(i) **(d)** All of these
Explanation: All of these

(ii) **(d)** A good conductor
Explanation: A good conductor

(iii) **(c)** a liquid that conducts current
Explanation: a liquid that conducts current

(iv) 1. Chemical reactions

(v) **(a)** True
Explanation: True

4.

(b) moisture is necessary for seed germination

Explanation: Crop field is irrigated before sowing because moisture is necessary for seed germination. The moisture present in the soil helps in the germination of seed.

5. **(b)** be aware of their positive and negative effects
Explanation: We study about microorganisms to know their positive and negative effects on us. Some microbes are useful and some others are harmful and cause many diseases of plants and animals.

6. **(b)** Phosphorus
Explanation: Coal mainly consists of carbon, hydrogen, and oxygen besides sulphur. Phosphorus is absent in coal.

7. **(c)** Methane
Explanation: The largest component of natural gas is methane, a compound with one carbon atom and four hydrogen atoms (CH_4). Natural gas also contains smaller amounts of natural gas liquids (NGL, which are also hydrocarbon gas liquids), and nonhydrocarbon gases, such as carbon dioxide and water vapour.

8. **(d)** Preservation
Explanation: Preservation of organisms is the process of maintaining the organism in nature. Preservation may be in situ or ex situ depending upon species to be conserved.

9. **(a)** restricted to grow over certain areas
Explanation: restricted to grow over certain areas

10. **(a)** Blood Clotting
Explanation: Blood Clotting and Fibrinogen. Thrombin is proteolytically cleaved from prothrombin in the clotting cascade. Thrombin converts fibrinogen into fibrin. It binds thrombin and inhibits thus the further coagulation process.

11. **(c)** Oil glands during puberty
Explanation: Acne and pimples on face are due to secretion of oily glands during puberty. Acne and pimples occur in boys and girls at puberty.

12. **(b)** Friction is absent
Explanation: Frictional force always acts in opposite direction of motion to slow down or stopped the body from moving. A body will remain in state of motion on rolling on ground if friction is absent or the body will not move at all as friction is due air also.

13. **(b)** Reduce friction
Explanation: Sliding friction is less than static friction. Powder fill the rough surface of carrom board due to which friction between the carrom coins and the board reduces and coins slides easily.

14. **(a)** Drag
Explanation: The frictional force exerted by fluids is also called as drag. This kinds of frictional force can be overcome by changing the shape of the moving body in fluids. Such shape is called streamlined shape

15. **(c)** A man
Explanation: The voice of an adult man is of lower pitch in comparison to the voices of a baby boy, a baby girl and a woman. Since frequency of a sound is directly proportional to its pitch, man’s voice is of minimum frequency in comparison to a boy, a girl, or awoman’s voice.

16. **(a)** Electrodes
Explanation: During electrolysis, two rods are dipped in salt solution. One rod is called cathode and other is called anode and both are together called electrode. Cathodes are negatively charged and anodes are positively charged electrodes.

17. **(b)** Electron moves out from glass rod
Explanation: When glass rod is rubbed with silk, glass rod becomes positively charged due to movement of electron from

glass rod to silk. The materials like glass lose electrons more easily and hence gets positively charged on rubbing . On the other hand materials like silk gain electrons more easily and hence gets negatively charged during rubbing. Whether an object will lose or gain electrons during rubbing depends on the nature of the material of the object.

18. **(c)** Real, inverted, diminished
Explanation: Real, inverted, diminished

19. Vaccines contain dead or weakened microbes of a particular disease. When a vaccine is introduced into a healthy body, the body fights and kills them by producing suitable antibodies. These antibodies remain in the body and protects it when the microbe enters the body again.

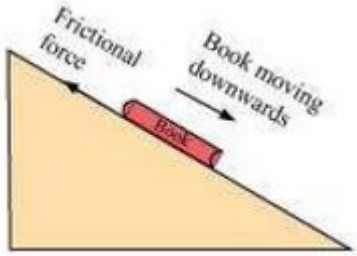
20. The organisms which lived in the sea got buried at the bottom of oceans. Over a period of time, their dead bodies were covered with sediments. Intense pressure and heat under the earth's layers transformed these organisms into petroleum. Petroleum occurs deep down in the earth between layers of non-porous rocks. Crude oil petroleum is formed by the decomposition of animal and plant remains over millions of years inside the earth. Natural gas the petroleum oil trapped under the rocks.

21. 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.

22. Trees are used in making papers. About 17 full grown trees are used to make one tonne of paper. So wastage of paper is also a cause of deforestation. Therefore, we should recycle and save the papers. If we save papers, we can save many trees in a year. In this way recycling and saving of papers is directly related to avoid the deforestation.

23. When a book slides on the writing desk, a frictional force acts between the book and the surface of the desk. The direction of frictional force on the book is opposite to the direction of its motion and acts in upward direction, as shown in the following figure.



24. Tin cans used for storing food are made by electroplating tin on iron. Tin is less reactive than iron. Due to electroplating, food does not come in contact with iron and is protected from getting spoilt.

25. (1) Luminous
    (2) Single
    (3) numerous

26. Removal of Unwanted crops in the fields is called weeding. A farmer needs to take precautions to prevent any harm from weedicide. The farmer needs to wear protective cloths and masks while spraying a weedicide.
    The various methods of weeding are as following:
    a. Removal of weeds by pulling them out with hand.
    b. Removal of weeds by using a trowel (khurpa).
    c. Destroying the weeds by spraying special chemicals called weedicides. Some of the common weedicides are 2.4-D, MCPA and metachlor.
    d. Some organisms which feed on specific crops are introduced into the fields . They eat the weeds but do not damage the main crops.

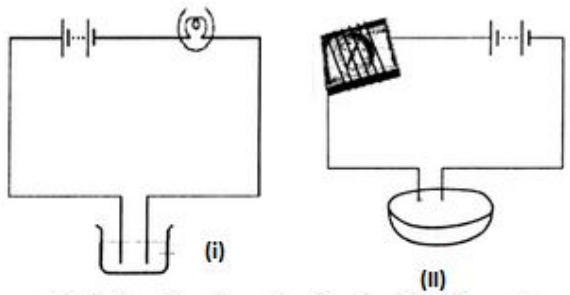
27. Fossil fuels are non-renewable and exhaustible resources. They are in limited quantity and they will eventually run out. Fossil fuels release carbon dioxide when they burn and become the cause of greenhouse effect and adds in the global warming. Coal and oil release Sulphur dioxide when they burn, which causes breathing problems for the living beings and contribute to acid rain.

28. Reproduction in hydra and amoeba is asexual, but the methods of reproduction are different. Hydra reproduces by the formation of buds on its body surface, which later develops into adult individuals. These buds appear as bulges from which the organism grows. This method of reproduction ensures the existence of parent hydra after reproduction.
    In amoeba, reproduction takes place by binary fission. In this, there is a division of the nucleus of an amoeba into two equal

halves, followed by the division of the body of an amoeba into two halves. In this, the parent amoeba loses its existence in the process of forming new ones. Hence, the mechanisms of reproduction in amoeba and hydra are different.

29. Inside the fertilized egg or zygote is the instruction for determining the sex of the baby. This instruction is present in thread like structures called chromosomes present in the nucleus of each cell.
    All human beings have 23 pairs of chromosomes in the nuclei of their cells. Two chromosomes out of these are the sex chromosomes, named X and Y.
    A female has a pair of X chromosomes, while a male has a pair of X and Y chromosome. The gametes(egg and sperm) have only one set of chromosomes. When a sperm containing X chromosome fertilizes the egg, the zygote would have two X chromosomes and develop into a female child.
    If the sperm contributes a Y chromosome to the egg(ovum) at fertilization, the zygote would develop into a male child.
30. The initial force that sets the arrow in motion is a muscular force:
    i. This force is caused by the action of muscles in our body.
    ii. The archer stretches his muscles to stretch the string of the bow.
    iii. When he releases strings, the shape of the bow changed.
    iv. As soon as the string released, the string regains its original position.
    v. It provides the initial force to set the arrow in motion.

    The arrow ultimately falls down due to force of gravity:
    i. The force of gravity always acts in a downward motion.
    ii. The arrow ultimately falls towards the earth because the earth pulls it.
    iii. Force of gravity is an attractive force.
31. The distance travelled by a sound wave through a medium is the speed of sound. It can be expressed as-
    Speed = Distance/ time
    Time of hearing of echo = 4s
    Speed of sound = 342 m/s
    Distance covered by sound $= 342 \times 4 = 1368m$
    Distance of reflecting surface $= \frac{1368}{2} = 684m$
32. The following two methods are used to test the conduction.
    i. We use an electric lamp to test conductivity. An electric lamp is attached to the electric circuit. If the substance allows the current to pass through it, the bulb will start glowing. Otherwise the bulb will not glow. This method does not work when current is very small. In such cases magnetic compass is used.
    ii. A magnetic tester is used to test conductivity when current is allowed to pass through it, it creates a magnetic field and the compass shows deflection. The deflection of compass shows that the current is passing through circuit.



Methods to show the testing of conductivity of lemon juice.

33. 1.He attached his kite to a silk string, tying an iron key at the other end.
    2. Next, they tied a thin metal wire from the key and inserted the wire into a Leyden jar, a container for storing an electric charge.
    3.When the thunderstorm approached, they attached a silk ribbon to the key. Holding onto the kite by the silk ribbon, Benjamin flew the kite and once it was aloft, he went into a barn so that he would not get wet.
34. i. The eyes should be removed within 4-6 hours after death.
    ii. People infected with AIDS, Hepatitis B and C, rabies, tetanus, etc cannot donate their eyes.
    iii. It is because in bright sunlight the size of the pupil of our eye is small. So as we enter the darkened cinema hall very little light enter our eye and we cannot see things properly. Later the pupil of our eye expands and becomes large and more light enters our eye and we can see clearly.