# Class VIII Session 2023-24
# 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. Select the crop sown in june/july and harvest in September/October : **[1]**

   a) potato b) pulses

   c) bajra d) barley

2. Which of these does not prevent growth of bacteria? **[1]**

   a) Oil b) Sugar

   c) Water d) Salt

3. Coal and petroleum can be categorised as: **[1]**

   a) living natural resources b) limitless natural resources

   c) replenishable natural resource d) non living natural resources

4. Which among the following is considered as the cleanest fuel? **[1]**

   a) Cow dung cake b) Hydrogen gas

   c) Kerosene d) Petrol

5. Forests are not responsible for **[1]**

   a) absorbing rainwater and maintaining water table b) providing medicinal plants

   c) maintaining the flow of water into the streams d) creating flood conditions

6. Endemic flora of Pachmarhi biosphere reserve includes: **[1]**

   a) Wild mango b) Sal

c) both Sal & Wild mango
d) Indian giant squirrel

7. Insufficient production of _____ in the tadpoles leads to their incomplete development. **[1]**

a) nutrients
b) ducts
c) insulin
d) thyroxine

8. Which of the following contain iron rich food? **[1]**

a) Polished rice
b) Leafy vegetable
c) Potato
d) Brinjal

9. 1 horsepower is equal to- **[1]**

a) 846 W
b) 746 W
c) 776 W
d) 11000 V

10. Friction is increased by _____ **[1]**

a) powder sprinkled on carrom board
b) smoothening the surface
c) treading of tyres
d) lubrication

11. The shoes of football player have spikes in their sole to **[1]**

a) Make frictionless
b) Increase friction
c) Decrease friction
d) Hard hitting the ball

12. The time period of a vibration 500Hz is equal to **[1]**

a) 0.002 seconds
b) 0.5 seconds
c) 0.2 seconds
d) 0.02 seconds

13. A device that converts the electrical energy into heat energy is **[1]**

a) Motor
b) Toaster
c) Fan
d) Television

14. An object becomes charged when the atoms in the object gain or lose **[1]**

a) Proton
b) Neutron
c) Positron
d) Electron

15. The lens present in the human eye is made up of: **[1]**

a) White rubber
b) Transparent protein
c) Plastic
d) Glass

**Section B**

16. What are microorganisms? **[2]**
17. Why is CNG called a clean fuel? **[2]**
18. Give reason for LPG is a better domestic fuel than wood. **[2]**
19. How does deforestation lead to a decrease in the water holding capacity of the soil? **[2]**
20. Why objects given special shape which is moving in fluids? **[2]**
21. What is electroplating? **[2]**
22. Describe the construction of a kaleidoscope. **[2]**

## Section C

23. What is drip irrigation system? What are the advantages of drip irrigation system? **[4]**

24. Why we should be careful in using fuels? **[4]**

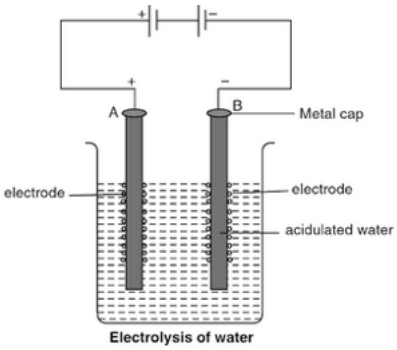
25. Why do only male gametes have a tail? **[4]**

26. In human females, each time during maturation and release of the egg the inner wall of the uterus thickens. Is this thickening permanent? Give reasons. **[4]**

27. Define pressure. Write its mathematical expression and SI unit. **[4]**

28. What do you mean by loudness and pitch of sound and how they are affected? **[4]**

29. **[4]**



Electrolysis of water

i. What substance are the electrodes made of?

ii. A is the _____ electrode.

iii. What is produced at

a. positive carbon electrode (anode)

b. negative carbon electrode (cathode)

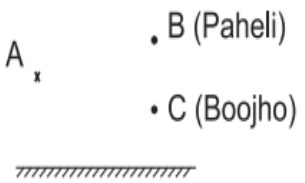
30. What is earthing? Why earthing is provided in buildings? **[4]**

31. i. Find out the position of the image of an object situated at A in the plane mirror (Fig. 13.21). **[4]**

ii. Can Paheli at B see this image?

iii. Can Boojho at C see this image?

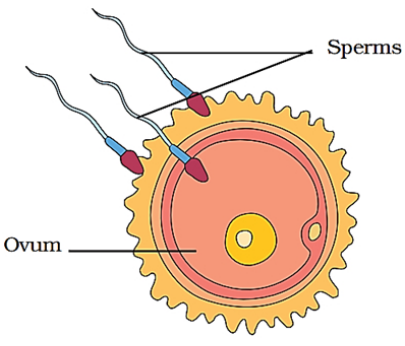
iv. When Paheli moves from B to C, where does the image of A move?




## Section D

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

The first step in the process of reproduction is the fusion of a sperm and an ovum. The process of fertilisation is the meeting of an egg cell from the mother and a sperm cell from the father. So, the new individual inherits some characteristics from the mother and some from the father.




(i) During fertilisation, the nuclei of the sperm and the egg fuse to form a

a) Double nucleus
b) single nucleus
c) None of these
d) Triple nucleus

(ii) Sets of reproductive terms are given. Choose the set that has an incorrect combination.

a) Sperm, oviduct, egg, uterus
b) Ovulation, egg, oviduct, uterus
c) Sperm, testis, sperm duct, penis
d) Menstruation, egg, oviduct, uterus

(iii) In humans, the development of fertilized egg takes place in the

a) ovary
b) Uterus
c) oviduct
d) testis

(iv) Fertilisation which takes place inside the female body is called _____.

(v) When sperms come in contact with an egg, many of the sperms may fuse with the egg.

a) True
b) False

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

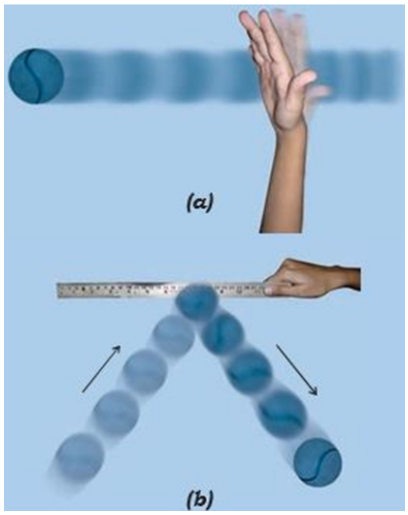
**Step 1** - Take a ball and place it on a level surface.

**Step 2** - Make the ball move by giving it a push.

**Step 3** - Now place the ruler from your geometry box in its path.

**Step 4** - Does the ball continue to move in the same direction after it strikes the ruler

**Step 5** - In each case note your observations about the direction of motion of the ball after it strikes the ruler.




(i) The state of rest is considered to be the state of _____ speed.

a) Three
b) One
c) Two
d) Zero

(ii) Force changes the

a) motion of body
b) all of these
c) speed of body
d) shape of body

(iii) State of the motion is described by

a) Both position of rest and position of motion
b) position of rest
c) None of these
d) Position of motion

(iv) If the force applied on the object is in the direction of its motion, the speed of the object _____.

(v) Force has magnitude as well as direction.

a) True b) False

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

The following activity is performed by teacher.

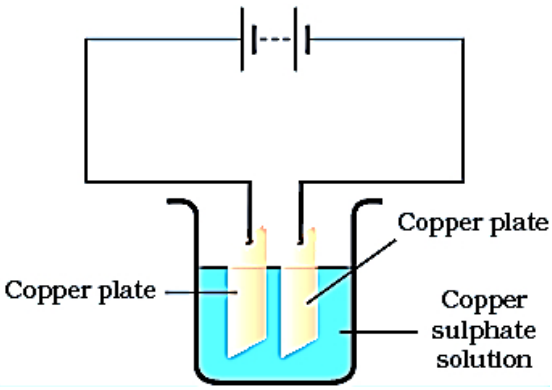
Step 1 - Take 250 mL of distilled water in a clean and dry beaker.

Step 2 - Dissolve two teaspoonfuls of copper sulphate in it.

Step 3 - Add a few drops of dilute sulphuric acid to copper sulphate solution to make it more conducting.

Step 4 - Clean copper plates with sand paper.

Step 5 - Now rinse them with water and dry them.




(i) Which of the following is not used for electroplating metal articles?

a) Silver b) Chromium

c) Sodium d) Nickel

(ii) Iron objects can be protected by electroplating them with

a) nickel b) all of these

c) zinc d) chromium

(iii) Why do we add little dilute sulphuric acid to copper sulphate solution during electroplating?

a) To increase conductivity b) To increase acidity

c) So that the colour becomes more prominent d) To burn copper sulphate

(iv) Iron is used in bridges and automobiles to provide _____.

(v) Food does not come into contact with iron and is protected from getting spoilt.

a) True b) False

# Solution

## Section A

1. **(b)** pulses
**Explanation:** Pulses are sown in June/July and harvest in September/October. Pulses are the main source of proteins in our diet. They also help in nitrogen fixation.

2. **(c)** Water
**Explanation:** Water

3. **(d)** non living natural resources
**Explanation:** Coal and petroleum are nonliving natural resources. They are present in earth crust in limited quantity. Coal and petroleum is non replenishable natural resources.

4. **(b)** Hydrogen gas
**Explanation:** Hydrogen gas is considered as cleanest fuel. Unlike carbon based fuels, hydrogen produces no harmful by-products on combustion. Only energy and clean water are produced.

5. **(d)** creating flood conditions
**Explanation:** creating flood conditions

6. **(c)** both Sal & Wild mango
**Explanation:** Endemic flora of Pachmarhi biosphere reserve includes both sal and wild mango. Endemic species are present in particular locality only.

7. **(d)** thyroxine
**Explanation:** Insufficient production of thyroxine leads to incomplete development of tadpole larva into adult (metamorphism). Iodine is required for the production of thyroxine. If the water body in which larva is present lacks sufficient iodine, then it will also affect the metamorphism of tadpole.

8. **(b)** Leafy vegetable
**Explanation:** Green leafy vegetable like spinach contains iron rich food that is essential for haemoglobin formation in the blood.

9. **(b)** 746 W
**Explanation:** The electrical equivalent of one horsepower is 746 watts in the International System of Units (SI), and the heat equivalent is 2,545 BTU (British Thermal Units) per hour. Another unit of power is the metric horsepower, which equals 4,500 kilogram-metres per minute (32,549 foot-pounds per minute) or 0.9863 horsepower.

10. **(c)** treading of tyres
**Explanation:** Friction is increased by treading of tyres. Tread does have an influence on traction in road tyres, if it is not so high that is lefts the tread ground off the road (<0.2 mm) helps sink tread rubber into rough road surfaces and penetrate lubricants or dirt. Peaks in the tread increase press into surface services and add contact points between the road and tyre and thus increase friction.

11. **(b)** Increase friction

**Explanation:** The shoes of football players have spikes in their sole to increase friction with ground while running to prevent slipping.

12. **(a)** 0.002 seconds
**Explanation:** Frequency of sound = 500Hz. Time-period = 1/frequency = 1/500 = 0.002 seconds.

13. **(b)** Toaster
**Explanation:** Electrical energy is a form of energy that occurs as a result of either stored or moving charged particles. A toaster draws electric current (electrical energy) from a wall outlet and converts these moving electric charges into heat (thermal energy) in the filaments that turn red hot to cook your toast. The same has happened with Heater and geyser. As they contain coils having high resistivity.

14. **(d)** Electron
**Explanation:** An object becomes charged when the atoms in the object gain or lose electron. The object that gains electron becomes negatively charged and one who loose electron becomes positively charged.

15. **(b)** Transparent protein
**Explanation:** Lens transparent body enclosed in an elastic capsule. The lens present in the human eye is made up of proteins and water.

**Section B**

16. Microorganisms are very small tiny organisms that are visible only under microscope. They are not visible to naked eye. They are both useful and harmful to us.
17. CNG is called a clean fuel because:
(i) It does not produce any pollution.
(ii) No residue is left after burning of CNG.
(iii) It burns completely in the air.
(iv) It give more energy when it burnt.
18. LPG is a better domestic fuel than wood because of several reasons. Unlike wood, LPG burns without smoke. This makes the life of housewives more comfortable and they do not have to worry about blackening of pots and pans. Moreover, use of LPG as domestic fuel also rules out the chances of getting respiratory disorders which may happen when someone uses wood as kitchen fuel. Storage and transportation of LPG is easier compared to that of wood.
19. Deforestation also leads to a decrease in the water holding capacity of the soil. The movement of water from the soil surface into the ground is reduced. So there are floods. The other properties of the soil like nutrient, content texture also change because of deforestation.
20. To minimize the friction due to water or any other liquid and air or any gas, the moving body should have a streamlined shape. The shape of the body which offers least resistance due to friction is called streamlined shape.
21. The process of depositing a layer of any desired metal on another metallic object by means of electricity is called electroplating. It is one of the common applications of chemical effects of electric current.
22. A kaleidoscope is composed of a hollow tube. Three mirrors are placed in the form of a triangular tube and their reflecting surfaces face each other. One end of the tube is covered with a transparent sheet and another end is covered with an opaque sheet. There is an eyehole in the opaque sheet. Bits of glass are filled inside the tube. When a kaleidoscope is turned, we get to see various patterns in it. These patterns are formed because of multiple reflections.

**Section C**

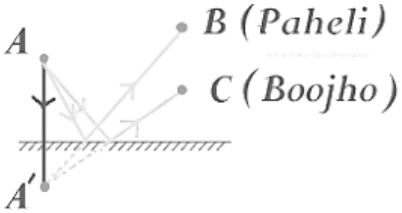
23. **Drip Irrigation:** In this system, pipes are laid near the base and along the queue of plants. It involves a system of pipes that supply water to the plants drop by drop, hence minimizing the wastage of water.The pipes have small holes at frequent gaps. The holes facilitate gradual dripping of water on the base of plants. This method is ideal for areas which are suffering from shortage of water.
**The advantages of drip irrigation system are:**
    a. It provides water to the plants drop by drop so water is not wasted at all.
    b. It minimizes the use of water in agriculture and is useful in those areas where availability of water is poor.
24. We should be careful in using fossil fuels due to following reasons:
    a. Fossil fuels take millions of year to get formed.

b. The known reserves of fossil fuels will only last a few hundred years, if consumed in a large quantity as being used today. Hence, it is limited resource.

c. Burning of fossil fuels also caused air pollution.

d. Oil spills that occur while extracting petroleum from under the sea bed in oceans are devastating to the animal and plant life in and around the sea.

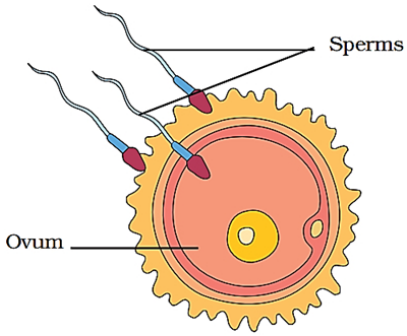
25. The human male gamete, the sperm has to flow through the female reproductive tract to reach the fallopian tube, where it can fuse with the ovum. Thus, it requires an organ for rapid and efficient motility for transportation. The tail provides this function. The female gamete or the ovum has to travel very little distance, which is helped by the ovary and fallopian tube. Thus, it doesn't require any tail. Thus, only the male gamete has a tail.
26. No, this thickening of the uterine wall is not permanent.
    If the egg gets fertilised, it starts developing and gets embedded in the uterine wall resulting in pregnancy. During pregnancy, no more eggs are released and the thickened lining is discharged only when the baby is born. However, if fertilisation does not occur, the released egg and the thickened lining are shed off resulting in menstruation.
27. Pressure is produced when a force acts on an object. It is defined as the force acting normally on a unit area of an object.
    The mathematical expression for force is:
    $Pressure = \frac{Force}{Area}$
    The SI unit of pressure is newton per square metre which is also called pascals(Pa).
28. Loudness and pitch are both the characteristics of sound. Loudness of sound depends upon its amplitude. A vibration with small amplitude produces a low volume or low loud sound whereas a vibration with large amplitude produces a more loud sound.
    Pitch is the shrillness or hoarseness of sound. You often notice that voice of male is heavy and hoarse while the voice of female is sharper. This difference in sound is due to frequency of vibrations. High frequency produces shrill and high pitch sound whereas low frequency produces low pitch sound.
29. i. Electrodes are made of carbon.
    ii. Positive
    iii. a. Oxygen is produced at positive carbon electrode.
    b. Hydrogen is produced at negative carbon electrode.
30. The process of transferring of charge from a charged object to the earth is called earthing. Earthing is provided in buildings to protect them from electrical shocks due to any leakage of electrical current. For our safety, most of the electrical appliances and the mains of the house are connected to earth, so that we can be prevented from getting an electric shock.
31. i. The image of the object at position A will be formed behind the mirror. It will be at the same distance away from the mirror as the object is B.
    ii. Yes, Paheli at B can see the object because a reflected ray from A will reach B.
    iii. Boojho can also see the image because his eyes receive the reflected ray from A.
    iv. If we trace the reflected rays from B and C backward, they converge at a point behind the mirror. The position of image A remains fixed even if Paheli moves from B to C.




**Section D**

32. **Read the text carefully and answer the questions:**
    The first step in the process of reproduction is the fusion of a sperm and an ovum. The process of fertilisation is the meeting of an egg cell from the mother and a sperm cell from the father. So, the new individual inherits some characteristics from the mother

and some from the father.




(i) **(b)** single nucleus
**Explanation:** single nucleus

(ii) **(a)** Sperm, oviduct, egg, uterus
**Explanation:** Sperm, oviduct, egg, uterus

(iii) **(c)** oviduct
**Explanation:** oviduct

(iv) 1. internal fertilization

(v) **(b)** False
**Explanation:** False

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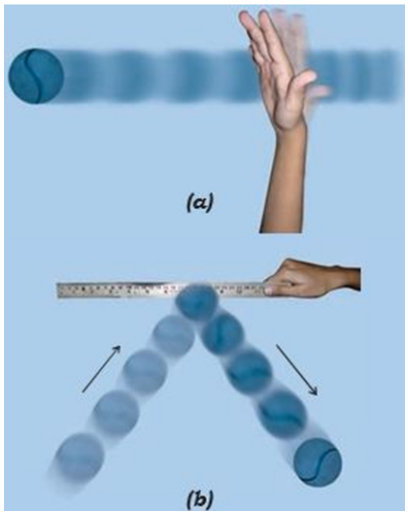


(i) **(d)** Zero
**Explanation:** Zero

(ii) **(b)** all of these
**Explanation:** all of these

(iii) **(a)** Both position of rest and position of motion
**Explanation:** Both position of rest and position of motion

(iv) 1. increases

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

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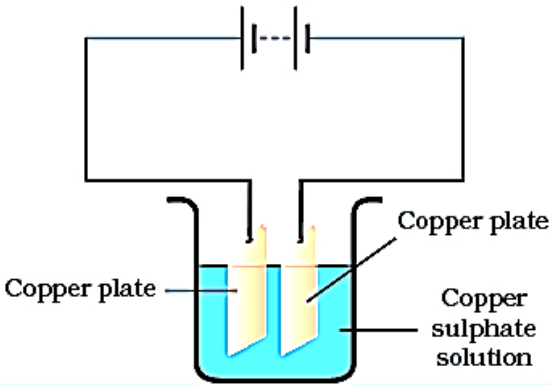


(i) **(c)** Sodium
**Explanation:** Sodium

(ii) **(b)** all of these
**Explanation:** all of these

(iii) **(a)** To increase conductivity
**Explanation:** To increase conductivity

(iv) 1. Strength

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