

**Class VIII Session 2024-25**  
**Subject - Science**  
**Sample Question Paper - 2**

**Time Allowed: 3 hours**

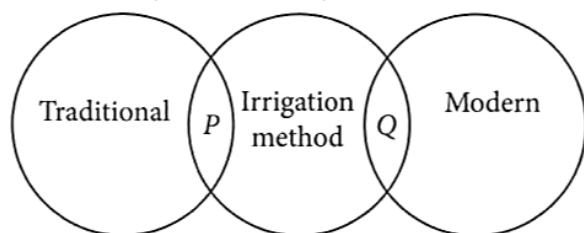
**Maximum Marks: 80**

**General Instructions:**

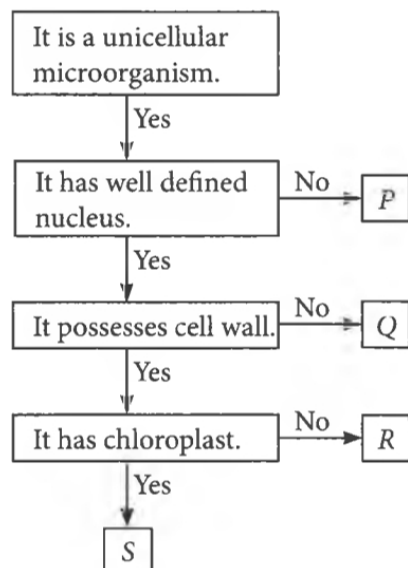
1. The question paper consists of 34 questions and is divided into four sections, A, B, C and D.
2. All questions are compulsory.
3. Section A comprises question numbers 1 to 15. These are multiple choice questions carrying one mark each. You are to select one most appropriate response out of the four 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. Refer to the given Venn diagram and select the correct option. [1]



- a) P could be chain pump whereas Q could be drip system. b) P could be dhekli whereas Q could be moat
- c) P could be sprinkler system whereas Q could be rahat d) P could be drip system whereas Q could be dhekli.
2. Refer to the given flow chart and select the correct option. [1]



- a) P-Trypanosoma, R-Giardia  
c) Q-Paramecium, S-Chlamydomonas
- b) P-Lactobacillus, Q-Sargassum  
d) R-Fucus, S-Rhizopus
3. Coal was formed during: [1]  
a) Silurian period  
b) Carboniferous period  
c) Devonian period  
d) Carbonian period
4. Which one of the following is non-combustible? [1]  
A.  B.  C.  D. 
- a) Only D  
b) Only B  
c) Only A  
d) Only C
5. Siberian cranes are regular visitors of [1]  
a) Bharatpur sanctuary, Rajasthan  
b) Jim Corbett National Park, Uttarakhand  
c) Lalbagh, Bengaluru  
d) Vedanthgol Sanctuary, Tamil Nadu
6. Fertilization of ovum takes place in [1]  
a) ovary  
b) uterus  
c) fallopian tube  
d) cervix
7. Structures present in a cell which is responsible for determination of the sex of a baby is: [1]  
a) Chromosome  
b) Cell membrane  
c) Cytoplasm  
d) Nucleus
8. Which of the following units measure same physical quantity? [1]  
I.  $N/m^2$   
II. dyne  
III.  $kg/m^3$   
IV. Pascal
- a) II and III  
b) I and II  
c) I and III  
d) I and IV
9. Frictional force is exerted by [1]  
a) only hard surface  
b) only gases  
c) only liquids  
d) all of these
10. Which of the following statement is true? [1]  
a) Both light and sound waves in air are transverse  
b) Both light and sound waves in air are longitudinal  
c) Both light and sound waves can travel in vacuum  
d) The sound waves in air are longitudinal, while the light waves are transverse
11. Rainwater and distilled water are bad conductors of electricity but rainwater sometimes conduct electricity due [1]

to

- a) Absence of salts in rain water  
c) Presence of base in rain water
- b) Presence of oxygen gas in water  
d) Presence of acid due to pollution
12. Charges are formed on the clouds because [1]  
a) Both of heat and Clouds are heavily loaded with vapour.  
b) Of friction  
c) Of heat  
d) Clouds are heavily loaded with vapour
13. What is Myopia? [1]  
a) Afflicts mostly lower age-groups.  
b) Ability to see nearby objects clearly weakens and Afflicts mostly lower age-groups are correct.  
c) Ability to see nearby objects clearly weakens.  
d) Ability to see far off objects clearly weakens.
14. State true or false: [1]  
Sal and wild mango are endemic flora of Pachmarhi Biosphere Reserve.
15. State true or false: [1]  
The common name for gas and liquid is fluid.

#### Section B

16. Can microorganisms be seen with the naked eye? If not, how can they be seen? [2]
17. Sunlight and air are inexhaustible natural resources. Comment. [2]
18. Give reason for LPG is a better domestic fuel than wood. [2]
19. What is menstruation? Explain. [2]
20. Prove that sound can travel through solids. [2]
21. Except chromium plating on several other metals what other metals are used for plating. Give few examples. [2]
22. What is the Braille system? [2]

#### Section C

23. How was agriculture started as a regular activity of cultivation of food plants? [4]
24. Why are the fossil fuels exhaustible natural resources? [4]
25. What is fertilisation? Explain various types of fertilisation. [4]
26. What do you mean by health? What are the factors which help to keep a good health? [4]
27. It is difficult to cut cloth using a pair of scissors with blunt blades. Explain. [4]
28. A pendulum oscillates 40 times in 4 seconds. Find its time period and frequency. [4]
29. How the magnetic effect of current can be used to detect current? [4]
30. What is a lightning rod? How it protects the buildings? [4]
31. Figure shows the word REST written in two ways in front of a mirror. Show how the word would appear in the mirror. [4]

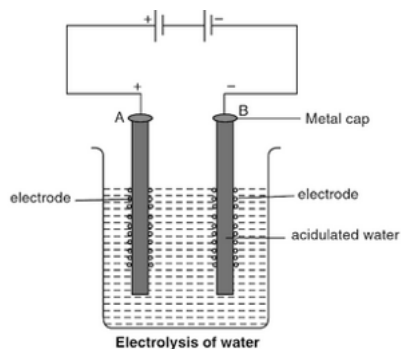
REST  
////////////////////  
R  
E  
S  
T  
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### Section D

32. What does term metamorphosis refer to? Explain with example? [5]

33. Two women are of the same weight. One wears sandals with pointed heels while the other wears sandals with flat soles. Which one would feel more comfortable while walking on a sandy beach? Give reasons for your answer. [5]

34. [5]



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)

# Solution

## Section A

1. (a) P could be chain pump whereas Q could be drip system.

**Explanation:** P could be any traditional method of irrigation like moat, chain pump, dhekli, rahat, etc., whereas Q could be a modern method of irrigation like sprinkler system and drip irrigation.

2.

- (c) Q-Paramecium, S-Chlamydomonas

**Explanation:** In the given flow chart, P is a bacterium, Q is a protozoan, R is a fungus and S is an alga.

3.

- (b) Carboniferous period

**Explanation:** Coal was formed during carboniferous period. Lots of plants are present on earth that get buried inside the earth crust due to volcanic eruption.

4.

- (c) Only A

**Explanation:**



5. (a) Bharatpur sanctuary, Rajasthan

**Explanation:** Bharatpur sanctuary, Rajasthan

6.

- (c) fallopian tube

**Explanation:** fallopian tube

7. (a) Chromosome

**Explanation:** The sex of a baby is determined by the type of sex chromosomes present in the fertilized egg from which the baby develops. There are two types of sex chromosomes -X and Y.

A female has only two X-chromosomes, i.e. XX, whereas a male has one X and one Y-chromosome, i.e. XY combination.

8.

- (d) I and IV

**Explanation:** One Pascal which is equal to one N/m measures pressure.

9.

- (d) all of these

**Explanation:** all of these

10.

- (d) The sound waves in air are longitudinal, while the light waves are transverse

**Explanation:** The sound waves in air are longitudinal, while the light waves are transverse

11.

- (d) Presence of acid due to pollution

**Explanation:** Rainwater sometimes conduct electricity due to presence of acids in it. Distilled water which is a pure form of water is neither acidic nor basic in nature so distilled water does not dissolve into ions since conduction of electricity requires free ions, so distilled water does not conduct electricity. Rainwater being an impure form of water, contains many ionic species. These ions are responsible for electrical conductivity of rainwater.

12.

- (b) Of friction

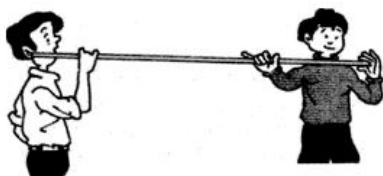
**Explanation:** Lots of small bits of ice bumps into each other while they are moving around in the cloud. This causes electric charge to build up in the clouds.



13. **(d)** Ability to see far off objects clearly weakens.  
**Explanation:** For a person suffering from myopia, ability to see objects placed at far-off places weakens. In other words, their far-point is no longer at infinity.
14. **(b)** False  
**Explanation:** False
15. **(a)** True  
**Explanation:** True

### Section B

16. The microorganisms are so small in size that they cannot be seen with the unaided eye. Some of these, such as fungus that grows on bread, can be seen with a magnifying glass. Others cannot be seen without the help of a microscope. That is why these are called microorganisms or microbes.
17. These resources are present in an unlimited quantity in nature and are not likely to be exhausted by human activities. There is a never-ending supply of these resources in nature. These resources can be used again and again. They last forever.
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. Adolescents become capable of reproduction when their testes and ovaries begin to produce gametes. The capacity for maturation and production of gametes lasts for a much longer time in males than in females. The ova begin to mature with the onset of puberty. One ovum matures and is released by one of the ovaries once in about 28 to 30 days. During this period, the wall of the uterus becomes thick so as to receive the egg. In case it is fertilized and begins to develop. This is known as pregnancy. If fertilization does not occur the released egg, and the thickened lining of the uterus along with its blood vessels are shed off. This causes bleeding in women which is called menstruation.
20. Take a long metal rod or a metre scale and hold its one end to your ear. Ask your friend to gently scratch or tap at the other end of the metal rod. You can hear the sound. The sound reaches your ear through the solid rod. The other friends cannot hear the sound because sound is very low. This activity shows that sound travels in solids also.



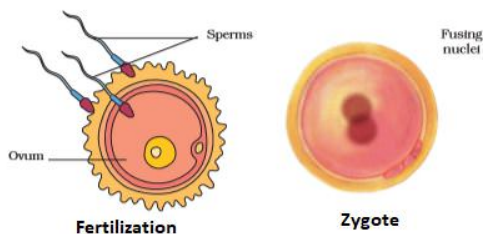
Sound travelling through a metre scale.

21. (i) Jewellery makers electroplate silver and gold on less expensive metals. These ornaments have the appearance of silver or gold but are much less expensive.  
(ii) Tin cans, used for storing food items, are made by electroplating a layer of tin on to iron. The tin is less reactive as compared to iron. Thus the food is protected, against spoilage, from the underlying iron by tin layer.  
(iii) Iron is used in bridges and automobiles to provide strength. However, iron tends to corrode and rust, so zinc is plated on to iron to protect it from corrosion and the formation of rust.
22. Braille system has 63 dot patterns or characters. Each character represents a letter, a combination of letters, a common word or a grammatical sign. Dots are arranged in cells of two vertical rows of three dots each. Patterns of dots to represent some English alphabets and some common words are shown below. These patterns when embossed on Braille sheets help visually challenged to recognize words by touching. To make them easier to touch, the dots are raised slightly.

### Section C

23. The process of growing crops on a large scale is called agriculture. In the early stages of civilisation humans used to live or wander from place to place. They used to eat whatever available such as plants, fruits, leaves, stems or animals. Due to security reasons and other factors they started to live together and for convenience they started settling near water resources. This prompted them to learn and grow plants near their place of residence. Slowly after acquiring more experience they started cultivation in bigger areas. Thus agriculture was started as a regular and systematic activity with passage of time. Agriculture is still the largest occupation in our country with nearly 70% of the population engaged in this sector. The progress in agriculture influences the progress of our country.

24. Although fossil fuels are continually being formed via natural processes, they are generally considered to be exhaustible natural resources because they take millions of years to form and the know viable reserves are being depleted much faster than new ones are being made.
25. When sperms come in contact of an egg, one of the sperms may fuse with the egg. Such type of fusion of sperm and egg is called fertilisation. In this process formation of zygote takes place. There are following two types of fertilisation: (i) Internal fertilisation (ii) External fertilisation.
- Internal fertilisation:** The fertilisation in which fusion of egg and sperm takes place inside the body of female is called internal fertilisation. Internal fertilisation takes place in many animals like, cow, dogs, hens and human beings.
  - External fertilisation:** The fertilisation in which fusion of egg and sperm takes place outside the body of female is called external fertilisation. It is very common in aquatic animals like fish, frog and starfish etc.



26. The physical and mental well being of an individual is regarded as health.  
The factors that help to keep a good health:
- One should take a balanced diet.
  - One should care and keep personal hygiene.
  - Walking and playing in fresh air keeps the body fit and healthy.
  - All young boys and girls should take walks, exercise and play outdoor games to keep human good health.
  - Avoid the alcohol and tobacco.
  - Drink clean water, breathe in clean air and eat clean food.

27. It is difficult to cut cloth using a pair of scissors with blunt blades because:
- Blunt blades (sharp) have a large surface area than of sharp-edged blades.
  - As we know that pressure is inversely proportional to the area. Larger the area, smaller will be the pressure.
  - Hence, in blunt blades, the applied force produces very less pressure.
  - Due to low pressure, this becomes difficult to cut the cloth from blunt blades.

28. Given that,

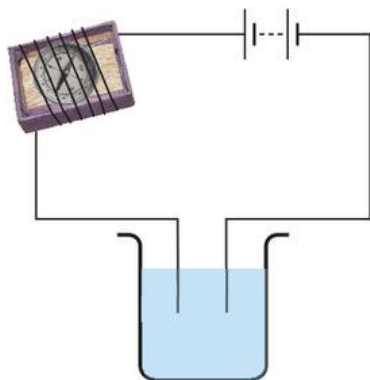
Number of oscillation = 40

Total time taken = 4 seconds

Time period = time taken in one oscillation =  $\frac{\text{Total time}}{\text{Total number of oscillation}} = \frac{4 \text{ second}}{40} = \frac{1}{10} \text{ second} = 0.1 \text{ second}$

Again, frequency = number of oscillations per second =  $\frac{\text{Number of vibration}}{\text{Time taken}} = \frac{40}{4} \text{ second} = 10 \text{ per second} = 10 \text{ Hz}$ .

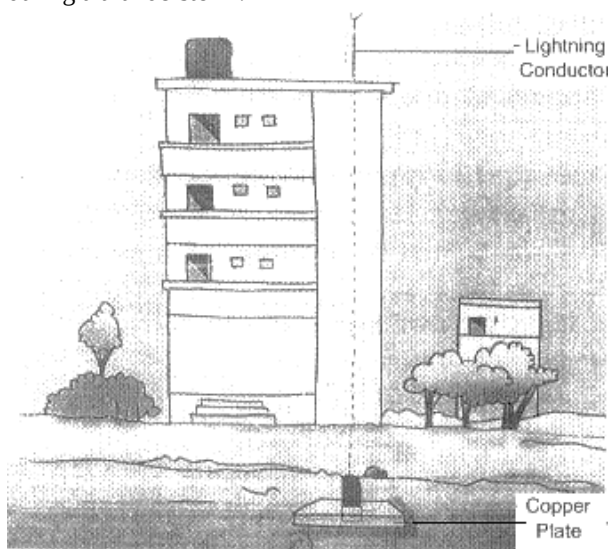
29. When current flows in a wire, a compass needle kept nearby gets deflected. Even if the current is small, the deflection of the magnetic needle can be seen. We can use the magnetic effect of current to make another tester. For this, take a cardboard tray from inside a discarded matchbox. Wrap an electric wire a few times around the cardboard tray. Place a small compass needle inside it. Now connect one free end of the wire to a terminal of a two cell battery. From the other terminal of the battery, connect another wire. Your tester with two free ends of wire is ready.



30. Lightning rod is a device used to secure tall buildings from the effect of lightning. A metallic rod taller than the height of the building to be protected is installed in the walls of the building during its construction. One end of the rod is kept out in the air and the other is fixed in the ground. This provides easy route for transfer of electric discharge to the ground. Several such rods would

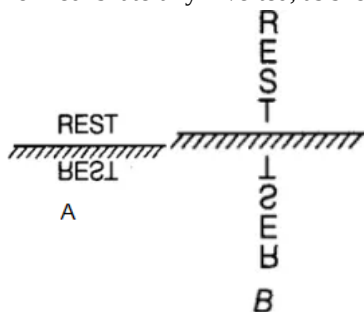
be required to safeguard a building with a large area.

The metal columns used during construction and wiring and plumbing also give protection to an extent. But do not touch them during a thunderstorm.



Lightning conductor

31. In an image formed by a plane mirror, the left of the object appears on the right and the right appears on the left, i.e. the image formed is laterally inverted, as shown below in figure (A) and (B).



#### Section D

32. The transformation of larva into adult through drastic changes in which the larva does not resemble the adult is called as the metamorphosis.
- Metamorphosis is commonly seen in our surrounding in butterflies and frogs etc.
- e.g:- In frog we observe the different stages of frog starting from the egg to the adult stage. We find that there are three different stages that include the following:-  
Egg  $\Rightarrow$  Tadpole  $\Rightarrow$  Adult Frog.
33. The woman wearing sandals with flat soles will feel more comfortable while walking on the sandy beach because the sandals with flat soles have a larger area as compared to the pointed heels. As we know that pressure is inversely proportional to the area. Hence, the larger the area, the smaller will be the pressure. Therefore, the pressure exerted by the sandals having flat soles will be less. On the other hand, the pressure exerted by the pointed heels will be more. That's why walking with flat soles will be more comfortable.
34. 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.

