

Class VIII Session 2023-24
Subject - Science
Sample Question Paper - 10

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. Rabi crop can be also named as: [1]
 - a) summer crop
 - b) rainy season crop
 - c) winter crop
 - d) autumn crop
2. That group of microbes who can synthesize their own food? [1]
 - a) plasmodium
 - b) algae
 - c) fungi
 - d) viruses
3. Coke is used in the manufacture of _____. [1]
 - a) mercury
 - b) steel
 - c) sodium
 - d) potassium
4. Mortar is a mixture of- [1]
 - a) Sand + Calcium
 - b) Sand + Iron
 - c) Cement + Sand + Iron
 - d) Cement + Sand + Water
5. Combustion of fuels is done to obtain: [1]
 - a) Water
 - b) Energy
 - c) Residues
 - d) Gases
6. The existence of endemic species is under threat due to: [1]
 - a) all of these
 - b) increasing human population
 - c) exotic species
 - d) habitat destruction
7. Which of the following does a forest prevent? [1]

- a) Soil erosion
b) Water table from going down
c) Floods
d) All of these

8. Why is it important to conserve forests? [1]

9. Animals exhibiting external fertilisation produce a large number of gametes. Pick the appropriate reason from the following. [1]

a) Water promotes production of large number of gametes.
b) To ensure better chance of fertilisation
c) Food is available in plenty in water.
d) The animals are small in size and want to produce more offsprings.

10. For the metamorphosis of tadpoles which of the following elements must be available in the water? [1]

a) Carbon
b) Iodine
c) Sulphur
d) Chlorine

11. Which force is responsible for the stability of our universe? [1]

a) Magnetic force of earth
b) Frictional force between planets and atmosphere
c) The force of gravitation
d) Magnetic force of Sun

12. Force of friction always acts on all [1]

a) Heavy object
b) Lighter object
c) Stationary object
d) Moving object

13. The force of friction which comes into play when one body moves over the surface of other body is called [1]

a) Sliding friction
b) Rolling friction
c) Kinetic friction
d) Static friction

14. When the amplitude of sound is large, the sound produced is [1]

a) Not audible
b) Feeble
c) Loud
d) No change due to amplitude

15. Electrolyte used in voltaic cell is [1]

a) sulphuric acid
b) nitric acid
c) acetic acid
d) hydrochloric acid

16. Earthquake activities are monitored by using [1]

a) Radio and television
b) Satellite
c) Wireless and radio
d) Can not be monitored

17. A narrow beam of light is made up of [1]

a) Only one rays of light
b) Rays of light
c) Millions of rays of light
d) Two rays of light

Section B

18. Describe the process of formation of petroleum. [2]

19. You are provided with three watch glasses containing milk, petrol, and mustard oil, respectively. Suppose you bring a burning candle near these materials one by one, which material(s) will catch fire instantly, and Why? [2]
20. What do you mean by ductless glands? [2]
21. We know that there is a huge amount of atmospheric pressure on us. But we do not experience its effects why? [2]
22. An electric current is passed through a conducting solution. List any three possible observations. [2]
23. Draw a labeled sketch of the human eye. [2]

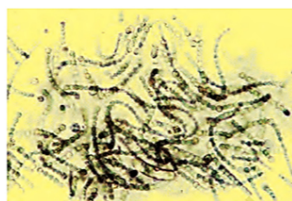
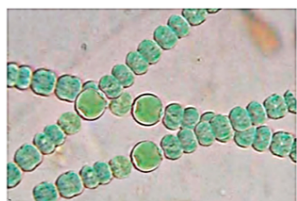
Section C

24. What are the advantages of a seed drill used for sowing? [4]
25. Between bio gas and animal dung cakes, which one is better? Give reasons in support your answer. [4]
26. Explain external fertilization in frogs? [4]
27. Suggest some tips to maintain personal hygiene. [4]
28. Explain the working of a dropper and its principle. [4]
29. The tyres of automobiles are made corrugated and rough. Why? [4]
30. What is noise pollution? How does it affect us and how it can be prevented? [4]
31. Can you prepare an electric pen? Describe how? [4]
32. Explain an electroscope and earthing. [4]

Section D

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

Microorganisms play an important role in our lives. Some of them are beneficial in many ways whereas some others are harmful and cause diseases. Some of them are used for making curd and bread, some are used commercially and medical purpose while some play role in increasing soil fertility.



- (i) Medicine that kills or stops the growth of harmful disease-causing microbes is known as
 - a) antibiotic
 - b) antibody
 - c) antigen
 - d) vaccine
- (ii) The process in which sugar in the food is transformed into alcohol and carbon dioxide by using microorganisms is known as
 - a) fermentation
 - b) beverage
 - c) transformation
 - d) respiration
- (iii) The fungus that is commonly used in bakery and beverage industries is
 - a) Agaricus
 - b) Yeast
 - c) Rhizopus
 - d) Penicillium
- (iv) The gas released during the preparation of bread is _____.
- (v) Bacteria can be killed by the use of antibiotics.
 - a) True
 - b) False

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

A diagram of a candle flame with three labeled zones. The outermost zone is blue and labeled 'outer zone of complete combustion (blue)'. The middle zone is yellow and labeled 'middle zone of partial combustion (yellow)'. The innermost zone is black and labeled 'innermost zone of unburnt wax vapours (black)'. The candle itself is labeled 'C'.

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

Step 1 - Take two plane mirrors. Set them at right angles to each other with their edges touching.

Step 2 - To hinge them you can use adhesive tape.

Step 3 - Place a coin in between the mirrors.

Step 4 - Now hinge the mirrors using the adhesive tape at different angles, say 45° , 60° , 120° etc.

Step 5 - Place some object (say a candle) in between them. Note down the number of images of the object in each case.



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- a) Sunglasses
 - b) Kaleidoscope
 - c) Telescope
 - d) Binoculars
- (iii) kaleidoscope will always give
- a) It will repeat after 1 pattern
 - b) same pattern
 - c) different pattern
 - d) None of these
- (iv) In kaleidoscope when peep through the hole, variety of patterns in the tube is seen.
- a) True
 - b) False
- (v) A candle is 30 cm high. Then the height of its image in a plane mirror _____.

Solution

Section A

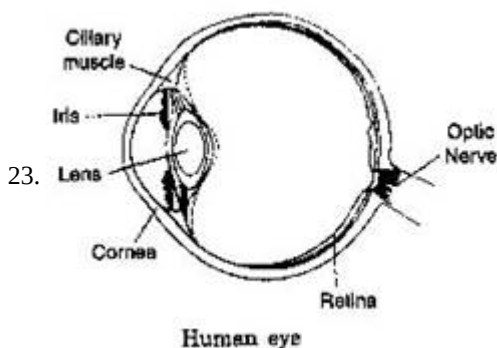
1.
(c) winter crop
Explanation: Rabi crop is grown in the month of October to March, which is also winter season in India. So, the rabi crop is also named as a winter crop. It includes wheat, gram, pea, etc.
2.
(b) algae
Explanation: The group of organisms that can synthesize their own food are called autotrophs. They contain chlorophyll that captures solar energy for photosynthesis. Algae contain chlorophyll; hence they can prepare their own food.
3.
(b) steel
Explanation: Coke is a pure form or allotrope of carbon. It is used in the manufacture of steel, as a fuel and as a reducing agent in the extraction of various metals. Steel is an alloy of carbon and iron. Presence of carbon in the steel makes it harder and more durable than pure iron.
4.
(d) Cement + Sand + Water
Explanation: Mortar is a mixture of sand, a binder such as cement or lime, and water and is applied as a paste which then sets hard.
5.
(b) Energy
Explanation: Fuel is burnt to obtain energy. Energy is used to drive a number of processes like running car, producing electricity, cooking food etc.
6.
(a) all of these
Explanation: The existence of endemic species is under threat due to increasing human population, habitat destruction, and introduction of exotic species into a foreign ecosystem.
7.
(d) All of these
Explanation: All of these
8. To maintain balance in nature / to conserve the natural ecosystem.
9.
(b) To ensure better chance of fertilisation
Explanation: A large number of gametes are released by such animals to ensure a better chance of fertilization. Since the gametes are laid in water, many of them are carried away by moving water, wind, or rain and many are eaten by other animals. Therefore, the production of a large number of gametes is necessary.
10.
(b) Iodine
Explanation: For metamorphosis of tadpoles, iodine should be present in water. This is because metamorphosis is brought about by thyroxine hormone that requires the presence of iodine for its production by the thyroid gland.
11.
(c) The force of gravitation
Explanation: The force of gravitation is responsible for the stability of our universe. Gravitational force acts on each and every object which attracts the bodies towards itself. The planets revolve around the sun on their own axis is because of the gravitational force of the sun. Gravitational force depends on the mass and the distance of the object.
12.
(d) Moving object

Explanation: The force of friction always acts on all moving objects due to contact between the two surfaces. Object moving in air, water, or on surface experiences friction.

13. (c) Kinetic friction
Explanation: Kinetic friction is the force of friction which comes into play when one body moves over the surface of other body.
14. (c) Loud
Explanation: The loudness of sound depends upon amplitude of sound. So, when the amplitude of sound is large, the sound produced is large.
15. (a) sulphuric acid
Explanation: sulphuric acid
16. (d) Can not be monitored
Explanation: Earthquake activities cannot be monitored as it occurs suddenly without any sign. Satellite can monitor wind and cloud activities only.
17. (b) Rays of light
Explanation: A light ray is a line (straight or curved) that is perpendicular to the light's wavefronts; its tangent is collinear with the wave vector

Section B

18. Petroleum is a dark oily liquid. It is a mixture of various fractions. Petroleum was formed from organisms living in the sea. As these organisms died, their bodies settled at the bottom of the sea and got covered with layers of sand and clay. Over millions of years, absence of air, high temperature and high pressure and action of microorganisms, transformed the dead organisms into petroleum and natural gases. The layer containing petroleum and natural gas is above that of water. Oil and gas are lighter than water and do not mix with it.
19. The watch glass containing petrol will catch fire instantly because its ignition temperature is very low. Also, petrol is an inflammable substance, ie. it can easily catch fire with a flame.
20. A few glands such as sweat glands, oil glands and salivary glands release their secretions through ducts. Endocrine glands release hormones directly into the blood stream. So, they are also termed as ductless glands.
21. We know that air is present everywhere. The pressure of air inside our body is same as that of the atmosphere. Therefore, we do not experience its effect. Isn't nature kind to us!
22. Three possible observations are as follows:
- The colour of the solution may change depending upon the electrodes
 - The temperature of the solution may increase.
 - Bubbles near the electrodes can be seen.



Section C

24. 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. Traditional tools: The shape of this tool is like a funnel which is filled by seeds, then the seeds are passed down through two or three pipes having sharp ends and these ends pierce into the soil and place seeds there. Seed drill: Now a day traditional tool has been replaced by seed drill. This tool is used for sowing with the help of tractors and it sows the seeds uniformly and at proper distances and depth, it also ensures covering of the seeds from soil after

sowing, so that seeds could not get damaged by birds and by other organisms. Sowing by using a seed drill saves time and labour. 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.

25. Bio-gas is better fuel than animal dung cakes. This is because of the following reasons:

- i. Bio gas does not give smoke while burning, whereas the burning of animal dung cakes produce lot of smoke.
- ii. Bio gas does not leave any residue after burning whereas animal dung cakes give residue.
- iii. The calorific value of biogas is much higher than that of animal dung cakes.

26. During spring or rainy seasons frogs and toads move to ponds and slow moving streams.

When the male and female come together in water the female lays hundreds of eggs. On which the male releases its sperms.

In frogs a layer of jelly holds the eggs together and provides protection to the eggs.

This type of fusion in which male and female gamete fertilization takes place outside the female body is referred to as external fertilization.

27. a. Take a bath atleast once a day because the increased activity of sweat glands makes the body smelly.
b. All parts of the body should be washed and cleaned every day else there are chances to get bacterial infections.
c. Girls should take special care of cleanliness during the time of menstrual flow.
d. Girls should keep a track of their menstrual cycle and be prepared for the onset of menstruation.

28. A dropper is a short glass tube with a rubber bulb at one end and a nozzle at the other end. It is used for measuring the drops of liquids as in the case of medicines. It works on the principle of atmospheric pressure.

When we press the rubber bulb, the air present in the glass tube escapes from the nozzle in the form of bubbles. The air pressure inside the rubber bulb and the nozzle is reduced and a greater atmospheric pressure is acting on the surface of the liquid which pushes the liquid inside the glass tube. This is how it works on the principle of the atmospheric pressure.

29. Tyres are made by corrugated in order to increase the friction between the tyres and the surface of the road. This increase the opposing force incurred by the tyres. The rougher the tyre is the grip between the road and the road is better. This consequently increase the friction which tends smooth vehicular motion. Hence prevents accidents due to slipping and sliding.

30. Noise pollution is the unwanted and displeasing human created sound that disturbs the environment.

Effect of noise pollution

- There are many sources from where noise pollution is created like means of transportation including trains and aircrafts.
- Setup of industries close to the residential buildings, construction work, voice of loudspeakers etc.
- The noise pollution affects both health and behavior.
- It can reduce hearing power of person, become a cause of hypertension, depression and sleep disorders etc.

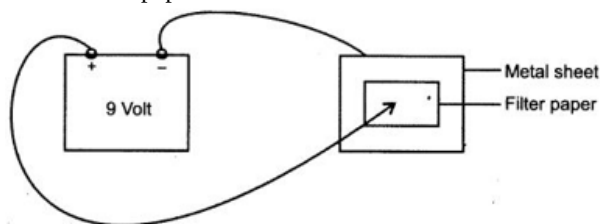
Prevention of noise pollution

- To control noise pollution, the speed of vehicles should be limited, make strict laws to use loudspeakers and any other noise creating tool .
- Keep the volume of your television under reasonable limits.
- If you have a pet dog, train it not to bark unnecessarily.
- If you have a garden area in front or around your house, plant trees and bushes around your house. Not only do they give out fresh air to breathe, they are also known to absorb sound.

31. Yes you can prepare electric pen. Basic principal of electric pen is electric charge on ions is used for writing with an electric pen.

Method:

- i. Take a filter paper soaked in potassium iodide solution to which a pinch of starch is added.
- ii. Place the filter paper on a metal sheet.
- iii. Connect the negative terminal of battery to the metal sheet.
- iv. Write on the paper with the end of the wire connected to the positive terminal.



- v. The writing appears on the paper. This happens because the when current is passed, the K^+ ions are attracted to the metal sheet. The iodide ions (I^-) react with starch to turn blue black.

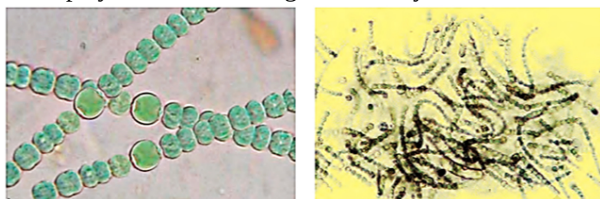
32. An electroscope is a device that detects the type of charge on a body. Like charges repel and unlike charges attract each other. This is used in an electroscope. An electroscope consists of a glass jar fitted with a cork lid and a metallic wire passing through it.

There are two metallic strips at the bottom of the wire. The upper end of the wire is connected to a metal disc. A body that is positively charged is touched to the metal disc, so that the charge is transferred to the metal strips through the wire, and they diverge from each other on gaining a like charge. Now, if a negatively charged object is brought into contact with the disc, the strips converge towards each other, indicating the unlike charge on the body. Similarly, if a positively charged body is brought in contact with the metal disc, the divergence of the metal strips increases, indicating the like charge on the body. If the metal disc of the electroscope is touched with the hand, it loses its charge to the ground by transfer of charge through the human body. This is called earthing.

Section D

33. Read the text carefully and answer the questions:

Microorganisms play an important role in our lives. Some of them are beneficial in many ways whereas some others are harmful and cause diseases. Some of them are used for making curd and bread, some are used commercially and medical purpose while some play role in increasing soil fertility.



- (i) (a) antibiotic

Explanation: antibiotic

- (ii) (a) fermentation

Explanation: fermentation

- (iii) (b) Yeast

Explanation: Yeast

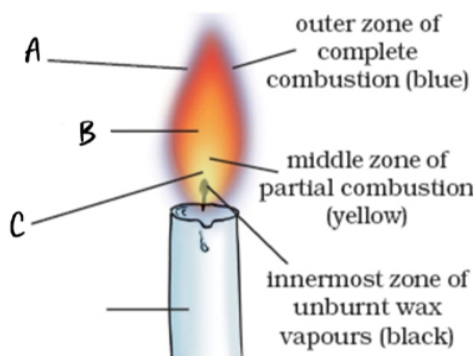
- (iv) 1. Carbon dioxide

- (v) (a) True

Explanation: True

34. Read the text carefully and answer the questions:

Neha is studying the structure of flame and draw different zone of candle flame.



- (i) (c) Hottest part

Explanation: Hottest part

- (ii) (c) calorific value

Explanation: calorific value

- (iii) (d) Three zone

Explanation: Three zone

- (iv) 1. Charcoal

- (v) (a) True

Explanation: True

35. Read the text carefully and answer the questions:

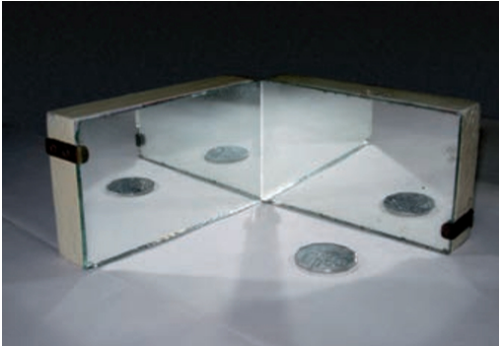
Step 1 - Take two plane mirrors. Set them at right angles to each other with their edges touching.

Step 2 - To hinge them you can use adhesive tape.

Step 3 - Place a coin in between the mirrors.

Step 4 - Now hinge the mirrors using the adhesive tape at different angles, say 45° , 60° , 120° etc.

Step 5 - Place some object (say a candle) in between them. Note down the number of images of the object in each case.



- (i) **(d)** 8

Explanation: 8

- (ii) **(b)** Kaleidoscope

Explanation: Kaleidoscope

- (iii) **(c)** different pattern

Explanation: different pattern

- (iv) **(a)** True

Explanation: True

- (v) 1. 30 cm