

Class VIII Session 2024-25
Subject - Science
Sample Question Paper - 9

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

- Maximum plant nutrients are to be found in:
a) bottom layer of soil
b) middle layer of soil
c) top layer of soil
d) lower layer of soil
- Which one is a wrong statement?
i. Protozoa causes dysentery and malaria
ii. Yeast decreases the volume of a mixture of yeast, sugar, flour and warm water
iii. Viruses cause cold, influenza, polio, chicken pox
iv. Bacteria causes typhoid and tuberculosis

a) option (iii)
b) option (iv)
c) option (i)
d) option (ii)
- While demonstrating the nature of various chemicals Mr Khanna a science teacher, took some sugar and added cone. H_2SO_4 to it. Immediately sugar was converted to a black mass. Which of the following is correct regarding this activity?

a) Black mass formed is charcoal.
b) Black mass obtained is purest form of amorphous carbon.
c) Concentrated sulphuric acid dehydrates the sugar.
d) All of these
- The head of a safety match contains

a) Antimony trisulphide and potassium chlorate
b) Antimony carbonate

- c) Antimony chloride and potassium sulphide d) Potassium sulphide
5. Most of the biodiversity hotspots are: [1]
 a) deserts b) grasslands
 c) forests d) oceans
6. After fertilization, the resulting cell which gives rise to a new individual is the: [1]
 a) embryo b) foetus
 c) zygote d) ovum
7. The fusion of male and female gametes usually takes place inside the [1]
 a) ovary b) zygote
 c) uterus d) fallopian tubes
8. Pressure is [1]
 a) Inversely proportional to force b) Directly proportional to mass
 c) Inversely proportion to area of contact d) Directly proportional to area of contact
9. A meteor burns up on entering earth's atmosphere due to [1]
 a) solar radiation b) atmospheric pressure
 c) excessive friction d) heat of the earth
10. The bone, which help in transmitting external vibration of sound to the inner ear. [1]
 a) Stirrup b) All of these
 c) Hammer d) Anvil
11. Pure water is a bad conductor of electricity because [1]
 a) There are no free electrons present in it. b) There are no free ions present in it.
 c) Number of free ions in it is very small d) Number of free electrons in it is very small
12. Increase in level of carbon dioxide in air causes [1]
 a) Uniform earth temperature b) No change in temperature
 c) Decrease in earth temperature d) Rise in earth's temperature
13. For a plane mirror angle between the incident ray and normal is 45° than the angle of reflection will be: [1]
 a) More than 45° b) Less than 45°
 c) 45° d) More or less than 45°
14. State true or false: [1]
 We should save, reuse, and recycle paper to save trees, energy and water.
15. State true or false: [1]
 Treads on the tyres are made to increase friction.

Section B

16. A trash can contains the following materials. [2]
 • Plastic straw

- Aluminium foil
- Tissue paper
- Glass bottles
- Chicken bones



Select the materials from the list that can be decomposed by microbes?

17. What are the different tips for the saving of petrol/diesel? [2]
18. Explain various types of combustion. [2]
19. What does a person's height depend upon? [2]
20. How can we control noise? [2]
21. Paheli wants to deposit silver on an iron spoon. She took silver nitrate (AgNO_3) solution in a beaker and setup a simple circuit for electroplating. Which terminal of the battery should the spoon be connected to? What material should the other electrode be made of? [2]
22. Suppose you are in a dark room. Can you see objects in the room? Can you see objects outside the room. Explain. [2]

Section C

23. What are weeds? How can we control them? [4]
24. State uses of Natural gas? [4]
25. Define asexual reproduction. Describe two methods of asexual reproduction in animals. [4]
26. What are endocrine glands? Write the names of hormones and the functions of thyroid, pancreas and adrenal glands. [4]
27. Write the effects of the force applied on an object. [4]
28. How do bats catch their prey? [4]
29. Write a short note on chromium metal used for electroplating. [4]
30. Explain the construction and working of electroscope. [4]
31. What is Braille system? Explain. [4]

Section D

32. Describe fertilization in hens? [5]
33. Explain the atmospheric pressure used in the drinking straw. [5]
34. Write the steps involved in electroplating. [5]

Solution

Section A

1.

(c) top layer of soil

Explanation: Top layer of soil contains maximum plant nutrients. Top fertile soil is the main source of nutrients for plants. These nutrients are formed by decomposition of dead and decaying plant and animals.

2.

(d) option (ii)

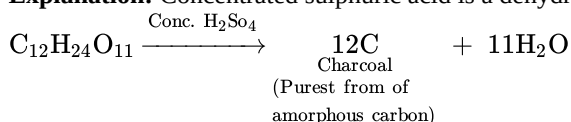
Explanation: The wrong statement is option (ii).

Yeast changes the sugar in the dough into carbon-dioxide gas and ethanol. The gas, trapped in the dough, makes it rise, the alcohol produced during fermentation evaporates during baking. Hence, when add yeast to the dough, it rises because the rapidly producing yeast cells release carbon-dioxide due to anaerobic respiration. So, yeast not decreases the volume of the mixture.

3.

(d) All of these

Explanation: Concentrated sulphuric acid is a dehydrating agent. It removes water from sugar and converts it into charcoal.



4.

(a) Antimony trisulphide and potassium chlorate

Explanation: Antimony trisulphide and potassium chlorate

5.

(c) forests

Explanation: Forest is considered as a biodiversity hotspot because of enormous number of species living in it. There are many varieties of birds, animals, insects, and plants inhabiting the forest.

6.

(c) zygote

Explanation: After fertilization (i.e. combining of sperm with the egg), the zygote is formed. It is the beginning of the formation of a new individual. All the multicellular animals start their life from a single cell called a zygote.

7.

(d) fallopian tubes

Explanation: fallopian tubes

8.

(c) Inversely proportion to area of contact

Explanation: Pressure is inversely proportional to area of contact and directly proportional to force acting on per unit area. Increased area of contact results in applying bigger force which results in lower pressure and less area of contact results in less force which in turn results in high pressure.

9.

(c) excessive friction

Explanation: excessive friction

10.

(b) All of these

Explanation: The three tiny bones in the middle part of ear amplify sound vibrations coming from the eardrum before passing them on to the inner part of the ear. These are hammer, anvil and stirrup.

11.

(c) Number of free ions in it is very small

Explanation: Pure water has free ions of H^+ and OH^- but their number is very small.

12. (d) Rise in earth's temperature
Explanation: Carbon dioxide gas is a greenhouse gas. Increase in the level of carbon dioxide gas in the atmosphere leads to greenhouse effect that causes rise in earth's temperature, which leads to global warming.
13. (c) 45°
Explanation: The angle of incidence is always equal to the angle of reflection of light. If the angle between mirror and incident ray is 45° then angle of reflection will be 45° .
14. (a) True
Explanation: True
15. (a) True
Explanation: True

Section B

16.
 - Chicken bones
 - Tissue paper
17. Petroleum Conservation Research Association, advises people to save petrol/diesel, in the following ways.
(a) Drive at a constant and moderate speed.
(b) Switch off the engine at traffic lights or when have to wait.
(c) Ensure correct tyre pressure.
(d) Ensure regular maintenance of the vehicle.
18. Types of Combustion:
(i) **Rapid combustion:** The process of combustion in which a fuel burns rapidly produce more amount of heat and light is known as rapid combustion. For example burning of gas.
(ii) **Spontaneous combustion:** The type of combustion in which a material suddenly burns to produce flame without the application of any cause is called spontaneous combustion.
(iii) **Explosion:** The combustion in which a sudden reaction takes place with the of heat, light, sound and a large amount of gas, is called explosion. Ignition of cracker produces explosion.
19. The height of an individual is more or less similar to that of some family member because of the genes inherited by the parents.
20. **Measures to control noise pollution**
1) We should not play radio ,stereo systems and televisions too loudly.
2) The horns of motor vehicles should not be gone unnecessarily.
3) The bursting of crackers should be avoided.
4) The noise making factory and airports should be shifted away from the residential area of the city.
5)loud speakers should be played at low volume during marriages and other social function.
6) Trees should be planted along the roads and around building to reduce the noise pollution from the roads.
21. Spoon should be connected to the negative terminal of the battery. The other electrode should be made of silver, so that silver ions get deposited on an iron spoon.
22. We can see an object only if light from an object enters our eyes. The light may be emitted by the object or may have been reflected by the object. Thus we cannot see an object which is placed in a dark room if it does not emitt light of its own. Whereas an object outside the dark room can be seen if there is either light outside the dark room on the object emitts its own light.

Section C

23. In a field other undesirable plants may grow naturally along with the crop. These undesirable plants are called weeds. We can adopt many ways to remove weeds and control their growth. Tilling before sowing of crops helps in uprooting and killing of weeds, which may then dry up and get mixed with the soil. The best time for the removal of weeds is before the produce flowers and seeds. The manual removal includes physical removal of weeds by uprooting or cutting them close to the ground, from time to time. This is done with the help of a khurpi or a harrow.
Weeds are also controlled by using certain chemical, called weedicides like 2,4, D. These are sprayed in the fields to kill the weeds. They do not damage the crops. The weedicides are diluted with water to the extent required and sprayed in the fields with a sprayer.



Spraying weedicide

24.
 - i. Natural gas is stored under high pressure as CNG and LPG. LPG is used as a fuel in homes and CNG is used in automobiles and for power generation in plants.
 - ii. It is brought to homes through a network of pipelines. CNG is used for power generation plants.
25. The type of reproduction in which only a single parent is involved is called asexual reproduction. Asexual reproduction may occur in many ways e.g.

Budding: This method is seen in multicellular animals which are highly simple in structure. A small bud develops on the body. The bud develops and starts resembling its mother. After that, the bud gets detached from the mother's body to begin life as a new individual. Examples: Hydra and sponges.

Binary Fission: This method is seen in unicellular animals, e.g. amoeba. The cell of amoeba divided into two daughter cells. Each daughter cell becomes a new individual.
26. The glands which have no any duct to pour their secretions (hormones) into blood directly are called endocrine glands.

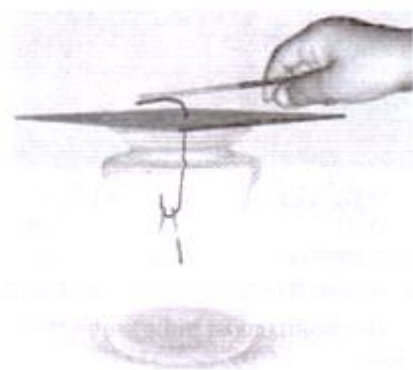
Thyroid: Thyroid is the endocrine gland. It secretes thyroxine hormone. If thyroid does not produce thyroxine, then thyroid glands increase in size and cause a disease called goiter.

Pancreas: Pancreas is also an endocrine gland which produces insulin hormone. If insulin is not produced sufficient then a person suffers from a disease called diabetes.

Adrenal: The hormone produced by adrenal gland is called adrenalin. This hormone maintains the correct salt balance in the blood. It also adjusts the body to stress when one is very angry, embarrassed or worried.
27. The effects of force applied on an object are as follows:
 - a. A force can move a stationary body.
 - b. A force can stop a moving body.
 - c. A force can change the speed of the moving body.
 - d. A force can change the direction of the moving body.
 - e. A force can change the shape and size of the body.
28. Bats locate and catch the prey by the mechanism called echolocation. During the hunting time, the bats produce a constant stream of high-pitched sounds. When the sound waves produced by them hits an insect or other animal, the echoes bounce back to the bat that guides them to the prey. The time interval between cry and echo helps to determine the distance of the prey.
29. Chromium has a shiny appearance and does not corrode. It resists scratches. Chromium is expensive and it may not be economical to make the whole object out of chromium. So the object is made from a cheaper metal and only a coating of chromium over its deposited. Jewellery makers electroplate silver and gold on less expensive metals. These ornaments have the appearance of silver or gold but are much less expensive.
30. The device which is used to test whether an object is carrying charge or not is called electroscope.

Structure of Electroscope: It is made of a glass jar. A vertical brass rod is inserted into the jar through a cork. The top of the brass rod has a horizontal brass rod or a brass disc. Two gold leaves are suspended from the brass rod; inside the jar.

Working of Electroscope: When the brass disc of the electroscope is touched with a charged object, electric charge gets transferred to the gold leaf through the rod. This results in the gold leaves moving away from each other. This happens because both the leaves have similar charges.

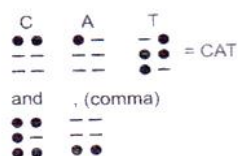


A simple electrostatic.

31. Braille is a method of writing for visually challenged person. This system was invented by Louis Braille in 1821 and adopted in 1932. He was also a blind person. In this method text is written on a thick paper using special symbols representing the letters of alphabet. Groups of dots are employed to write letters. There is Braille code for common languages, Mathematics and Scientific notation. Braille system has 63 dots patterns. Each pattern 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. Codes of music and mathematics are different. Any language can be read through the codes of Braille.



Louis Braille



Example of dot patterns used in Braille System

Section D

32. Hen exhibit internal fertilization.

It gets surrounded by many protective sheath or layers including the hard outermost shell made up of the calcareous shell.

After the hard shell is formed around the embryo, the hen lays egg.

The hen then sits on the egg to keep it warm. Development of the chick takes place inside the shell.

It takes about 3 weeks for the embryo to develop in to a chick.

After its development is complete, the chick comes out by bursting open the egg shell.

33. The drinking straw is a thin pipe used for drinking cold drinks. It works on the principle of the atmospheric pressure. The lower end of the straw is inside the liquid, so when we suck at the upper end with our mouth, the pressure inside the straw and in our mouth is decreased. But the pressure exerted at the surface is greater which pushes the liquid up and it comes inside our mouth.
34. Following steps are involved in electroplating:
- The material which needs to be coated with a layer is made the negative electrode (cathode).
 - The plate of desired metal is made the positive electrode (anode).
 - The conducting solution is made of a salt of desired metal.
 - Electric current is passed through the solution.
 - The desired metal dissociates from the plate (anode) and gets deposited on the material at negative electrode (cathode).