

Class VIII Session 2024-25
Subject - Science
Sample Question Paper - 6

Time Allowed: 3 hours

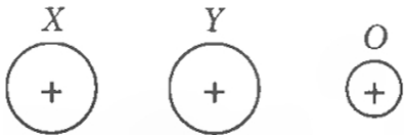
Maximum Marks: 80

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.

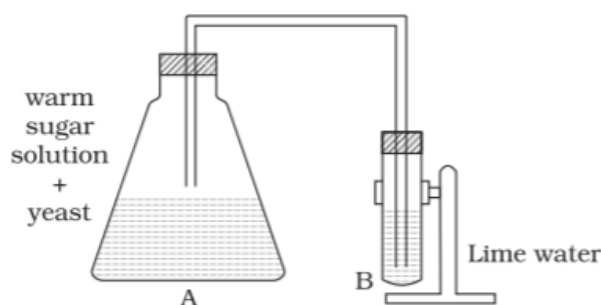
Section A

1. The big pieces of soil in the ploughed field are called [1]
 - a) flakes
 - b) crumbs
 - c) lumps
 - d) all of these
2. Nitrogen cycle includes [1]
 - a) denitrification
 - b) nitrogen fixation
 - c) all of these
 - d) ammonification
3. The dead aquatic organisms that were buried under the sand and clay of the sea bed, were converted to petroleum owing to _____. [1]
 - a) Absence of air
 - b) All of these
 - c) High temperature
 - d) High pressure
4. Global warming leads to a rise in sea level which causes floods in the coastal areas. One of the main reasons of global warming is _____. [1]
 - a) Combustion of fuels releases unburned carbon particles which causes decrease in temperature.
 - b) Combustion of fuels releases CO which decreases the temperature.
 - c) Combustion of fuels releases SO₂ which increases the temperature.
 - d) Combustion of fuels releases CO₂ which causes increase in temperature.
5. Which one of the following changes may occur due to desertification? [1]
 - a) Increased chances of floods.
 - b) Decrease in atmospheric temperature.
 - c) Conversion of fertile land into a desert.
 - d) Increase in water holding capacity of soil.

6. In Amoeba, reproduction takes place by [1]
 a) binary fission b) internal fertilisation
 c) budding d) external fertilisation
7. In the male human, sperm contains 22 pairs of autosomes and [1]
 a) A pair X- chromosome b) One Y-chromosome
 c) A pair of Y-chromosome d) Three X-chromosome
8. The speed of a falling body increases continuously. This is because [1]
 a) the earth attracts it b) it is very light
 c) the air exerts a frictional force on it d) no force acts on it
9. The energy required to overcome friction is mainly converted into _____. [1]
 a) light energy b) chemical energy
 c) heat energy d) sound energy
10. Which of the following health problem is not caused due to noise pollution? [1]
 a) Diabetes b) Lack of sleep
 c) Anxiety d) Hypertension
11. Which one of the following will not conduct electricity [1]
 Solid NaCl, CuSO₄ solution, Graphite, Acidified water
 a) Graphite b) Solid NaCl
 c) Acidified water d) CuSO₄ solution
12. The given figure shows a small positively charged sphere O, kept near two larger positively charged spheres X and Y which are fixed. [1]

 In which direction will the sphere O move?
 a) Right b) Left
 c) Down d) Up
13. Human eyes are always paired. What will happen if humans would have only one eye? [1]
 a) the world would become two-dimensional for humans b) All the objects will appear faint
 c) Humans will not be able to see objects beyond 90° d) All of these
14. State true or false: [1]
 Gradually the fertile land gets converted into deserts due to afforestation.
15. State true or false: [1]
 If there is no friction, a moving object would never stop on its own.

Section B

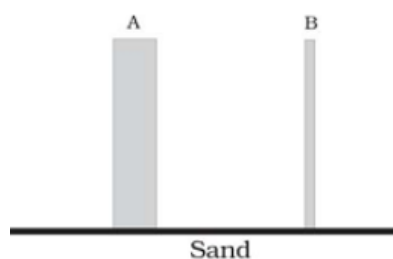
16. Observe the set up given in figure and answer the following questions. [2]
- What happens to the sugar solution in A?
 - Which gas is released in A?
 - What changes will you observe in B when the released gas passes through it?



17. What advice is given by PCRA for saving petrol and diesel? [2]
18. Explain the structure of a flame. [2]
19. Lila always eats only dal and rice in every meal. She often falls ill and has become prone to diseases. Can you suggest changes in her diet which can make her healthy and free from disease? [2]
20. How is sound produced? [2]
21. Make a list of materials around you which conduct electricity and a list of those that do not. [2]
22. The angle between incident ray and reflected ray is 60° . What is the value of angle of incidence? [2]

Section C

23. Write a paragraph in your own words on Sowing [4]
24. What is black gold? Why it is called so? [4]
25. What are Sexually Transmitted Diseases? How can they be prevented? [4]
26. What is the cause of the changes in human body during puberty? [4]
27. Two rods of the same weight and equal length have different thicknesses. They are held vertically on the surface of sand as shown in Fig. Which one of them will sink more? Why? [4]



28. The town hall building is situated close to Boojho's house. There is a clock on the top of the town hall building which rings the bell every hour. Boojho has noticed that the sound of the clock appears to be much clearer at night. Explain. [4]
29. What is deplating? How is it useful? [4]
30. In the event that an earthquake does strike what steps will you take to protect yourself? [4]
31. How many plane mirror strips are there in kaleidoscope? How are they arranged? State one use of kaleidoscope. [4]

Section D

32. How is the reproduction in hydra different from that in amoeba? [5]
33. Name the forces act on a plastic bucket containing water held above the ground level in your hand. Explain why the forces acting on the bucket do not bring a change in the state of motion. [5]
34. Three different electrolysis cells A, B and C are connected in separate circuits. Electrolytic cell A contains sodium chloride solution. When the circuit is completed a bulb in the circuit glows brightly. Electrolytic cell B [5]

contains acetic acid solution and in this case the bulb in the circuit glows dimly. The electrolytic cell C contains sugar solution and the bulb not glow. Give reason for each of these observations.

Solution

Section A

1.
(b) crumbs
Explanation: crumbs
2.
(c) all of these
Explanation: all of these
3.
(b) All of these
Explanation: All of these
4.
(d) Combustion of fuels releases CO_2 which causes increase in temperature.
Explanation: Combustion of fuels releases CO_2 which causes increase in temperature.
5.
(c) Conversion of fertile land into a desert.
Explanation: Conversion of fertile land into a desert
6.
(a) binary fission
Explanation: Amoeba is an unicellular protozoan organism, in which the reproduction mainly takes place by binary fission in favourable conditions. It is a mode of asexual reproduction. In this process the parent cell divides into two daughter cells of equal size. These are genetically identical to each other.
7.
(b) One Y-chromosome
Explanation: A human cell contains 22 pairs of autosomes and 2 pairs of sex chromosomes. The sex chromosomes are the X and the Y chromosomes and human females have two X chromosomes while the human males have one X and one Y chromosomes.
8.
(a) the earth attracts it
Explanation: the earth attracts it
9.
(c) heat energy
Explanation: heat energy
10.
(a) Diabetes
Explanation: Noise pollution may cause a number of health problem like hypertension, anxiety, and lack of sleep. Diabetes is a hormonal problem not caused due to noise pollution.
11.
(b) Solid NaCl
Explanation: Solid NaCl
12.
(a) Right
Explanation: Due to similar charge, the two spheres push sphere O which moves towards right.
13.
(a) the world would become two-dimensional for humans
Explanation: the world would become two-dimensional for humans
14.
(b) False
Explanation: False

15. (a) True

Explanation: True

Section B

16. a. Yeast causes fermentation converting sugar into alcohol and carbon dioxide.
b. Carbon dioxide
c. Lime water turns milky

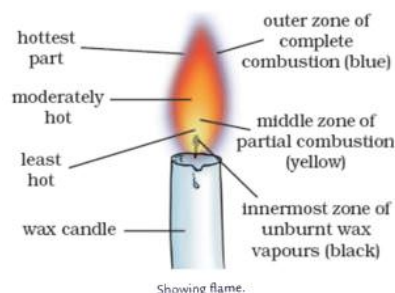
17. The advise given by PCRA are as following:

- (i) Drive at a constant and moderate speed as far as possible.
- (ii) Switch off the engine at traffic lights or at a place where you have to wait.
- (iii) Ensure correct tyre pressure.
- (iv) Ensure regular maintenance of the vehicle.

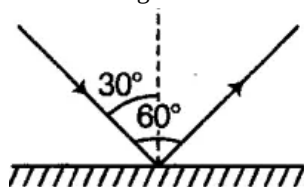
If we follow the tips given by PCRA, then we can save more and more petrol or diesel In this way we can save money and energy of the nation.

18. A flame consist of three zones. These are Innermost zone, middle zone, outer zone. The three zones of a flame have different colours and different temperature.

- i. **The Innermost zone of a flame is dark or black :** It consists of hot, unburnt vapours of the combustible material. It is the least hot part of the flame. It is the coldest part of the flame.
- ii. **The middle zone of a flame is yellow :** It is bright and luminous. The fuel vapours burn partially in the middle zone because there is not enough air of burning in this zone. The partial burning of fuel in the middle zone produces carbon particles. These carbon particles then leave the flame as smoke and soot. It has moderate temperature.
- iii. **The outer zone of a flame is blue:** It is a non-luminous zone. In this zone, complete combustion of the fuel takes place because there is plenty of air around it. The outermost zone has the highest temperature in the flame. It is the hottest part of the flame. It is quite thin as compared to middle zone.



19. Lila's diet is not a balanced diet because her meal does not contain an adequate nutritional requirement. She takes only proteins and carbohydrates in every meal. She also requires vitamins and minerals in her meal to protect her from various diseases. Thus, I would suggest her to include fruits and vegetables in her meal, to obtain vitamins and minerals and complete her diet.
20. The vibrating bodies produce the sound. When a body vibrates, sound is produced. If vibrations are stopped the sound is not produced any more.
21. **Conductors :** Things formed of metals, e.g. copper, iron and aluminium, wet things and solutions of electrolytes in water.
Insulators : Dry things made of wood, rubber and plastics.
22. Since the angle of incidence = angle of reflection. So, angle of incidence = 30°



Section C

23. Sowing is the process of putting seeds in the soil. Seeds are sown in the field by following three method

- i. **Broadcasting:** Seeds are sown manually by directly scattering them into the soil. This process is called broadcasting. It is the traditional method.
- ii. **Seed drills:** The other methods is to use a seed drill. Farrow are the long narrow trench made in the ground for sowing seeds or irrigation. The tool used traditionally for sowing seeds is shaped like funnel. The seeds are filled into the funnel, passed down through two or three pipes having sharp ends.

- iii. **Transplantation:** there are certain crops like paddy and some vegetables for which seeds are not directly sown in the field. They first germinated in nurseries and then the seedlings are transferred to the main field. This process is known as transplantation.
- Nowadays a seeds drill is used for sowing with the help of tractors. Those tool sows the seeds uniformly at a proper distance and depth.
24. Petroleum is known as Black Gold.
- Petroleum is also known as Black Gold - because when crude oil is extracted from the land it is black in color. People call it gold because of its oils and value . It is very difficult to find. So it is called Black Gold.
25. The diseases spread only by sexual contact are called sexually transmitted diseases (STDs). When a healthy person contacts sexually to a person which is infected, then the microorganisms are transmitted from infected person to the healthy person and that becomes infected. Syphilis, gonorrhoea, herpes and AIDS are some sexually transmitted diseases. Herpes and AIDS are not curable diseases. These are fatal diseases, which destroy the immune system of the patient. Sexual hygiene and safe sexual relationship are the only way to prevent sexually transmitted diseases.
26. The changes which occur during puberty are controlled by hormones. The hormones are the chemical substances. These are secretions from endocrine glands or endocrine system. These hormones are secreted from ovary, testes or pituitary gland at the time of puberty. The hormones secreted by pituitary stimulate testes and ovaries to secrete male and female hormones respectively.
27. Rod B will sink more because:
- As we know that the smaller the area, the larger the pressure on a surface for the same force applied.
 - Rod B has a smaller area.
 - Hence, it will exert more pressure on the sand.
 - On the other hand, rod A will exert less pressure on the sand as it has a larger area.
28. We know that speed, pitch, loudness all are initiated with a vibration. During the day, there is a number of vibrations around us. So, the sound coming from the clock gets disturbed and the amplitude of vibrations becomes small. But during the night, there are not such multiple vibrations in the environment. So, the sound is more clear. Further, "the dew factor at night increases the speed of sound as moisture level increases."
29. The process just opposite to electroplating is deplating. In this process, the object to be deplated is used as the anode (positively charged electrode) and the recovered metal is deposited on a cathode (negatively charged electrode) usually of the same metal. To recover gold and other valuable metals from the circuits of computers, mobiles, other electronic goods, the process of deplating is very useful.
30. In the event that an earthquake does strike, take the following steps to protect ourself.
- If we are at Home**
 - Take shelter under a table and stay there till shaking stops.
 - Stay away from windows.
 - Stay away from tall and heavy objects that may fall on you.
 - If we are in bed, do not get up. Protect our head with a pillow.
 - If we are Outdoors.**
 - Find a clear spot, away from buildings, trees and overhead power lines. Drop to the ground.
 - If we are in car or a bus, do not come out. Ask the driver to drive slowly to a clear spot. Do not come out till the tremors stop.
31. There are three plane mirror strips in kaleidoscope .They are inclined at 60 degree angle to one another forming a hollow prism. It is used by designers on wall papers and fabrics as well as by artist to get new design.

Section D

32. 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.
33. When a bucket full of water is held in our hand above the ground, there will be a muscular force applied by the hand and downward gravitational force applied by the earth. There will be no change in the state of motion because the two forces are equal and opposite to each other, hence they will balance each other.
34. A sodium chloride solution which is a strong electrolyte which contains only ions. So more electricity is conducted and bulb glows brightly.

B is an acetic acid which contains both ions and molecules that are less number of ions. So less electricity is conducted and bulb glows dimly.

C is sugar solution which is a non-electrolyte that's why it does not contain ions so electricity is not conducted and the bulb does not glow.