

**Questionpaper SA–I(2016–17) Set B**

**CBSE Class 8 SCIENCE**

**General instructions:**

- This question paper has 28 questions .
- All the questions are compulsory.
- Write the correct serial number of the question before attempting it.
- Write the answers neatly and legibly.

**1. Choose the correct answers. (6)**

**a. A chemical which is not used as a weedicide is \_\_\_\_\_.**

i. dalapon ii. gammaxane iii. metachlor iv. siniazine

**b. The most abundant element in the universe is \_\_\_\_\_.**

i. oxygen ii. carbon iii. nitrogen iv. hydrogen

**c. \_\_\_\_\_ are good reflectors of sound.**

i. Curtains ii. Carpets iii. Clothes iv. Walls

**d. The fungus which is responsible to carry out the process of fermentation is \_\_\_\_\_.**

i. Fucus ii. Yeast iii. Rhizopus iv. Agaricus

**e. The speed of sound in air at a temperature of 22oC to 24oC is \_\_\_\_\_.**

i. 5000 m/s ii. 1500 m/s iii. 340 m/s iv. 50 m/s

**f. The electrolyte used in a dry cell is \_\_\_\_\_.**

i. dilute sulphuric acid ii. ammonium chloride paste

iii. manganese dioxide iv. copper sulphate solution

**Ans.** 1. Choose the correct answer to each of the following:

- a. ii. gammaxane
- b. iv. hydrogen
- c. iv. Walls
- d. ii. Yeast
- e. iii. 340 m/s
- f. ii. ammonium chloride paste

**2. Fill in the blanks with suitable words. (6)**

- a. Chemical energy is converted into electrical energy in an \_\_\_\_\_ cell.
- b. Force has a magnitude as well as \_\_\_\_\_ .
- c. The \_\_\_\_\_ is the carrier of dengue virus.
- d. \_\_\_\_\_ is used extensively in electronic industry.
- e. The S.I. unit of frequency is \_\_\_\_\_.
- f. The passage of an electric current through a solution causes \_\_\_\_\_ effects.

**Ans.** a. electrolytic

b. direction

c. Female Aedes mosquito

d. Silicon

e. Hertz

f. chemical

**3. Why does a compass needle show more deflection when tested with sea water a compared to tap water? (1)**

**Ans.** Compass needle shows more deflection in sea water as sea water has more salts and therefore more current passes through it.

**4. Name the process of separating grains from chaff and hay with the help of wind. (1)**

**Ans.** The process is threshing.

**5. How do viruses reproduce? (1)**

**Ans.** Viruses enter a living cell of an organism and use the energy of host cell to reproduce. After the formation of thousands of viruses the host cell dies.

**6. Name the type of force involved when a plastic is found to attract small pieces of paper on rubbing it in dry hair. (1)**

**Ans.** The force is electrostatic force.

**7. Why does silverware develop a black coat on their surface when exposed to polluted air? (2)**

**Ans.** Silverware develop a black coat as they react with sulphur compounds such as hydrogen sulphide and develop a coat of silver sulphide which is black.

**8. The characteristics of which of these are closer to plants - algae or protozoans? Give reasons. (2)**

**Ans.** Algae is closer to plants as they have certain characteristics as present in plants, like presence of a cell wall and chloroplast.

**9. Calculate the area of cross-section on which a force of 5N acts, producing a pressure of 500 Pa. (2)**

**Ans.** Pressure = Force/ area, area = 5N/ 500 Pa = 0.01 m<sup>2</sup>

**10. State one advantage and one disadvantage of using articles made of melamine. (2)**

**Ans.** Advantage: Melamine have no reaction with water and air and thus are used to make crockery, they are non- reactive. Therefore they can be used to store chemicals.  
disadvantage: Melamine is non-biodegradable.

**11. State three properties of acrylic and also mention two uses. (3)**

**Ans.** Acrylic: light weight, soft and warm, resists shrinkage. Uses: can be dyed in a variety of colours, clothes made of acrylic are cheaper than wool.

**12. Give reasons for the following: (3)**

a. Immersion rods for heating liquids are made of metallic substances.

b. Sodium and potassium are stored in kerosene.

c. Gold is found in free state but iron is not.

**Ans.** a. Immersion rods for heating liquids are made of metallic substances as metals are good conductors of heat and electricity.

b. Sodium and potassium are stored in kerosene as they are highly reactive and react with air at room temperature.

c. Gold occurs in free state as it is a very less reactive metal (noble metal) whereas iron is much reactive and occurs in the form of ores.

**13. How does sound produced by a vibrating body reach our ears and what happens after it enters the ears? (3)**

**Ans.** A vibrating object causes air molecules to vibrate. When these vibrations reach our ears they are collected by the pinna and funnelled into the ear tube. These then strike the ear drum which start vibrating with the same frequency. This causes the delicate bones to vibrate and in turn send the signal to auditory nerve. This nerve carries the impulses to the brain.

**14. Draw a well- labelled diagram to show electroplating of an iron nail with zinc. (3)**

**Ans.** Diagram to be drawn- electrolyte is  $\text{ZnSO}_4$ , Cathode – iron nail, Anode – zinc plate.

**15. State the location and function of the following: (3)**

a. golgi bodies

b. cilia

c. chloroplast

**Ans.**

	Location	Function
a. golgi bodies	cytoplasm of both animal and plant cell	secretion of enzymes
b. cilia	present around the cell of Paramecium	helps in locomotion

c. chloroplast	cytoplasm of plant cell	contains chlorophyll helps to carry out photosynthesis
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**16. a. Write a well-balanced chemical equation to show the reaction of iron with dilute hydrochloric acid. (3)**

**b. Why are metals used for making bells?**

**Ans.**  $\text{Fe} + 2\text{HCl} \rightarrow \text{FeCl}_2 + \text{H}_2 \uparrow$

b. Metals are used for making bells as they are sonorous.

**17. a. State two causes of noise pollution. (3)**

**b. Why can we hear the sound of an approaching train on placing our ears on a railway line but its sound cannot be heard?**

**Ans.** a. causes of noise pollution: road traffic, barking of horns, loud music, loudspeakers 3

b. This is because the speed of sound in solids (railway line) is more than that in air.

In solids the molecules are tightly packed so the vibrations are faster as compared to air, molecules are widely spaced in gases.

**18. a. State two differences between cell wall and cell membrane. (3)**

**b. Mention one function of white blood cells present in human body.**

**Ans.**

cell wall	cell membrane.
Present only in plant cell	Present in both plant and animal cell
Freely permeable in nature	Semi- permeable in nature.

**19. How will you carry electrolysis of water in the laboratory? (3)**

**Ans.** We will take two iron nails and connect them to copper wires. The other ends of copper wire is connected to a battery. Water is taken in a beaker to which a little salt is added. The nails act as electrodes are immersed in the beaker. As electric current is made to pass through it we will see small bubbles of hydrogen and oxygen gases at the ends of iron nails. These gases when tested are found to be oxygen and hydrogen gases.

**20. Give reasons for the following: (3)**

a. Trucks and buses generally have double wheels at the back.

b. The tip of a sewing needle is sharp.

c. Magnetic force is said to be a non-contact force.

**Ans.** a. This is done to increase the area of contact on which their weights act and hence reduces the pressure on the ground.

b. The tip of a sewing needle is sharp so as to reduce the area of contact, so that they exert greater pressure with a comparatively small force.

c. Magnetic force comes into play without coming in contact with two surfaces. For example magnet acts from a distance and attracts magnetic substances.

**21. Differentiate between sound produced by a flute and sound produced by a drum. (3)**

**Ans. sound produced by a flute**

Flute uses vibrations in air to produce sound.

**sound produced by a drum**

Drum has a stretched skin whose vibrations produce sound.

**22. a. State the significance of leguminous crops in crop rotation. (3)**

**b. Mention two disadvantages of excessive use of fertilizers.**

**Ans.** a. Leguminous plants have rhizobium bacteria in their nodules. They convert atmospheric nitrogen into soil nitrates and make it available to the cereal crops planted in the next season. They enrich the soil with nutrients.

b. Excessive use of fertilizers are harmful for the crops, decrease soil fertility and also can be an environmental hazard.

**23. Study the diagram given below and answer the questions that follow: (3)**

a. Identify the diagram given above and label the parts marked from 1 to 8.

b. State one difference between unicellular organisms and multicellular organisms and give

an example of each kind.

**Ans.** a well- labelled diagram of a animal cell – 1-cell membrane, 2- vacuole 3-nucleoplasm 4- nucleolus 5- nuclear membrane/ nucleus,6- mitochondria, 7-cytoplasm 8- ribosomes.

**b. unicellular organisms**

Organisms are made of a single cell Amoeba

**multicellular organisms**

Organisms are made of two or more cells.

Human being

**24. Sana was cooking food on stove wearing a dress made of nylon. Her mother on noticing it told her to change and wear a cotton dress. (5)**

a. Why did Sana's mother ask her to change and wear a cotton dress?

b. What values do we learn from Sana's mother?

c. Differentiate between monomers and polymers.

**Ans.** a. Sana's mother asked her to change as nylon being synthetic fibre is easily inflammable, can melt and stick to the body of a person causing severe burns. But cotton being a natural fibre as not easily inflammable.

b. Sana's mother was concerned about Sana and had the scientific knowledge about fabrics.

**c. monomers**

Monomers are small units which make up a polymer.

**polymers**

Polymers are huge molecules which make up a synthetic fibre and plastics.

**25. a. Give an example where corrosion is useful for a metal and also name the process by which the metal named is protected from corrosion. (5)**

**b. How is the process named above carried out in the laboratory?**

**Ans.** a. Aluminium which undergoes anodizing.

b. A layer of aluminium oxide is formed on aluminium upon exposure to air. This prevents further corrosion. It consists of passing an electric current through sulphuric acid using

aluminium as anode. Oxygen evolved at anode react with aluminium to form a uniform protective layer of aluminium oxide.

**26. a. Name and explain the technique used for developing better varieties of crops. (5)**

**b. Draw well- labelled diagrams of two implements used in agriculture.**

**Ans. a.** Hybridization is the technique used to get better variety of crops. Two varieties are selected having desirable qualities, one having high yield and other resistant to diseases. Cross – breeding is carried out and the new variety produced has the qualities of both the varieties.

b. diagrams of two implements used in agriculture.

**27. a. Draw a well- labelled diagram to explain that liquids exert pressure. (5)**

**b. State one difference between gravitational force and muscular force.**

**Ans. a.** well- labelled diagram to explain that liquids exerts pressure. Take a wide glass tube open at both ends and tie a balloon to its lower end. As water is poured into the tube we will notice that the balloon bulges downwards. This shows liquids exert pressure downwards. Now we will repeat the same with a vessel where the balloon is tied on one of its sides. This time we will see liquids exert pressure sideways.

b. gravitational force- non- contact force muscular force- contact force

**28. a. Explain any three ways in which communicable diseases spread from an infected person to a healthy individual. (5)**

**b. Name two diseases affecting cattle and mention the causal agent of each disease.**

**Ans. a.** Three ways in which communicable diseases spread from an infected person to a healthy individual: Air: when a person sneezes or coughs germs are released in the air. A healthy person inhaling this air gets infected.

Through direct contact with an infected person.

Through food and water.

b. two diseases caused by microbes in cattles – anthrax caused by bacterium and foot and mouth disease caused by virus.