

Goa Board
Class VIII Science
Sample Paper – 1 Solution
Term II

SECTION A

1. (b)

AIDS is a syndrome caused due to infection by the HIV virus.

2. (b)

Vacuoles are called the storage sacs of the cell as it stores the solid as well as the liquid materials of the cell.

3. (b)

The nucleus of the cell contains chromatin fibres which transform into rod shaped structures called chromosomes.

4. (b)

The transformation of the larva into an adult through drastic changes is called metamorphosis.

5. (d)

The menstrual cycle of women stops at the age of 45 to 50 years and this is called menopause.

6. (b)

The testes are enclosed in a sac like structure called scrotum.

7. (c)

Substances which have a very low ignition temperature and can easily catch fire when exposed to a flame are called inflammable substances.

8. (a)

Increased concentration of carbon dioxide in the air causes global warming.

9. (b)

When the clothes of a person catch fire, the person is covered with a blanket to extinguish fire since it cuts off the supply of oxygen.

10.(b)

The luminous yellow zone of the flame is responsible for majority of the light emitted by a candle.

11.(d)

Sulphuric acid and carbonic acid are responsible for the formation of acid rain.

12.(c)

Carboxyhemoglobin is formed when carbon monoxide inhaled binds to the hemoglobin in the blood.

13.(d)

Filtration is not a chemical method of purification of water.

14.(a)

Touching electrical appliances with wet hands is dangerous because water is a good conductor of electricity and one might get an electric shock.

15.(c)

Rahul must take the occurrence of earthquakes in a country under consideration before purchasing the house. The height of vibrations of the seismographic waves determines the intensity of earthquakes. The greater the height, the greater will be the intensity and vice-versa. Also, the number of waves counts for the number of earthquakes. It can be observed from the given seismographic records that earthquakes have occurred with minimum intensity in country 3. Hence, Rahul should purchase a house in country 3.

16.(a)

A and B get equal and opposite charges in accordance with the principle of conservation of charges.

17.(a)

$$\begin{aligned} & \frac{360}{\theta} - 1 \\ &= \frac{360}{90} - 1 \\ &= 4 - 1 = 3 \end{aligned}$$

Three images will be formed.

18.(b)

The iris of the eye gives it its distinctive colour.

19.(d)

On a full moon day, the full disc of the moon is visible and this happens in position IV.

20.(a)

Orion has 7 or 8 bright stars.

SECTION B**21.**

- i. The plasma membrane forms the outer boundary of the cell and restricts the cell contents within it.
- ii. It is porous and regulates the movement of substances or materials both inwards and outwards.

22.

- (a) In sexual reproduction, fusion of the male and female gametes produces the zygote.
- (b) The development of a baby takes place in the uterus of the female.

23.

- (a) A – Eggs
- (b) B - Early tadpole
- (c) C - Late tadpole
- (d) D - Adult frog

24. The period of life, when the body undergoes changes, leading to reproductive maturity, is called adolescence. Adolescence begins around the age of eleven and lasts up to 18 or 19 years of age.

25. Yes, rusting of iron is an example of slow combustion.

Combustion is a chemical process in which a substance reacts with oxygen to give heat and other products. During rusting, iron reacts with oxygen and water to form iron oxide (rust). Hence, it is a combustion reaction in which very little heat is liberated.

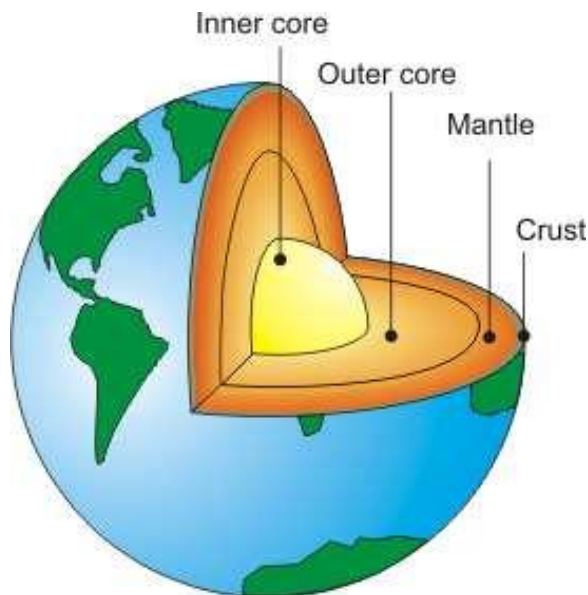
26. The percentage of CO_2 in the atmosphere rises and becomes excessive due to the following human activities:

- i. Burning of fuels like coal, petrol or diesel etc.
- ii. Deforestation which leads to an increase in the amount of CO_2 in the air because the number of trees which consume CO_2 is reduced.

27. Types of air pollutants:

1. Solid pollutants for example, dust.
2. Gaseous pollutants for example, carbon monoxide.

28.

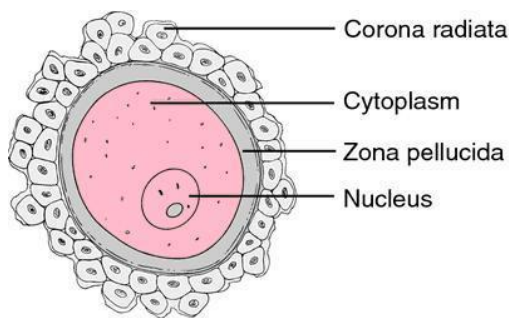


29. Telescopic aids, Bifocal lenses, Contact lenses and Tinted lenses.

30. The Moon does not produce its own light so it is seen only when sunlight is reflected off its surface. Therefore, we see only that part of the moon from which the light of the sun is reflected towards us.

SECTION C

31.



Human ovum

32. At puberty, male sex organs like the testes and penis develop completely. The testes also begin to produce sperms. Facial and body hair begins to develop. Voice becomes hoarse.

In girls, the ovaries enlarge and eggs begin to mature so the ovaries start releasing mature eggs. Mammary glands develop.

33.

- i. Mitochondria produce energy from food during respiration and are called the power houses of the cell. Both animal and plant cells possess mitochondria.
- ii. Endoplasmic reticulum helps in the transport of substances within the cell.
- iii. Ribosomes help in protein synthesis. Ribosomes are found in both plant and animal cells.
- iv. Golgi bodies synthesise, store and secrete many substances.

34.

| | Plant cell | Animal cell |
|---|--------------------------------------------------|-------------------------------------------------------------------|
| 1 | Plant cells have an outer, rigid cell wall. | Animal cells lack a cell wall. |
| 2 | Plastids are present in a plant cell. | Plastids are absent in animal cells. |
| 3 | Large, central and permanent vacuole is present. | Animal cells have small and many vacuoles which may be temporary. |
| 4 | Plant cell is generally larger than animal cell. | Animal cell is smaller in size. |

35.

- (a) When coal is burnt in an insufficient supply of air in a room with closed doors and windows, a very poisonous gas called carbon monoxide is released. Excessive inhaling of carbon monoxide gas can lead to the death of a person.
- (b) Diesel produces extremely suffocating and corrosive sulphur dioxide gas. Petrol produces oxides of nitrogen. Oxides of nitrogen and sulphur dissolve in rain water and form acids. Such rain is called acid rain. It is harmful for buildings, crops and soil and hence their use as fuels in automobiles is being replaced by CNG (Compressed Natural Gas), because CNG produces much less harmful products and smoke.

36. A fire can be controlled in a number of ways. To extinguish a fire, one or more of the necessary conditions for its cause should be prevented i.e. either the supply of air should be cut off or the ignition temperature should be lowered.

Following are the ways of controlling fire:

1. Water, chemicals like soda etc. are used to bring down the ignition temperature. Water absorbs a lot of heat and brings down the ignition temperature below normal level and the fire is blown out.
2. Sand, soil, thick clothes like blankets etc. are thrown upon the burning surface to cut off the supply of air.
3. Different types of fire extinguishers can also be used. These cut off the supply of air by forming a layer of carbon dioxide gas around the fire.
4. Removal of the cause or origin of fire can also be done. All the combustible materials should be removed from near the fire immediately.

37.

- (a) The unwanted and harmful substances which contaminate water are called water pollutants.
- (b) The consequences of water pollution on humans are:
 - i. High concentrations of fine-particulate sulphate and nitrate can enter the cardiovascular and respiratory systems, resulting in disease or even death.
 - ii. Metals such as mercury and cadmium from soil deposits in lakes, streams, and reservoirs can accumulate in the tissues of fish, making them toxic to humans.
 - iii. Metals also can be leached from the soil into reservoirs, or from old lead and copper pipes directly into home water supplies, causing serious illness.

38.

- (a) Take a used ball pen refill and rub it vigorously with a piece of polythene. Bring it close to tiny pieces of paper. It will attract the pieces of paper. This suggests that the refill has acquired an electric charge by rubbing..
- (b) Most substances classified as insulators can actually conduct electricity under special circumstances. Thus the term 'insulator' is misleading. A better term is 'poor conductor'.

39.

- (a) A ray of light is considered as an idealisation because in reality, there is only a narrow beam of light which is made up of several rays and for simplicity the term ray is used for a narrow beam of light.
- (b) Periscopes are used in submarines and tanks and also by soldiers in bunkers to see things outside.

40.

- (a) Stars are much bigger than the Earth, yet they appear to us like point objects because they are millions of kilometres away from the Earth.
- (b) A meteor glows and evaporates quickly as it enters the Earth's atmosphere. Some meteors are large and so they can reach the Earth before they evaporate completely. The body which reaches the Earth is called a meteorite. Meteorites help scientists in investigating the nature of the material from which the solar system was formed.

SECTION D

41.

(a)

i. Red blood cells (spherical)



ii. Smooth muscle cells (spindle shaped)



iii. Nerve cell (Long branched)



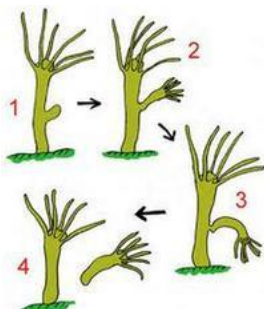
(b) The cells which do not have membrane bound cell organelles and contain nuclear material without a nuclear membrane are termed as prokaryotic cells. For example, bacteria and blue green algae.

42.

(a) Hydra and yeast reproduce by budding.

(b) A bulb-like projection formed on the body of the organism, which serves the function of reproduction is known as the bud.

(c)



43.

- (a) A splinter of wood has a low ignition temperature so a burning matchstick can produce sufficient heat to attain the ignition temperature of the splinter of wood. Hence, a matchstick can easily light a splinter of wood. But a log of wood has a high ignition temperature which cannot be attained by the small amount of heat produced by the burning matchstick. Hence a burning matchstick cannot light a log of wood directly.
- (b) Forest fires occur during the hottest summer days. During summer due to the extreme heat, sometimes the ignition temperature of dry grass in the forest is reached and this makes the dry grass catch fire. Now, from this burning grass, the fire spreads to bushes and trees and very soon it spreads to the whole forest causing a forest fire.
- (c) Dry leaves do not contain water and hence they get heated to their ignition temperature easily and catch fire. Whereas, green leaves have high water content and this water does not allow them to get heated to their ignition temperature easily. Hence it is difficult to burn a heap of green leaves.

44.

- (a) When electric current flows through a conducting solution, it causes a chemical reaction (or chemical change).
These chemical reactions may produce one or more of the following effects:
- Bubbles of gas (or gases) may be formed on the electrodes.
 - Metals may get deposited on the electrodes.
 - Change in colour of solution may occur.
- (b) Sea water contains more dissolved salts than drinking water, which makes it a better conductor. Because of this, the compass needle deflects more in sea water than in drinking water.