

Goa Board
Class VIII Science
Sample Paper – 2 Solution
Term II

SECTION A

1. **(a)**
Milk in itself is a balanced diet as it provides complete nourishment to the body.
2. **(a)**
Oviduct is also called the fallopian tube.
3. **(a)**
Mammary glands develop inside the breasts.
4. **(a)**
External fertilisation takes in all of these animals as the fusion of male and female gamete takes place outside the female body in them.
5. **(a)**
The Golgi body in plants is not well developed and is called as dictyosome.
6. **(a)**
Cytoplasm is the jelly like substance in which all the cell organelles remain embedded and perform specific functions.
7. **(a)**
Water is not suitable to control fire caused by burning oil because it sinks below the oil, and oil keeps burning on top. For fires involving materials like oil, a carbon dioxide fire extinguisher is the best controlling agent.
8. **(b)**
Burning of carbon fuels releases unburnt particles which cause respiratory problems.
9. **(d)**
The job of a fire extinguisher is to cut off the supply of air, or to bring down the temperature of the fuel, or both.
10. **(b)**
The rate of combustion for an ideal fuel should be moderate and the release of heat should be in a controlled manner.

11. (b)

Increasing levels of CO₂ is the main cause of global warming.

12. (b)

Sulphur dioxide is produced as a result of burning of fossil fuels like coal.

13. (b)

In rural areas, dumping of untreated sewage causes water pollution.

14. (c)

Tap water is a good conductor of electricity because it contains small amounts of various salts dissolved in it.

15. (c)

Chemical effect of electric current is utilised when a thin layer of chromium metal is deposited on an iron tap.

16. (a)

When charged bodies are brought into contact, the charge on one body can be transferred to another body. This is called charge transfer by conduction. When Hari touches the metal strip, the charges on the aluminium leaves get transferred to his hand, through the strip. At the same time, the hand loses the charges to the Earth, through the body. This process continues until all the charges from the leaves get transferred to the Earth. Hence, the aluminium leaves become uncharged, move toward each other, and become relaxed.

17. (d)

A communication system for the blind which includes raised dots arranged to represent letters of the alphabet is called Braille.

18. (c)

A periscope is used in submarines, tanks and also by soldiers in bunkers to see things outside.

19. (a)

The angle between the orbital and equatorial planes of the Earth is 23.5°.

20. (c)

Asteroids are small celestial objects which revolve around the Sun between the orbits of Mars and Jupiter.

SECTION B**21.**

- i. The nucleus controls all the life processes taking place inside the cell.
- ii. It also helps in the transmission of hereditary characteristics from one generation to another.

22. The sperm is the male gamete produced by the testes. It is a single cell with all the usual cell components. It is very small in size. Each sperm has a head, a middle piece and a tail.

23. Calculation for full height (cm) = $\frac{\text{Percent height (cm)}}{\% \text{ of full height at this age}} \times 100$

$$= 126/84 \times 100$$
$$= 3/2 \times 100$$
$$= 150 \text{ cm tall.}$$

24. The child is suffering from goitre, an enlargement of the thyroid gland. It is caused due to deficiency in thyroxine hormone produced by the thyroid gland.

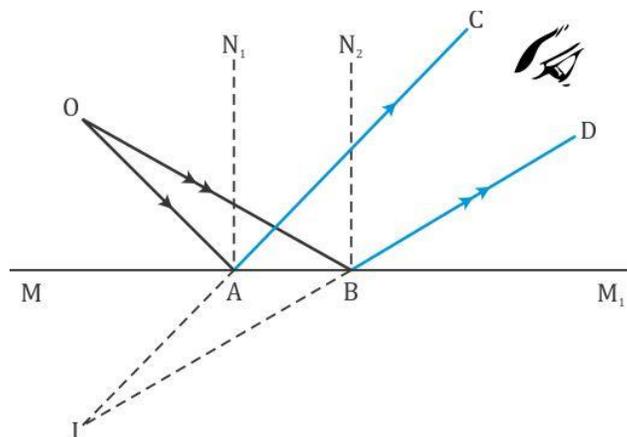
25. In most of the cases, carbon dioxide is released during burning of fuels. Carbon dioxide is a green house gas. It causes an increase in the temperature of the Earth by trapping the Sun's heat rays and thus, causes global warming.

26. The substances which pollute water are called water pollutants. Whenever harmful substances such as sewage, toxic chemicals, silt, etc. get mixed with water, the water becomes polluted.

27. Acid rain contains dissolved acids such as sulphuric acid and nitric acid. Acid rain dissolves the heavy metals from soils by leaching. This causes nutrient deficiency and the soil is deprived off the necessary trace metals.

28. A liquid which conducts electricity due to the presence of ions is called an electrolyte. For examples, a solution of copper sulphate salt in water.

29.



30. Ursa Major is called as Saptarishi because it has seven prominent stars.

SECTION C

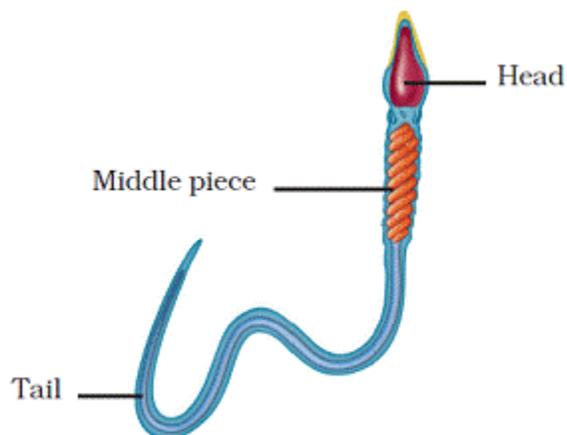
31.

(a)

- i. During puberty, the shoulders of boys become broader and their chest becomes wider.
- ii. The muscles of boys also become more prominent during puberty.

(b) The secretion from the sweat and sebaceous glands increases during puberty. This causes acne and pimples on the face of boys and girls during this age.

32.



33. Cytoplasm is a thick jelly-like fluid inside the cell membrane. It occupies the space between the cell membrane and the nucleus. All the life functions take place in the cytoplasm. There are many small cytoplasmic bodies in the cytoplasm. These are called cell organelles. All organelles in the cytoplasm play an active role in the functioning of the cell.

34. The parts of female reproductive system are:

- i. Ovaries: There are two ovaries which are situated in the abdominal cavity. These produce one mature ovum each after every four weeks.
- ii. Oviduct (fallopian tube): It is a thin and coiled muscular tube which joins the uterus and the ovary. It passes the ova into the uterus by its ciliary action.
- iii. Uterus: It is a broader muscular chamber which receives the ovum and contains the developing foetus.
- iv. Vagina: The uterus opens into a wide muscular tube called vagina.

35. A chemical process in which a substance reacts with the oxygen (present in the air) to give heat and light is called combustion.

The different types of combustion are:

1. Rapid combustion - The combustion reaction in which a large amount of heat and light are produced in a short time is called rapid combustion. For example, the burning of a wax candle.
2. Spontaneous combustion - The combustion reaction which occurs on its own i.e. without the help of any external heat is called spontaneous combustion. For example, the burning of white phosphorus on its own at room temperature.
3. Explosion - A very fast combustion reaction, in which a large amount of heat, light and sound are produced, is called an explosion (explosive combustion). For example, fireworks exploded during festivals.

36. The various sources of air pollution are:

- i. Smoke emitted from homes by the burning of fuels like wood, cow-dung cakes, kerosene and coal causes air pollution.
- ii. Use of chlorofluorocarbons in refrigeration, air conditioning and aerosol sprays causes air pollution.
- iii. Air pollution is also caused by smoke emitted from factories, thermal power plants, oil refineries and industries.
- iv. Exhaust gases emitted by motor vehicles by the burning of petrol and diesel are also responsible for air pollution.

37.

- (a) The gases which can trap the Sun's heat rays in the Earth's atmosphere by producing greenhouse effect leading up to the heating of the Earth's atmosphere are called greenhouse gases.
- (b) Undue increase in temperature of the Earth's atmosphere due to excessive greenhouse effect is called global warming. The greenhouse gases such as CO₂, water vapours, methane etc. form a thick layer around the Earth. When the heat rays coming from the Sun fall on the Earth's surface, some of these rays are absorbed by the Earth and some are reflected back. The cover of greenhouse gases does not allow these reflected heat rays to leave the Earth's atmosphere completely. This effect keeps the Earth's atmosphere warm. Rising amount of CO₂ causes more and more heat rays to be trapped in the Earth's atmosphere. This results in excessive heating of the Earth's atmosphere, and therefore, an increase in temperature. This results in global warming.

38.

- (a) The components are:
1. Battery
 2. Leads or wires
 3. Key
 4. Bulb/LED/magnetic compass
- (b) Some good conductors are:
1. Common salt in water
 2. Hydrochloric acid in water
 3. Copper sulphate in water
- They all are solutions of acid, base or salt in water.

39.

- (a) Cataract is a condition in which the eye lens becomes cloudy and the eyesight becomes blurred. It can be treated by surgery. The opaque lens is removed and a new artificial lens is inserted.
- (b) The iris is a dark muscular structure which gives the eye its distinct colours. It controls the amount of light entering into the eye.

40.

- (a) No life exists on the Moon because there is no atmosphere or water.
- (b) Mercury is the nearest planet to the Sun. It is difficult to observe it as most of the time it is hidden in the glare of the Sun.

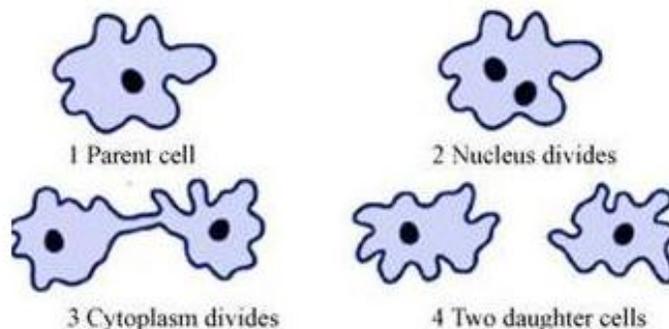
SECTION D

41. The organelles containing pigments present in the cytoplasm of plant cells are called plastids.

Plastids are of three types:

- i. Chloroplasts - These are green in colour due to the presence of a green pigment called chlorophyll. These help in the synthesis of food by photosynthesis.
- ii. Leucoplasts - These are colourless plastids and help in the storage of food.
- iii. Chromoplasts - These are coloured plastids and are responsible for the colour of flowers, fruits, etc.

42. When one mature cell splits into two daughter cells, the process is called binary fission. In binary fission, first the nucleus divides into two nuclei. The cytoplasm then divides into two parts each containing a nucleus. The stretching leads to the formation of two daughter cells. The cells formed grow into mature cells. Example - binary fission takes place in Amoeba.



43. The various ways of controlling water pollution are as follows:

- i. The use of fertilisers and pesticides in the fields should be controlled and farmers should use correct amounts of these so that excessive amounts are not washed into the water bodies.
- ii. Sewage should be treated properly at the sewage treatment plants to make it harmless before discharging it into water bodies.
- iii. Industrial wastes should be treated well and all the toxic and harmful chemicals should be removed in the treatment plants before discharging them off in the water bodies.
- iv. Garbage and dead bodies should not be thrown into rivers, lakes or open drains.
- v. People should be made aware of the harmful effects of water pollution so that they may cooperate and help in preventing it.

44.

(a)

- i. When a plastic refill is rubbed with polythene, it acquires a small electric charge.
- ii. When a plastic comb is rubbed with dry hair, it acquires a small charge.

(b) Tremors or vibrations caused by the earthquakes which travel in the form of waves within the Earth or along the Earth's surface, are called seismic waves. Seismograph is an instrument which records these waves.