

**Goa Board
Class VIII Science
Sample Paper – 5 Solution
Term II**

SECTION A

1. **(b)**

Estrogen and progesterone are female sex hormones. Estrogen is responsible for the development of secondary sexual characters in females and progesterone is required during pregnancy and child birth.

2. **(b)**

Water is a medium for external fertilisation.

3. **(a)**

The process of release of egg by the ovaries is called ovulation. The follicle ruptures and the egg is released.

4. **(a)**

AIDS is caused by HIV which is transmitted through sexual contact, feeding mothers to the infants and by sharing of needles with infected people.

5. **(a)**

The ribosomes are called the protein factories of the cell as they have special enzymes which synthesise the various proteins needed for the cell.

6. **(a)**

Pseudopodia are projections of varying lengths protruding out of the body, which help in Amoeba to change its shape.

7. **(c)**

Substances which have a very low ignition temperature and catch fire easily with a flame are called inflammable substances.

8. **(d)**

Exposure to carbon monoxide gas causes headache, dizziness and can even lead to death.

9. **(a)**

Generally forest fires start due to the extreme heat of the summer.

10.(b)

The outermost zone of the flame is called the zone of complete combustion. A blue flame is produced when there is a complete combustion of fuel.

11.(b)

Infra red rays are trapped inside the Earth and not allowed to escape from the Earth's atmosphere.

12.(d)

Photochemical smog is not a natural source of air pollution. It is mainly caused due to vehicle emissions and industrial fumes.

13.(a)

Pesticides and fertilisers are major water pollutants causing death of aquatic animals.

14.(a)

Acetic acid solution is a weak conductor of electricity.

15.(b)

For electroplating copper onto an iron object, the negative terminal of the battery is connected to the iron object.

16.(d)

An earthquake is a sudden shaking or trembling of the Earth.

Earthquakes occur all the time, all over the Earth.

Major earthquakes can cause immense damage.

17.(a)

When a comb rubbed on hair is brought close to bits of paper, it attracts them because the comb and the paper bits are oppositely charged.

18.(d)

Sensations felt by the nerve cells are transmitted to the brain through the optic nerve.

19.(d)

Alpha Centauri is a star, while all others are constellations.

20.(a)

Halley's comet

SECTION B

21.

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

22.

- (a) Frog, fish, starfish (Any two)
- (b) The stage of the embryo in which all body parts can be identified is called the foetus.

23. The first menstrual flow which begins at puberty is termed menarche.

Stoppage of menstruation at about 45 to 50 years of age is termed menopause.

24.

- i. The HIV virus can pass on to a normal person from an infected person by the sharing of syringes among drug users.
 - ii. It can also be transmitted to an infant from the infected mother through the breast milk.
 - iii. Another way of transmission is through sexual contact with a person infected with HIV.
- (Any 2)

25. Combustible substances: Those substances which undergo combustion or burn are called combustible substances. For example: Paper, cloth, cooking gas (LPG), CNG, Kerosene oil, wood, charcoal, etc.

Non-Combustible substances: Those substances which do not undergo combustion are called non-combustible substances. For example: Stone, cement, bricks, soil, sand, water, iron nails, etc.

26.

- (a) Sulphuric acid and nitric acid are responsible for acid rain.
- (b) The reaction in which a large amount of heat and light are produced in a short period of time is called rapid combustion. For example: Burning of LPG in a gas stove to give heat and light, is an example of rapid combustion.

27. Chemical treatment is one of the most important drinking water purification methods. The most commonly used chemicals for drinking water purification are chlorine and iodine. These chemicals kill almost all the disease-causing microorganisms present in the water and make it pure.

- 28.** Most ornaments which appear to be made of gold are actually made of other metals and are only coated with gold. After repeated use, the gold layer tends to peel off in patches and the metal underneath, which is of a different colour begins to show.
- 29.** The place inside the Earth's crust where an earthquake originates is called the focus of the earthquake. The point on the Earth's surface directly above the focus is called the epicentre.
- 30.**
- They are used for forecasting weather, transmitting television and radio signals.
 - They are also used for telecommunication and remote sensing.

SECTION C

- 31.** Sanya should not take any drugs as suggested by her friends for the following reasons:
- Drugs are addictive. On taking them once, you feel like taking them again and again.
 - Drugs harm the body in the long run.
 - They ruin health and happiness.
- Hence Sanya should consult a doctor and follow the doctor's prescription.
- 32.**
- (a) A person having with less growth hormone will remain very short, a condition called dwarfism. On the other hand, a person having excessive growth hormone becomes very tall, a condition called gigantism.
- (b) Deficiency of insulin in the body causes a disease known as diabetes.
- 33.** Green coloured plastids are called chloroplasts.
They are marked as 'D' in the given figure.
They are green since they contain a green pigment called chlorophyll. Chloroplasts provide green colour to the leaves and are essential for photosynthesis.
- 34.** The main secondary sexual characteristics in females are:
- Development of breasts.
 - Hips broaden and become more curved and prominent.
 - A shrill voice.
- The secondary sexual characteristics in females are produced by the female sex hormone called estrogen.

35.

- (a) A soda-acid fire extinguisher is not successful in controlling fire caused by oil because it uses water to cool the combustible substance. But water being heavier than oil settles below the oil particles, which keeps burning on the top. Hence, the fire cannot be controlled.
- (b) Soda-fire extinguisher is based on cooling the temperature of the burning object. This type of fire extinguisher contains sulphuric acid and sodium bicarbonate. When the extinguisher becomes functional, the sulphuric acid reacts with sodium bicarbonate to produce carbon dioxide. Carbon dioxide when released cuts off the supply of oxygen. At the same time water is released to bring down the ignition temperature of the burning object. In this way, the fire gets controlled.

36.

- (a) There are three conditions necessary for combustion to take place:
1. Presence of a combustible substance.
 2. Presence of a supporter of combustion like oxygen (air).
 3. Attainment of ignition temperature. It is necessary to heat a combustible substance to its ignition temperature so that it may undergo combustion.
- (b) **Characteristics of Ideal Fuel**
- i. It has a high calorific value.
 - ii. It burns easily in air at a moderate rate.
 - iii. It has a proper ignition temperature.
 - iv. It does not produce any harmful gases or leave behind any residue after burning.
 - v. It is cheap, readily available and easy to transport.

37.

- (a) An oil spill is the release of liquid petroleum hydrocarbon into the environment, especially marine areas.
Spilled oil penetrates into the structure of the plumage of birds and the fur of mammals. Some birds die due to ingestion of oil. Many birds drown because they stick to the spilt oil and cannot get out of the water. Fish die of starvation because of loss of food or from being poisoned by the oil.
- (b) When hot water from power plants and industries is released into rivers and drains, it raises the temperature of these water bodies, adversely affecting the aquatic animals and plants living in it. Hence, it is considered as a pollutant.

38.

- (a) Yes, even if a solution seems to be a poor conductor of electric current, it might become a good conductor if a high voltage is applied on it. A common example is air, which is a poor conductor according to all the testers we might devise, but still allows lightening, which is electric current, to pass through it.
- (b) Distilled water is a poor conductor of electricity because it does not contain any dissolved salts which can provide ions to conduct electricity.

39. The function of a lightning conductor is to conduct any lightning strikes safely to the Earth without causing any damage to the building.

If a tall building is not protected with a lightning conductor, then the tremendous electric energy produced during lightning would pass through the walls of the building, causing damage to the material of the walls and making the walls unsafe. It can even set the building on fire.

40.

(a) The pole star is situated in the direction of the Earth's axis. It can be identified easily as it does not appear to move.

(b) INSAT-1A, IRS-1A, Kalpana - 1 and EDUSAT

SECTION D

41.

(a)

- i. Iodine helps to prevent thyroid gland related diseases.
- ii. Due to an increase in skeletal mass, an adolescent's diet should include calcium. Calcium intake also needs to be increased to prevent osteoporosis in later life.
- iii. To compensate for iron deficiency due to muscle spurt in boys, and menstruation as well as muscle spurt in girls, the diet of adolescents should be iron rich. Lack of iron in diet may result in anemia.

(b)

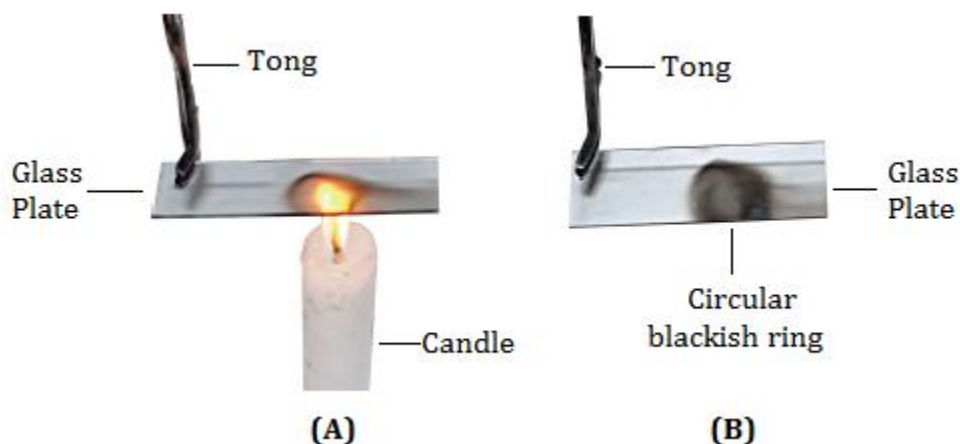
- i. It is very important for teenagers to bathe everyday because the increased activity of sweat glands sometimes creates a bad body odour.
- ii. Walking and playing in fresh air keeps the body fit and healthy.

42. The male reproductive system consists of the following parts:

- i. Testes: Occur in a pair and is somewhat oval in shape. Testes lie in the sac like structure called scrotum and produce sperms.
- ii. Vas deferens: It is also called the sperm duct. This duct starts from the testis and joins the urethra. It carries the sperms to the urethra.
- iii. Urethra: Vas deferens carrying the sperms receives the fluid secreted by the seminal vesicles. This fluid provides nourishment to the sperms.
- iv. Penis: The urethra leads to a muscular organ called penis. It is used to pass urine and deliver sperms into the vagina of the female body.

43.

- (a) The different types of flame produced depending on the proportion of oxygen available for burning of fuel are:
- When the oxygen supply is sufficient, the fuels burn completely producing mainly a blue flame. This blue flame does not produce much light, so it is said to be a non-luminous flame. Example: In kitchen gas stoves, LPG burns with a blue flame.
 - When the oxygen supply is insufficient, then the fuels burn incompletely producing mainly a yellow flame. This yellow flame produces light, so it is said to be a luminous flame. Example: When kerosene is burned in a lamp, it burns with a yellow, luminous flame.
- (b) **Activity:** To show that the middle zone of a candle flame consists of unburnt carbon particles.



- Light a candle. Hold a clean glass plate with the help of a pair of tongs and introduce it in the middle zone of the candle flame.
- Hold the glass plate in this position for about 10 seconds.
- We will find that a blackish ring is formed on the glass plate.
- This blackish ring is produced due to deposition of unburnt carbon particles present in the luminous zone of the candle flame.
- This activity shows that the partial combustion of wax vapours in the middle zone produces unburnt carbon particles.

44.

- (a)
- Irregular reflection
 - Regular reflection
- (b) Features of the image obtained by a plane mirror are:
- The image formed is virtual.
 - The image formed is laterally inverted.
 - The image formed is of the same size as the object.