पु•ना International School

Shree Swaminarayan Gurukul, Zundal

Class -VIII

Science

Assignment(SA 1)

Year- 2021-22

❖ MULTIPLE CHOICE QUESTIONS

1. Yeast is used in the production of

(a) Sugar **(c) hydrochloric acid**
(b) alcohol **(d) oxygen**
Ans. (b) alcohol.

2. The following is an antibiotic

(a) Sodium bicarbonate **(c) Alcohol**
(b) Streptomycin **(d) Yeast**
Ans. (b)Streptomycin

3. Carrier of malaria-causing protozoan is

(a) Female Anopheles mosquito **(c) housefly**
(b) cockroach **(d) butterfly**
Ans. (a)female anopheles mosquito

4. The most common carrier of communicable diseases is

(a) ant **(c) dragonfly**
(b) housefly **(d) spider**

Ans. (b)housefly

5. The bread or idli dough rises because of

(a) heat **(c) growth of yeast cells**
(b) grinding **(d) kneading**
Ans. (c)growth of yeast cells

6. The process of conversion of sugar into alcohol is called

(a) nitrogen fixation **(c) fermentation**
(b) moulding **(d) infection.**
Ans. (c)fermentation

7. Which of the following can be beaten into thin sheets?

(a) Zinc (b) Phosphorus (c) Sulphur (d) Oxygen

Ans. (a) Zinc

8. Which of the following statements is correct?

(a) All metals are ductile.

(b) All non-metals are ductile.

(c) Generally, metals are ductile.

(d) Some non-metals are ductile.

Ans. (c) Generally, metals are ductile.

9. Internal fertilisation occurs
(a) In female body. **(b) Outside female body**
(c)In male body **(d)Outside male body**

Ans. (a)in female body

10. A tadpole develops into an adult frog by the process of
(a) Fertilisation. **(b) Metamorphosis**
(c) Embedding **(d)Budding**

Ans. (b)metamorphosis

11. The number of nuclei present in a zygote is
(a)None **(b)One** **(c) Two** **(d) Four**

Ans. (b) One

12. process of loosening and turning of soil is called
(a) irrigation and manuring
(b) digging and winnowing
(c) tilling and ploughing
(d) harvesting and storage

Ans. (c) **tilling and ploughing**

13.The monsoon season in our country is during the months
(a) April to December
(b) June to September
(c) November to March
(d) January to May

Ans. (b) The monsoon season in India persists from June to September.

14.Which of the following tools would a farmer use to remove weeds from the field?

(a) Hoe

(b) Plough

(c) Axe

(d) Cultivator

Ans. (a) Hoe

15.Which one of the following condition is not essential to grow maize?

(a) High temperature

(b) Humidity

(c) Low temperature

(d) Rainfall

Ans.(c) Low temperature

16.Which of the following reproduces only inside a host cell?

(a) Bacteria

(b) Virus

(c) Amoeba

(d) Fungus.

Ans. (b) Virus reproduction only inside the cells of the host organism which can be a bacterium, plant or even animal.

17. A disease in human beings caused by virus is_____.

(a) typhoid

(b) influenza

(c) dysentry

(d) cholera

Ans. (b) Influenza is a disease caused by viral infection

18.Pathogenic micro-organisms present in host cells are killed by medicines called

(a) pain killer

(b) antibodies

(c) antibiotics

(d) vaccines

Ans. (c) Pathogenic micro-organisms present in host cells are killed by medicines called antibiotics that kills or stops the growth of the disease-causing microbes.

19.The two micro-organisms which live in symbiotic association in lichens are

(a) fungus and protozoa

(b) alga and bacteria

(c) bacteria and protozoa

(d) alga and fungus

Ans. (d) A relationship where two species live together and their interaction provide benefits to both of them is known as symbiotic relationship. Out of the given options alga and fungus lives in a symbiotic relationship.

20.The gas released during the preparation of bread is

(a) oxygen

(b) carbon dioxide

(c) nitrogen

(d) sulphur dioxide

Ans. (b) In the production of bread yeast is added to the dough to make it soft. It reproduction rapidly leading to the production of carbon-dioxide while it inhales. The buddies of this released gas fills the dough and increases it volume.

21.The disease caused by a protozoan and spread by an insect is_____.

(a) dengue

(b) malaria

(c) polio

(d) measles

Ans. (b) Malaria is a disease caused by protozoans and is spread to the masses by an insect called females Anopheles mosquito.

22.Pick the synthetic fibre out of the following?

(a) Cotton
(b) Nylon
(c) Jute
(d) Wool

Ans. (b) Nylon

23.Which of the following is a source of rayon?

(a) Wool
(b) PET

(c) Wood pulp
(d) Silk
Ans. (c) wood pulp.

24.Polycot is obtained by mixing

(a) nylon and wool
(b) polyester and wool
(c) nylon and cotton
(d) polyester and cotton
Ans. (d) polyester and cotton
25.Which is a thermosetting plastic?
(a) Melamine
(b) Polythene
(c) PVC
(d) Nylon
Ans. (a) melamine
26.Which of the following is not a metal?
(a) copper
(b) sulphur
(c) aluminium
(d) iron
Ans. (b) Sulphur is not a metal because it is not hard, malleable, ductile or sonorous. In addition to this sulphur on reacting with oxygen produces Sulphur dioxide gives sulphurous acid whereas metallic oxides are basic in nature. Those Sulphur is non-metal.

27.The substance that will be flattened on beating with a hammer is
(a) crystal of iodine
(b) lump of sulphur
(c) piece of coal
(d) zinc granule
Ans. On beating with a hammer zinc granules will get flattened because it is a metal and hence prosses the property of malleability i.e. they can be beaten into thin sheets.

28.Boojho has learnt that non-metals on beating with a hammer are generally broken into pieces. Which of the following is a nonmetal?

(a) iron nail
(b) aluminium wire
(c) copper plate
(d) piece of coal
Ans. (d) piece of coal contains carbon which in turn is a non – metal and hence brittle and when beaten with hammer it turns into pieces.
29.Materials which can be drawn into wires are called ductile. Which of the following is not a ductile material?

(a) silver
(b) copper
(c) sulphur
(d) aluminium
Ans. (c) Ductility is to property of metals due to which metals can be drawn into him thin wires. Sulphur is non-metal and hence cannot be drawn into wires.

30.Metals are generally hard. Which of the following metals is an exception and can be cut with a knife?

(a) iron
(b) sodium
(c) gold
(d) magnesium
Ans. (b) Metals are hard and tough excepts sodium that can be cut with a knife.

31.Which substance is formed by the carbonisation of dead vegetation?
(a) coal
(b) coke
(c) coal gas
32.**A substance which reacts with oxygen giving heat is called a combustible substance. Which, one of the following is a combustible substance?**

(a) iron nail
(b) glass
(c) stone piece
(d) wood
Ans. (d) Wood is a combustible substance.

33.Which one of the following has the highest calorific value?
(a) kerosene
(b) biogas
(c) LPG
(d) petrol
Ans. (c) LPG has the highest calorific value. If is nearly 55000 KJ/Kg.

34.Magnesium ribbon on burning in air produces
(a) magnesium oxide, water and light
(b) magnesium oxide and heat
(c) magnesium oxide, heat and light
(d) magnesium oxide, water and heat
Ans. (c) magnesium burns in air to form magnesium oxide, heat and light $2Mg + O_2 \rightarrow 2MgO$

35.Which of the following is not a combustible substance?

(a) camphor
(b) glass
(c) straw
(d) alcohol
Ans. (b) Glass is not a combustible substance , combustible substance catches fire easily in presence of air.

36.The substance that does not burn with flame is
(a) LPG
(b) camphor
(c) dry grass
(d) charcoal
Ans. (d) Charcoal does not give flame on burning.

37.On placing an inverted tumbler over a burning candle, the flame extinguishes after some time. This is because of non-availability of

(a) oxygen
(b) water vapours
(c) carbon dioxide
(d) wax
Ans. (a) Oxygen is a supporter of combustion. On inverting the tumbler, the availability of oxygen is restricted and hence the candle blow of

38.Naphthalene balls are obtained from coal tar and are used as
(a) mosquito repellant
(b) honey bee repellant
(c) moth repellant
(d) snake repellant
Ans. (c) Naphthalene balls are obtained from coal tar and are used as moth repellent.

39.Which of the following is not a constituent of petroleum?
(a) paraffin wax
(b) lubricating oil
(c) petrol
(d) coke
Ans. (d) coke is a hard, black coloured and porous derivative of coal.

40.Wild buffalo is an endangered species because
(a) its population is diminishing
(b) it has become extinct
(c) it is found exclusively in a particular area
(d) its poaching is strictly prohibited

Ans. (a) Species of plants or animals diminishing to a level at which they may get extinct are known as endangered species. Population of wild buffalo too is diminishing tremendously.

41.Which one of the following changes may occur due to desertification?

(a) Decrease in atmospheric temperature.

(b) Increase in water holding capacity of soil.

(c) Increased chances of floods.

(d) Conversion of fertile land into a desert.

Ans. (d) Deforestation alters the soil properties leading to soil erosion. Due to soil erosion the lower, rocky surface gets exposed possessing less humus. In this way, the fertile land gets converted into deserts. This is known as desertification.

42.Which one of the following statements is true about a Biosphere Reserve?

(a) It is a protected area where only endemic species live.

(b) It is meant only for the conservation of plants and animals.

(c) It is meant to conserve both, the biodiversity and the culture of that area.

(d) There are no other protected areas within its limits.

Ans. (c) Biosphere reserve refers to the areas intended to conserve both the biodiversity and the culture of those enclosed areas.

43.In our country, large patches of forests are being cleared for cultivation of crops. The environmental impact of such a practice will lead to

(a) soil erosion
(b) soil conservation
(c) soil pollution
(d) soil fertility
Ans. (a) Trees anchors the soil with their roots. But loss of these trees cause widespread erosion throughout the tropics.

44.Choose the correct statement with respect to unicellular organisms:
(a) In unicellular organisms, tissues work in co-ordination to perform different functions.
(b) Unicellular organisms do not require food.
(c) Unicellular organisms respire and reproduce.
(d) All unicellular organisms move by cilia.
Ans. (c) Unicellular organisms perform all the necessary functions as a multicellular organism does. Like multicellular organisms, unicellular ones respire, captures and digests food, excretes, grows and reproduces.

45.Majority of cells cannot be seen directly with our naked eyes because:
(a) Organisms are generally unicellular
(b) Cells are microscopic
(c) Cells are present only inside the body
(d) Cells are grouped into tissues
Ans. (b) Cells are microscopic in size and are not visible to the unaided eye. They need to be enlarged or magnified by a microscope.

46.Read the different combinations of terms given below:
(a) Cell wall, cell membrane, nucleus, plastid
(b) Cell wall, nucleus, ribosome, chromosome
(c) Cell membrane, mitochondria, ribosome, chromosome
(d) Cell membrane, ribosome, mitochondria, chloroplast.
The correct combination of terms with reference to an animal cell is_____.

Ans. (c) Animal cell possess cell membrane, mitochondria, ribosome, chromosome. Cell wall, plastids, chloroplast are present in plant cells.

47.Which one of the following term is not a part of the nucleus?
(a) Ribosome
(b) Nucleolus
(c) Chromosome
(d) Gene
Ans. (a) Ribosome is a cell organelle present in the jelly like substance called cytoplasm of the cell.

48.A suitable term for the various components of cells is

(a) Tissue

(b) Cell organelles

(c) Chromosomes

(d) Genes

Ans. (b) cell organelles is the term used for various components of cell which are mainly mitochondria, golgi bodies, ribosome, etc.

49.The jelly-like fluid substance present in cells is called

(a) Protoplasm

(b) Chromosome

(c) Chloroplast

(d) Cytoplasm

Ans. (d) A jelly like substance present in the cell is called cytoplasm.

50.Read the following pairs of examples of organisms:

(a) Moss and Sponge

(b) Yeast and Amoeba

(c) Bacteria and Blue-green alga

(d) Penicillium and Spirogyra

The pair that belongs to the group prokaryotes is_____

Ans. (c) The nucleus is both of them is unorganized. They do not have nucleus membrane and hence they are prokaryotes. (pro:primitive; karyon nucleus)

- **Fill in the blanks.**

1. The same kind of plants grown and cultivated on a large scale at a place is called crop.
2. The first step before growing crop is preparation of soil.
3. Damaged seeds would float on top of water.
4. For growing crop, sufficient sunlight and water and nutrients from the soil are essential.

5. Microorganisms can be seen with the help of a **microscope**.

6.Blue-green algae fix **nitrogen** directly from air to enhance fertility of soil.
7. Alcohol is produced with the help of **yeast**.

8. Cholera is caused by **a bacteria**.

9. Synthetic fibres are also called **artificial** or **man-made** fibres.
10. Synthetic fibres are synthesized from raw material called **polymer**.
11. Like synthetic fibres, plastic is also a **petrochemicals**.

12. Phosphorus is a very **reactive** non-metal.
13. Metals are **good** conductors of heat and **electricity**.
14. Iron is **more** reactive than copper.
15. Metals react with acids to produce **hydrogen** gas.

16. Burning of wood and coal causes **pollution** of air.
17. A liquid fuel, used in home is **LPG**.
18. Fuel must be heated to its **ignition temperature** before it starts burning.
19. Fire produced by oil cannot be controlled by **water**.

20. A place where animals are protected in their natural habitat is called **wildlife sanctuary**.
21. Species found only in a particular area is known as **endemic species**.
22. birds fly to faraway places because of **climatic** changes.

23. **Pickles** are preserved by the use of oil and vinegar.

24. **Pasteurisation** is the process of heat and cold treatment for preserving milk.

25. **Botulism** is a dangerous form of food poisoning.

❖ **Indicate whether the following statements are True (T) or False (F).**

1. Oviparous animals give birth to young one. (F).

2. Each sperm is a single cell. (T).

3. External fertilisation takes place in frog. (T).

4. A new human individual develops from a cell called gamete.(T).

5. Egg laid after fertilisation is made up of a single cell. (T).

6. Amoeba reproduces by budding. (F).

7. Fertilisation is necessary even in asexual reproduction. (T).

8. Binary fission is a method of asexual reproduction. (T).

9. A zygote is formed as a result of fertilisation. (T).

10.An embryo is made up of a single cell. (F).

11. Unicellular organisms have one-celled body. (T)

12. Muscle cells are branched. (T)

13. The basic living unit of an organism is an organ. (F)

14. Amoeba has irregular shape. (T)

15. Fossil fuels can be made in the laboratory. (F)
16. CNG is more polluting fuel than petrol. (F)
17. Coke is almost pure form of carbon. (T)
18. Coal tar is a mixture of various substances. (T)
19. Kerosene is not a fossil fuel. (F)

20. Generally, non-metals react with acids. (F)

21. Sodium is a very reactive metal. (T)

22. Copper displaces zinc from zinc sulphate solution. (F)

23. Coal can be drawn into wires. (F)

24. Jellies, squashes and jams are preserved by sugar syrup. (T)

25. A cell is the smallest unit of life.(T)

- **Very short Answer Questions**

1. Pick out the odd one from the following words given in the box and give reason for it.
Plough, Seed Drill, Hoe, Chain Pump, Sickle
Ans. Seed drill, because it is a modern agricultural implement unlike the others which are all traditional tools.

2. If you are given a dry piece of land for cultivation what will you do before sowing the seeds?
Ans. The field will be watered, tilled and ploughed before sowing seeds because seed require moisturous environment.

3. Name the tool used with a tractor for sowing seeds in a field.
Ans. Seed drill.

4.Name the practice followed for large scale rearing of farm animals.
Ans. Animal husbandry.

5. Name one commercial use of yeast.

Ans. Making bread.

6. Name the process in yeast that converts sugars into alcohol.

Ans. Fermentation

7. In the soil, which nutrient is enriched by blue-green algae (cyanobacteria)?

Ans. Nitrogen

8. Why should we avoid standing close to a tuberculosis patient while he/she is coughing?

Ans. Tuberculosis is an air-borne disease which easily spreads when the infected person coughs.

9. Cotton is a natural polymer. What is its chemical name?

Ans. Cellulose

10. A synthetic fiber which looks like silk is obtained by chemical treatment of wood pulp. It is, therefore, known as artificial silk. What is its common name?

Ans. Rayon

11. Terrycot is made by mixing two types of fibres. Write the names of the fibres.

Ans. Terylene and cotton.

12. Name two soft metals which can be cut with a knife.

Ans. (i) sodium (ii) potassium

13. Which non-metal is essential for our life and all living beings inhale it during breathing?

Ans. Oxygen gas

14. Name two major non-metals which are present in fertilisers and enhance the growth of plants.

Ans. (i) nitrogen (ii) phosphorus

15. Which non-metal is used to disinfect water?

Ans. Chlorine

16. What does CNG stand for and why is it considered to be a better fuel than petrol?

Ans. CNG stands for Compressed Natural Gas. It is considered to be a better fuel because it creates less pollution on heating or burning..

17. Name the petroleum product used as fuel for stoves, lamps and jet aircrafts.

Ans. Kerosene is used as fuel for stoves, lamps and jet aircrafts.

18. Write two important uses of coke.

Ans. It is used for the manufacture of steel and also in extraction of many metals.

19. Why is the use of diesel and petrol as fuels in automobiles being replaced by Compressed Natural Gas (CNG) in big cities?

Ans. It is because CNG produces harmful products in very small amount and is a cleaner fuel.

20. If you hold a piece of iron wire with a pair of tongs inside a candle flame or a Bunsen burner flame, what will you observe? Will it produce a flame?

Ans. Iron wire will become red hot and glow. It will not produce a flame.

21. Mention any one action that you have undertaken to conserve trees.

Ans. Saving paper by using recycled paper/donating old books/spreading awareness about harmful effects of deforestation/any other relevant answer.

22. Can a forest regenerate naturally in a short period of time?

Ans. Reforestation can take place naturally by leaving the deforested area undisturbed for a long time. But this process takes a long time in terms of years, so we can say that forests cannot regenerate naturally in short period of time.

23. Name the first Reserve Forest of India.

Ans. Satpura National Park in Madhya Pradesh is the first Reserve Forest of India.

24. The instrument used to observe cells is _____

Ans. Microscope. It helps us to see minute objects clearly.

25. In a cell, where are the genes located?

Ans. Nucleus/chromosomes.

26. Amoeba and Paramecium belong to which category of organisms?

Ans. Unicellular and Eukaryotic/Protozoan.

27. Stages in the lifecycle of silkworm are given below. Write them in sequential order.

Pupa, Silkworm, Egg, Silkmoth

Ans. Silkworm, Egg, Pupa,Silk moth

28. What is the importance of reproduction?

Ans. Reproduction plays a vital role in the life of living beings by ensuring the continuation of species generation after generation. It ensures the continuation of races for several generations

29. In markets, eggs of birds are available but never eggs of dogs. Why?

Ans. This is due to that fact that birds like hen give birth to their young ones by laying eggs whereas in dogs the mother gives birth to the young ones and hence are known as viviparous.

30. Give two examples of each.
(a) Kharif crop
(b) Rabi crop
Ans. (a) Paddy and maize.
(b) Wheat and pea.
7. If wheat is sown in the Kharif season. What would happen? Discuss.
Ans. Kharif crops need lot of rainfall, whereas wheat needs winter season and not heavy rainfall. So, if wheat were sown in Kharif season, the crops will get damaged due to heavy rainfall and water logging in the field.

8. Explain how soil gets affected by the continuous plantation of crop in a field.

Ans. Continuous growing of crops makes the soil poorer in certain nutrients. To avoid this, a method of crop-rotation is adopted, which maintains the nutrients of the soil intact.

31. Give examples which indicate that nylon fibres are very strong.
Ans: They are used to make parachutes and ropes for rock climbing.

32. Explain why plastic containers are favored for storing food.

Ans: The main advantages of using plastic for storing food are -
a. Plastic has light weight.
b. Good strength.
c. Easy to handle.

33. Name the petroleum product used for surfacing of roads.

Ans. A petroleum product 'Bitumen' is used for surfacing of roads.

34. Which part of the cell contains organelles?

Ans. Cytoplasm contains organelles of the cell.

35. In which female reproductive organ does the embryo get embedded?

Ans. The embryo gets embedded in the wall of the uterus / fallopian tube for further development.

- **Short Answer Questions:-**

1. Which activity of the farmer can promote growth of earthworms and microbes in the field?
Ans. Loosening the soil/maintaining high moisture levels in soil.
Addition of manure
Plowing is a farming execute utilized for cutting, lifting, turning over, and partly pummeling soil.
2. During which months do farmers grow mustard in India?

Ans. Seed of mustard germinates at a low soil temperature of $40^0 F$. Therefore, cultivation of mustard is done during winter season which ranges in our country from October to March.
3. What are organic foods?

Ans. Organic foods refers to those food stuffs that are produced without the use of any synthetic method including use of pesticides,fertilisers, sewage sludge .

organic foods are also usually not processed using irradiation, industrial solvents or synthetic food additives.

Organic animal food products like meat, poultry, eggs, and dairy products are obtained from animals without the use of any antibiotics or growth hormones.

Fig. Packed Organic Food

4.Name two diseases that are caused by virus.
Ans. Polio and Chicken pox

5.Write one important characteristic of virus.

Ans. Virus can reproduce only inside the cells of a living cell.

6. Match the microorganisms given in the Column A to the group to which they belong in Column B.

Column A	**Column B**
(a) Lactobacillus	(i) Algae
(b) Aspergillus	(ii) Protozoa
(c) Spirogyra	(iii) Fungi
(d) Paramecium	(iv) Bacteria

Ans.(a)-(iv), (b)-(iii), (c)-(i), (d)-(ii)

7. A bucket made of plastic does not rust like a bucket made of iron. Why?

Ans. Plastic is a non-reactive material. It does not react with air and water and thus does not rust.

8. Rohit took with him some nylon ropes, when he was going for rock climbing. Can you tell why he selected nylon ropes instead of ropes made of cotton or jute?

Ans. Nylon ropes are strong, elastic and lighter as compared to cotton and jute ropes.

9. Why is it not advisable to burn plastic and synthetic fabrics?

Ans. Burning of plastic and synthetic fabrics produces lots of poisonous gases causing air pollution.

10. Plastic is used for making a large variety of articles of daily use and these articles are very attractive. But it is advised to avoid the use of plastic as far as possible. Why?

Ans. It is advised to avoid the use of plastic as far as possible as plastis is non biodegradable material which causes environmental problems and health risks.

11. Why are bells made of metals?

Ans. Bells are made of metal because metals are sonorous(produce sound while strick on it).

12. Which liquid metal is used for making thermometers?

Ans. Mercury

13. Which of the following metals can displace the other two metals from their salt solutions?

zinc, iron, copper

Ans. Zinc

14. In Fig 4.1 you find that the bulb glows when an iron nail is placed between two ends of wire. Complete the following sentences on the bases of this fact.

Fig 4.1

(a) _____ is a metal.

(b) Metals are good _____ of electricity.

Ans. (a) iron (b) conductor

15. Some natural resources are given in a box. Classify them into the exhaustible and inexhaustible natural resources.

air, coal, natural gas, sunlight, petroleum, minerals, forests, oxygen.

Ans. Exhaustible natural resources are coal, natural gas, petroleum, minerals, forests. Inexhaustible natural resources are air, sunlight, oxygen.

16. Write the characteristics and some important uses of coal.

Ans. Coal is black in colour and hard as stone. It is one of the fuels used to cook food. Earlier it was used in railway engines to produce steam to run the engine. It is used as fuel in thermal power plants to produce electricity and in various other industries.

17. Cracker on ignition produces sound. Why?

Ans. Cracker bursts with the liberation of great amount of heat, light, gases and sound. This is known as explosion.

18. What do you understand by fuel efficiency?

Ans. The amount of heat energy produced on complete combustion of 1 kg of fuel is known as calorific value of the fuel expressed in a unit called kilojoule per kg (kJ/kg)

19. People usually keep Angethi/burning coal in their closed rooms during winter season. Why is it advised to keep the door open?

Ans. Due to insufficient availability of oxygen in the closed room carbon monoxide gas is produced which can kill persons sleeping in that room.

20. What is biodiversity?

Ans. Biodiversity a portmanteau of "biological diversity," generally refers to the variety and variability of life on Earth. It specifically refers to the variety of organisms existing in the Earth, their interrelationships and also their relationship with the environment.

21. Why are wildlife sanctuaries important for conservation of plants and animals?

Ans. A wildlife sanctuary is a space that is set aside exclusively for the use of wild animals, which are protected when they roam or live in that area. These are protected areas under government mandate where human activities like plantation, cultivation, grazing, falling of trees, hunting and poaching are prohibited completely.

22. Why are endemic organisms in greater danger of becoming extinct?

Ans. Endemic organisms are confined to a limited geographical area. They cannot adapt or live outside their natural habitat. Any disturbance to their habitat will adversely affect them. Henceforth they are in greater danger of becoming extinct.

23. What are the functions of cell wall in plant cells?

Ans. Cell wall protects the cell contents, gives shape to the cell.

24. We do not sense any pain when we clip our nails or cut our hair. Why?

Ans. Nails and hair are both made up of dead cells. They do not have nerve cells. Hence we don't feel the pain when they are cut.

25. Label the parts A to E in the given diagram (Fig. 8.2)

Ans.

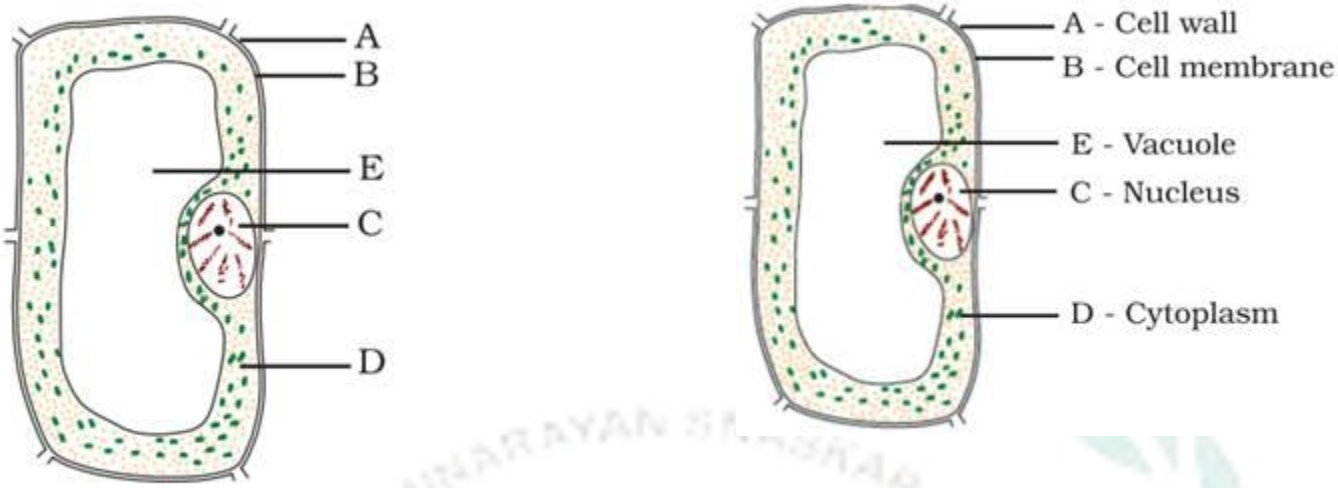


Fig. 8.2

26. The eggs of frogs do not have shells for protection, yet they are safe in water. How?

Ans. A jelly-like layer covers the eggs of frogs and provides protection from predators.

27.What does Fig. 9.1 represent?

Fig. 9.1

Ans. The figure shows an *Amoeba* undergoing binary fission with a dividing nucleus.

28. Observe the figure given as Fig. 9.2 and answer the questions that follow.

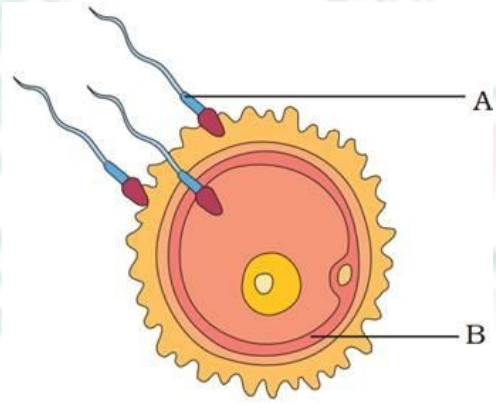


Fig. 9.2

(a) Label A and B.

(b) Identify the process.

(c) What happens during this process and what is formed?

Ans. (a) A-sperm; B-ovum (egg)

(b) Fertilisation

(c) Sperm nucleus fuses with the egg nucleus to form the zygote.

29. Why only male gametes have a tail?

Ans. Because they are motile and reaches the non-motile female gamete by movement with the help of tail.

30. Hens and frogs are both oviparous exhibiting different types of fertilisation. Explain.

Ans. Hen is an oviparous animal with internal fertilisation. The fertilised egg develops into an embryo inside the body. However, the development of chick from the embryo takes place outside the body.

Frogs are oviparous in which both fertilisation and development of embryo and young ones occur outside the body.

31. How can we say that fish exhibits external fertilisation?

Ans. Female fishes release eggs into water and male fish releases sperms. Sperms swim randomly in water and comes in contact with the eggs. The nucleus of the sperm moves into the egg and fuses with it. Since fertilisation occurs in water, outside the female body, it is external fertilisation.

32. Why do plant cells have an additional layer surrounding the cell? What is this layer known as?

Ans. As plants, cannot move from one place to another, they need protection against variations in temperature, wind speed, atmospheric moisture etc. Therefore, for protection plant cells have additional protective layers. This layer is called the cell wall. Plant cells have an additional layer surrounding the cell wall.

33. Can microorganisms be seen with the naked eyes? If not, how can they be seen?

Ans. Microorganisms are too small so they cannot be seen with naked eye. They can be seen with the help of a magnifying glass or microscope.

34. Name the microorganisms which can fix atmospheric nitrogen in the soil.

Ans. The microorganisms which can fix atmospheric nitrogen are Rhizobium, Azatobactor, Blue green algae etc.

35. What happens when

(a) Dilute Sulphuric acid is poured on a copper plate?
(b) Iron nails are placed in copper sulphate solution?

Write word equations of the reactions involved.

Ans. (a) (a) When dilute sulphuric acid is poured on a copper plate, bubbles appear on the surface of plate. This happens because sulphuric acid reacts with copper to produce hydrogen gas. This can be shown by following equation:
Sulphuric acid(Dilute) + Copper → Copper sulphate + Hydrogen (gas)

(b) When iron nails are placed in copper sulphate solution, the blue colour of copper sulphate solution fades and turns into light green. This happens because iron displaces copper from copper sulphate solution. This can be shown by following equation:
Copper sulphate + Iron → Iron sulphate + Copper

36. What are the advantages of using CNG and LPG as fuels?

Ans. The advantage of using CNG and LPG are as follows:

- A non-polluting fuel for vehicles .
- These are used for power generation.
-
- These are used directly for burning in homes and factories.
- These are easily available.

37. Describe characteristics and uses of coke.

Ans. Characteristics of coke are:
→ Tough
→ Porous
→ Black in colour
Uses of coke:
→ In manufacture of steel.
→ In the extraction of metals (as a reducing agent).

38. Explain the process of formation of petroleum.

Ans. Petroleum was formed from dead organisms that got buried in the sea millions of years ago. These dead bodies got covered with layers of sand and clay. Lack of air, high temperature, and high pressure transformed these dead organisms into petroleum and natural gas.

39. Explain how the use of CNG in automobiles has reduced pollution in our cities.

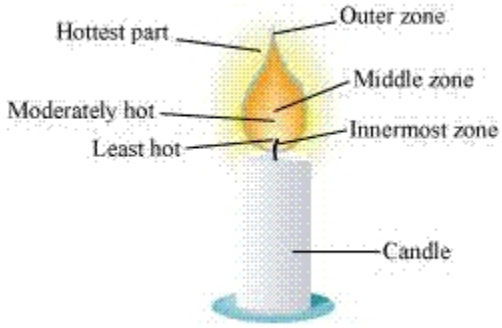
Ans. CNG produces harmful products like sulphur dioxide,oxides of nitrogen etc. in very small amounts as compared to petrol and diesel. That is why pollution in our cities is reduced by using CNG. CNG is a cleaner fuel.

40. Compare LPG and wood as fuels.

Ans. LPG burns easily and produces more heat in comparison to wood. Besides, it is a clean fuel, it does not produce fume and ashes as wood do. LPG can be stored and transported easily and conveniently.

41. Make a labelled diagram of candle flame.

Ans.



42. Name the unit in which the calorific value of a fuel is expressed.

Ans. The calorific value of a fuel is expressed in kilojoule per kg (kJ/kg).

43. Explain how CO_2 is able to control fires.

Ans. Carbon dioxide being heavier than oxygen covers the fire like a blanket. Since the contact between fuel and oxygen is cut off, the fire is controlled. Moreover it lowers down the temperature of the fuel. The added advantage of carbon dioxide is that in most cases it does not harm the electrical appliances.

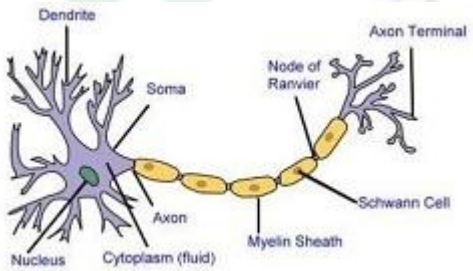
44. It is difficult to burn a heap of green leaves but dry leaves catch fire easily. Explain.

Ans. Green leaves contain lot of water. So, when we try to burn green leaves, water contained in the leaves cools the combustible materials, so that its temperature is brought below its ignition temperature. This prevents the burning of green leaves.

In case of dry leaves, water is absent in them so burning process start as the temperature is raised above the ignition temperature and the leaves catch fire easily.

45. Make a sketch of the human nerve cell. What function do nerve cells perform?

Ans. Nerve cell-



Function of Nerve cells: The nerve cell receives and transfers the messages, thereby helping to control and coordinate the working of different parts of the body.

46. Write short notes on the following.

(a) Cytoplasm

(b) Nucleus of a cell

Ans. (a) Cytoplasm: It is a fluid that fills the cell and occurs between the plasma membrane and the nucleus. Cell organelles such as mitochondria, ribosomes, Golgi bodies, etc. are suspended in the cytoplasm. The cytoplasm helps in the exchange of materials between cell organelles.

(b) Nucleus of a cell: The nucleus is a spherical structure generally present at the centre of a cell. It is known as brain of the cell as it controls the activities of cells. The nucleus is composed of nuclear membrane, nucleous and chromosomes.

47. State the difference between eukaryotes and prokaryotes.

Ans. (i) Eukaryotes have well-organized nucleus with nuclear membrane while prokaryotes do not have well organized nucleus.

(ii) Prokaryotic cell is generally smaller in size than eukaryotic cells.

48. Where are chromosomes found in a cell? State their function.

Ans. Chromosomes are found in the nucleus of the cell. These are thread-like structures that carry genes. Genes contain information necessary for the transfer of characteristics from the parents to the offspring. Thus, chromosomes play an important role in the inheritance of characteristics.

49. 'Cells are the basic structural units of living organisms'. Explain.

Ans. All organisms are made up of cells. They have different designs, shapes and sizes in the living organism. All the life processes take place inside a cell. Many similar cells aggregate togather to make tissue. So many tissues are organised to form organ and finally many organs are organised to form a system. So we can say that cells are basic units of living organisms.

50. Explain the importance of reproduction in organism.

Ans. The production of a new individual from parents is known as reproduction. Reproduction is very important as it ensures the continuation of similar kinds of individuals, generation after generation. If this process do not exist, the generation of living beings will be vanished from the earth.

- **Long Answer Questions:-**

1. As a part of eco-club activity students were asked to raise a kitchen garden in the school premises. They were provided with some materials given in the box. List the other materials you would require. How will you plan the garden? Write the steps.

khurpi, water-can, spade, shovel

Ans. The following items are required – seeds and seedlings of vegetable plants from nursery, kitchen waste, water.

Steps for raising the garden:

1. Kitchen waste will be collected and composted in a pit.

2. A patch of land will be identified for the garden.

3. Soil will be dug up and levelled with the help of a spade.

4. Sowing of seeds / transplanting of seedlings.

5. Select seeds/seedlings as per the season. Water the plants regularly with a water-can.

6. Compost will be applied.

7. Weeds will be removed periodically with the help of Khurpi.

2. Complete the following cycle given as Fig. by filling the blanks (a), (b), (c) (d)

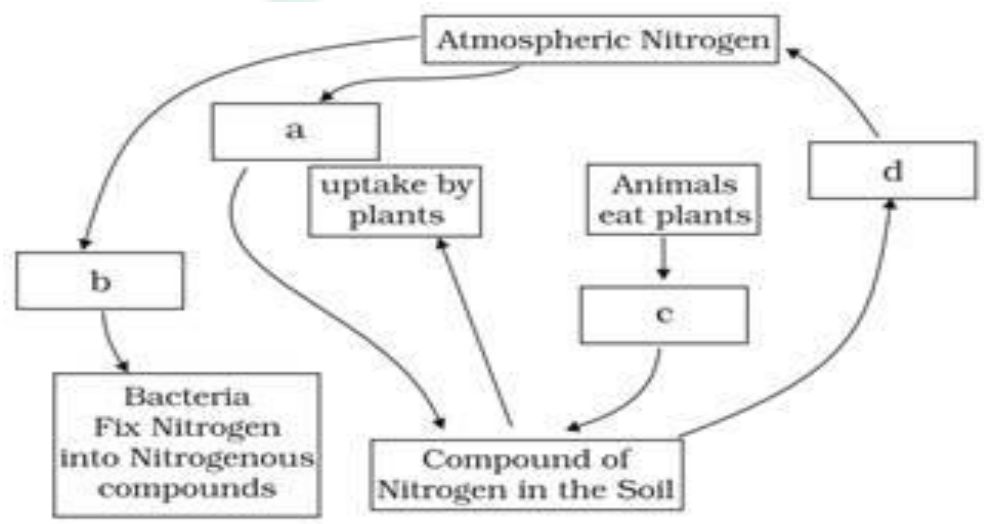


Fig. 2.4

Ans.(a) Lightning fixes nitrogen.
(b) Nitrogen fixing bacteria and blue green algae fix atmospheric nitrogen.
(c) Nitrogenous waste from excretion and death.
(d) Bacteria turn compounds of nitrogen into gaseous nitrogen.

3. How can we prevent the following diseases?

(a) Cholera
(b) Typhoid
(c) Hepatitis A

Ans.(a) Cholera: By drinking boiled water, cooking food well, eating covered food and keeping our surroundings clean.

(b) Typhoid: Eating properly cooked food, drinking boiled food, getting vaccinated against the disease.

(c) Hepatitis A: Drinking boiled water, washing hands thoroughly after using rest room and getting vaccinated against the disease.

4. Write the importance of synthetic polymers in our life.

Ans. Synthetic polymers have become very important in our lives. They are used in clothing, home furnishings, industrial use etc. Synthetic polymer like rayon, nylon, polyester are used for making clothes and accessories.

Nylons for making umbrellas, leegings, raincoats, curtains etc

Polyester are used fir making sarees , shirts and polyester when combined with natural fibres makes wrinkle free fabric which is very much on demand these days.

PET (Polyethylene terepthanene) a type of polyester are used fo making bottles and containers which are durable, flexible, light weight and also relatively inexpensive.

Plastics also a type of polymer are widely used material today. They are used in making electrical and electronic components, parts of vehicles, packaging industries,toys etc

Terylene a variety of polyester are also used to make fabric by mixing with other fabrics.

5. Some of the following statements are incorrect. Find the incorrect statements and correct them.

(a) The property of metals by virtue of which they can be drawn into wires is called ductility.
(b) Metals are good conductor of electricity but poor conductor of heat.
(c) Articles made of metals produce ringing sound when struck hard.
(d) Oxides of non-metals and metals are acidic in nature.
(e) A less reactive metal replaces a more reactive metal from its salt solution in water.

Ans. Statements (b), (d) and (e) are not correct.
(b) Metals are good conductor of electricity and also good conductor of heat.
(d) Oxides of non-metals are acidic in nature while oxides of metals are basic in nature.
(e) A more reactive metal replaces a less reactive metal from its salt solution in water.

6. Write some important uses of the various constituents of petroleum.

Ans.

- Petroleum gas in liquid form (LPG) — used as fuel for home and industry.
- Petrol — used as fuel for automobile and aviation.
- Kerosene — used as fuel for stoves, lamps and for jet aircrafts.
- Diesel — used as fuel for heavy motor vehicles, electric generators.
- Lubricating oil — used for lubrication
- Praffin wax — used in ointments, candles, vaseline etc.
- Bitumen — used in paints and road surfacing.

7. Give two examples each for a solid, liquid and gaseous fuel along with some important uses.

Ans. Types of fuels
Solid fuel – Coal, wood, etc.
Liquid fuel – Kerosene oil, petrol etc.
Gaseous fuel – CNG, LPG etc.
Uses
Coal – coal has been used as an energy resource, primarily burned for the production of electricity and heat, and is also used for industrial purposes, such as refining metals.
Wood - Wood fuel can be used for cooking and heating, and occasionally for fueling steam engines and steam turbines that generate electricity. Wood may be used indoors in a furnace, stove, or fireplace, or outdoors in a furnace, campfire, or bonfire.
Kerosene oil – Fuel for stoves, lamps etc.
Petrol - For running vehicles.
LPG – Fuel for industry etc.

8. Why should we save paper?

Ans. To prevent deforestation, save energy and water needed for manufacturing the paper. Chemicals used to manufacture the paper also cause pollution. Anything we can do to save paper will help reduce the amount of trash going into landfills, and it will also reduce energy use and pollution associated with manufacturing, transporting, and recycling new paper products.

Perhaps most importantly, when we save paper, we reduce the need to cut down trees to make new paper. Recycling of paper is good for the environment and it will save more trees. If we don't recycle and just throw it away, we have to cut down more trees to make more paper that would be unnecessary if we would just reuse the paper that we already have made.

Recyclable paper helps the environment because it stops a lot of used paper being put into waste dumps or burn, and also if one recycles paper it means manufacturers don't have to cut down more trees to make paper , hence making the process more eco-friendly.

9. Discuss the effects of deforestation on the following.

(a) Wild animals
(b) Environment
(c) Villages (rural areas)
(d) Cities
(e) Earth
(f) The next generation

Ans. (a) Wild animals- Animals won't get their natural habitat and surroundings as well as food. They will start migrating to other habitats. Thus ecosystem is disturbed.

(b) Environment- Due to deforestation, climatic changes takes place. Global warming is caused due to accumulation of carbon dioxide in the atmosphere. Hence environment gets affected.

(c) Villages- Villagers cannot grow food because of no rain. So, drought situations will prevail. Villagers will move to towns and cities.

(d) Cities- Cities flooded with drought-affected villagers, will affect the environment. Food-grains will either not be available or if available, they will be costlier.

(e) Earth- Deforestation leads to change in soil properties. Physical properties of the soil will get affected badly. The land will be gradually converted into desert. Also, environment of earth will be affected thus making it unsuitable for survival.

(f) The next generation- The coming generation will not be able to see the variations in flora on earth and due to deforestation they will have to face different environmental problems like drought, scarcity of food etc. Thus they are affected.

10. What will happen if.

(a) We go on cutting trees.
(b) The habitat of an animal is disturbed
(c) The top layer of soil is exposed

Ans. (a) If we go on cutting trees, then following situation will arrive:

(i) The climate change will affect the environment due to global warming and there will be no rain.
(ii) The soil will become infertile due to regular flooding of top soil.

(b) If the habitat of an animal is disturbed, the animal may not be in position of getting its natural habitat as well as food.

(c) Removal of top layer of soil by floods and heavy winds will expose the lower hard and rocky layers. This soil has less humus and less fertility.

11. Answer in brief.

(a) Why should we conserve biodiversity?
(b) Protected forests are also not completely safe for wild animals. Why?
(c) Some tribal depends on jungle. How?
(d) What are the causes and consequences of deforestation?
(e) What is Red Data Book?
(f) What do you understand by the term migration?

Ans. (a) If the biodiversity is not conserved, the life existing on earth, their interrelationships and their relationship with environment will be disturbed.

(b) It is because despite all these the poachers keep killing or capturing the animals in these forests. That is why protected forests are also not completely safe for animals.

(c) Some tribals live in the jungle. Jungle provides them food and protection. That is why; they are fully dependent upon the forests.

(d) Causes of deforestation-

(i) Procuring land for cultivation.
(ii) Building houses and factories.
(iii) Natural Calamities like flood, drought and forest fire.
(iv) Making furniture or using wood as fuel.

Consequence of deforestation-

(i) Global warming.
(ii) Soil erosion
(iii) Melting of ice on poles.
(iv) Lowering of ground water level.

(e) Red Data Book is a source book which keeps a record of all the endangered animals and plants.

(f) Migration is the phenomenon of movement of a species from its own habitat to some other habitat for a particular time period every year due to change of climate and for the purpose of breeding.

12. In order to meet the ever-increasing demand in factories and for shelter, trees are being continually cut. Is it justified to cut trees for such projects?

Ans. Of course, to meet the ever-increasing demand in factories and for shelter, trees are being continually cut, which is not justified at all. If one tree is cut, at least five trees should be grown so that reforestation process will remain continuous. But, if trees are cut blindly and no trees are planted then the earth will face global warming, no rainfall, climate change, soil erosion and deforestation. So, cutting trees for any reason is not justified at all.

13. Describe the process of fertilisation in human beings.

Ans. In human beings, sexual reproduction occurs. In this process, the fusion of male and female gametes takes place. Male individual produce sperms in testes and female produce ovum in ovary. During copulation, sperms are released by the male into the vagina of female from where the sperms move towards the fallopian tube in the female reproductive system. Female release one ovum every month in the middle of menstruation cycle which travels towards the fallopian tube. The released sperm reaches the fallopian tube. The fusion of male gamete (sperm) and female gamete (ovum) takes place in fallopian tube. The fusion of male and female gametes is called fertilisation.

14. Give two differences between a zygote and Foetus

Ans. When fertilisation takes place, the nuclei of the sperm and the egg fuse to form a single nucleus, which results in the formation of a fertilized egg or zygote.

Zygote now begins to develop into an embryo. The embryo continues to develop in the uterus and produces body parts such as hands, legs, head, eyes etc. The stage of the embryo in which all the body parts can be identified is called foetus.

15. Define asexual reproduction. Describe two methods of asexual reproduction in animals.

Ans. The type of reproduction in which only a single parent is involved is called asexual reproduction.

Asexual reproduction takes place in very small animals like Hydra and microscopic organisms like Amoeba.

Budding- New individual develops as a outgrowth from a single parent. In hydra a small bulge called bud develops into new individuals.

Binary fission- The body of unicellular organisms like amoeba divides into two equal parts and each parts develops as new individual.