



SUMMATIVE ASSIGNMENT -1 2020-21	
Grade – 8	Subject- SCIENCE
Syllabus – CH- 1,2,3,4,5,6,8,9	

❖ **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 fertilization 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) dysentery
- (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) Antibiotics.

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) alga and fungus.

20. The gas released during the preparation of bread is

- (a) oxygen
- (b) carbon dioxide
- (c) nitrogen
- (d) sulphur dioxide

Ans. (b) carbon di oxide.

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

- (a) dengue
- (b) malaria
- (c) polio
- (d) measles

Ans. (b) Malaria

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

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 possesses 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

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) sulphur .

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**
- (d) Petroleum**

Ans . (a) Coal

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. It 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
 $2\text{Mg} + \text{O}_2 \rightarrow 2\text{MgO}$

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.

38. Naphthalene balls are obtained from coal tar and are used as

- (a) mosquito repellent
- (b) honey bee repellent
- (c) moth repellent
- (d) snake repellent

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. 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.

41. 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.

42. 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.

43. 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.

44. 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.

45. 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.

46. 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.

❖ **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 **loosening and turning** 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. **Pickles** are preserved by the use of oil and vinegar.
21. **Pasteurisation** is the process of heat and cold treatment for preserving milk.
22. Least polluting fuel for vehicle is **CNG**.
23. The fusion of ovum and sperm is called **fertilization**.
24. The instrument used to observe cells is **Microscope**.

❖ **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. Name one leguminous plant.

Ans. Groundnut, peas, lentils, peanuts, soy etc.

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. In a cell, where are the genes located?

Ans. Nucleus/chromosomes.

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

Ans. Unicellular and Eukaryotic/Protozoan.

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

Pupa, Silkworm, Egg, Silkmoth

Ans. Silkworm, Egg, Pupa, Silk moth

24. 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

25. 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.

26. Give two examples of each.

(a) Kharif crop

(b) Rabi crop

Ans. (a) Paddy and maize.

(b) Wheat and pea.

27. Give examples which indicate that nylon fibres are very strong.

Ans: They are used to make parachutes and ropes for rock climbing.

28. 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.

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

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

30. Which part of the cell contains organelles?

Ans. Cytoplasm contains organelles of the cell.

31. 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 $40^{\circ}F$. Therefore, cultivation of mustard is done during winter season which ranges in our country from October to March.

3. Name two diseases that are caused by virus.

Ans. Polio and Chicken pox

4. Write one important characteristic of virus.

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

5. 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)

6. 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.

7. 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.

8. 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 plastic is non biodegradable material which causes environmental problems and health risks.

9. Why are bells made of metals?

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

10. Which liquid metal is used for making thermometers?

Ans. Mercury

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

zinc, iron, copper

Ans. Zinc

12. In the given figure you find that the bulb glows when an iron nail is placed between two ends of wire. Complete the following sentences on the basis of this fact.



(a) _____ is a metal.

(b) Metals are good _____ of electricity.

Ans. (a) iron (b) conductor

13. 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.

14. 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.

15. 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.

16. 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)

17. 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.

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

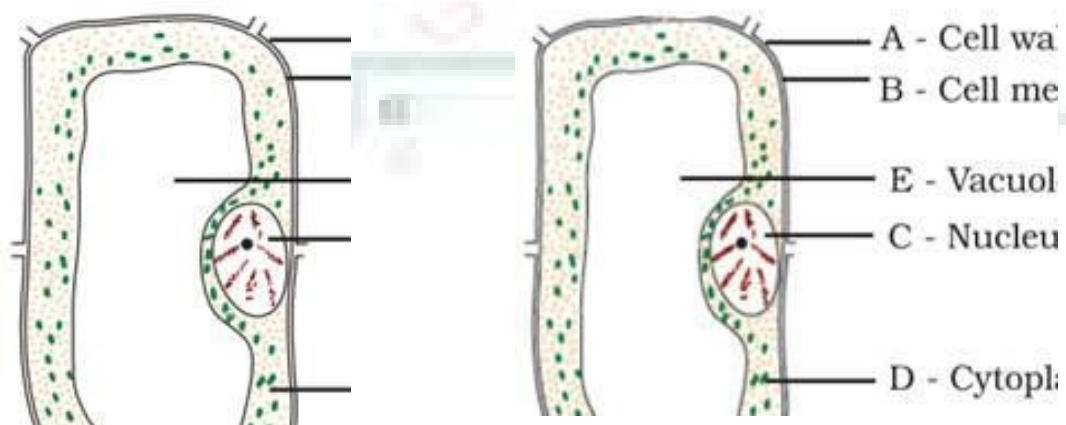
Ans. Cell wall protects the cell contents, gives shape to the cell.

19. 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.

20. Label the parts A to E in the given diagram -

Ans.



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

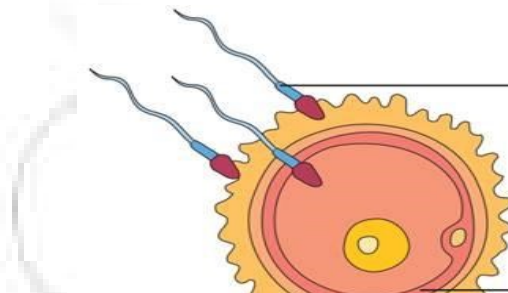
Ans. A jelly-like layer covers the eggs of frogs and provides protection from predators.

22. What does the below figure represent?



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

23. Observe the figure given and answer the questions that follow.



(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.

24. 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.

25. 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.

26. 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.

27. 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.

28. 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.

29. 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.

30. 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

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

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

1. CNG and LPG burn easily.
2. CNG and LPG give a lot of heat energy when burnt.
3. CNG and LPG can be transported easily through pipelines.
4. CNG and LPG are clean fuels and they do not release smoke when burnt.

32. Describe characteristics and uses of coke.

Ans. Characteristics:

- i. Coke is tough.
- ii. Coke is porous.
- iii. Coke is black in colour.

Uses:

- i. In the manufacture of steel.
- ii. In the extraction of metals (as a reducing agent).

33. 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.

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

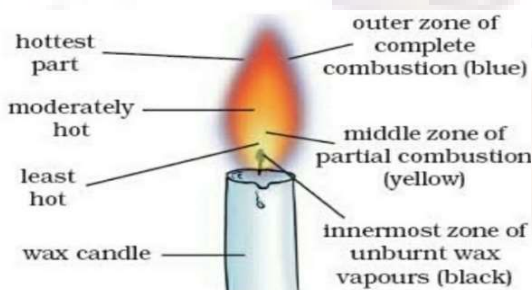
Ans. CNG produces harmful products like sulphurdioxide, oxides of nitrogen etc. in very small amounts as compared to petrol and diesel. That is why pollution in our cities is reduced by using CNG. CNG is a cleaner fuel.

35. 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.

36. Make a labelled diagram of candle flame.

Ans.



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

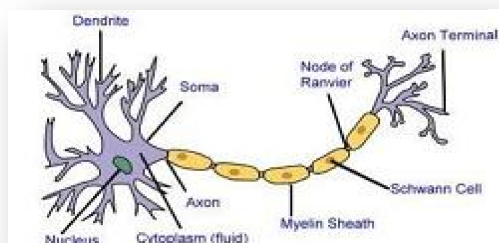
Ans. The calorific value of a fuel is expressed in kilojoule per kg (kJ/kg).

38. Explain how CO₂ 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.

39. 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.

40. 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, nucleolus and chromosomes.

41. 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.

42. 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.

43. '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 together 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.

45. 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.

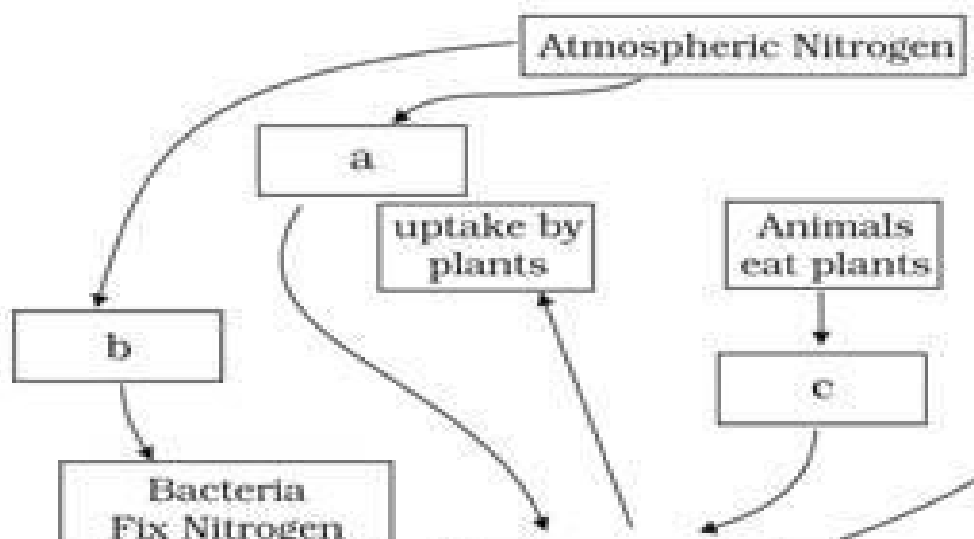
khurpi, water-can, spade, shovel

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)



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, leggings, raincoats, curtains etc

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

PET (Polyethylene terephthalene) a type of polyester are used for 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
- Paraffin 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. 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.

9. 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.

10. Differentiate between internal fertilisation and external fertilisation.

Ans.

Internal fertilisation	External fertilisation
(i) The fertilisation takes place inside the female body.	(i) The fertilisation takes place outside the body of female.
(ii) Example- human beings, hen, dog etc.	(ii) Example- frog, fish etc.