MARKING SCHEME- SCIENCE

Class: VII **Duration : 3 Hrs**
Date : 13/10/'23 **Max. Marks: 80**

Section-A

Select and write the most appropriate option out of the four options given for each of the questions 1 - 20. There is no negative mark for incorrect response.

1. (a) Ag **1**

2. (c) Nitric acid **1**

3. (b) pH < 7 **1**

4. (c) A compound **1**

5. (b) 2 **1**

6. (a) $Mg(OH)_2$ **1**

7. bacteria **1**

8. a. spiracle **1**

9. b. gills **1**

10. c. skin **1**

11. a. pitcher plant **1**

12. a. algae **1**

13. (a) 35^0 c - 42^0 c **1**

14. (c) decreases **1**

15. b. fungi **1**

16. a. aerobic. **1**

17. (b) **1**

18. **Answer : (a)** 1

19. **(a)** 1

20. **Answer: (a)** 1

Section-B

Question No. 21 to 26 are very short answer questions

21**. HCl and H_2SO_4** **2**

22.An organism that feed on dead and decaying organic matter **eg mushroom.** **2**

23. When you exercise and your muscles work harder, your body uses more oxygen and produces more carbon dioxide. To cope with this extra demand, your breathing has to increase from about 15 times a minute (12 litres of air) when you are resting, up to about 40–60 times a minute (100 litres of air) during exercise. **2**

24. Insulators are the substances that do not allow the heat to pass through them. Examples are air ,rubber , glass etc **2**

25. A cyclone is a large scale air mass that rotates around a strong centre of low atmospheric pressure. Rain bearing winds that move from sea to land **2**

OR

As air in one region gets heated up, it rises up and due to this, pressure in this region drops and air from another region where pressure is high, comes and fills in the position of low pressure air region.
So pressure difference between the two regions causes air movement.

26. Symbiosis is the close association between algae and fungi. **2**

Algae is green in colour and it has chlorophyll.
it can make lots of food.
it gives food to fungi
fungi is white in colour and it cannot make food.
it gives water to algae.
both are mutually benefitted.

OR

Take a potted plant.
take a carry bag.
put the carry bag on the plant.
leave it for few hours.
we will see tiny drops of water inside the carry bag.
this proves that plant transpires the water.

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Section-C

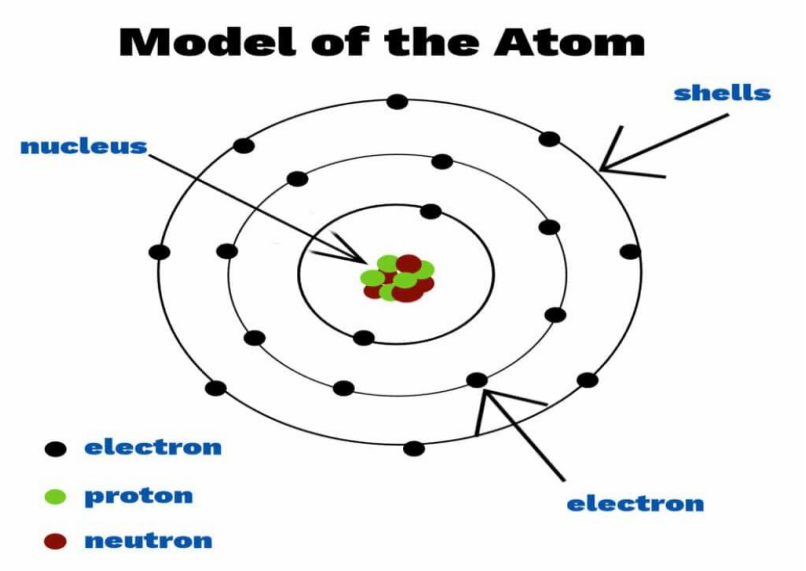
Question No. 27 to 33 are short answer questions

27. (a) Silver nitrate **3**

(b) Anything that has a mass and occupies space.

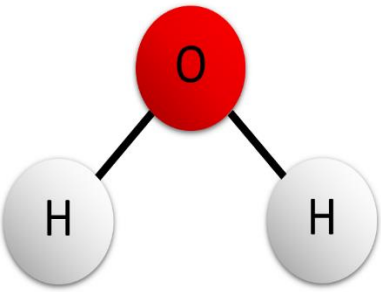
(c) Magnesium and Oxygen.

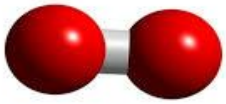
28. The smallest particle of a chemical element that can exist. **3**



OR

A molecule is a set of two or more atoms that are chemically bound or held together by attractive forces.





29.

External respiration occurs in the lungs where oxygen diffuses into the blood and carbon dioxide diffuses into the alveolar air. Internal respiration occurs in the metabolizing tissues, where oxygen diffuses out of the blood and carbon dioxide diffuses out of the cells **3**

30. Tongue being muscular can be rolled in any direction.

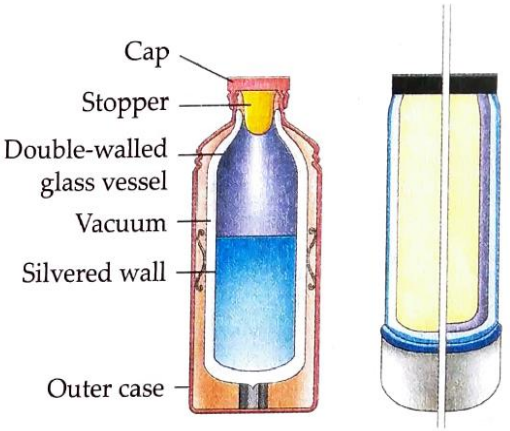
It helps to mix the food with saliva.

It also help to push the food into oesophagus.

It has various taste buds. **3**

31. **Thermos flask works on *minimizing the exchange of heat by conduction ,convection and radiation.* 3**

Thermos flask consists of a double-walled glass container. A vacuum is created in the gap between the glass walls to minimise the conduction. This also reduces the heat loss as there is no air present to carry the heat away. Both the walls are polished, shiny and silvery, so that the heat radiations are reflected back into the container. The outer case of the flask as well as its lid are made of an insulating material such as plastic.



▲ Fig. 4.7 A thermos flask

32. A thermometer used to check the human body temperature is called clinical thermometer. **3**

Clinical Thermometer

Clinical thermometer is used to measure the temperature of human body. It ranges from 35°C–42°C because the temperature of a human body varies only within this range. A clinical thermometer consists of a long and narrow glass tube. One end of this tube is sealed and the other end has a glass bulb filled with mercury. The temperature scale is marked outside the glass tube of the thermometer. The normal body temperature of a healthy person is 37°C or 98.6°F. It increases if the person has fever. However, it never goes above 42°C or below 35°C in Celsius scale.

▲ Fig. 4.2 A clinical thermometer

33. Cyclones result in the destruction of houses, buildings, transportation, electricity and death of livestock. Ever wondered how a calamity such as a cyclone affects the lives of a living being inhabiting that region

1.Keep an emergency medical kit ready.

2. Stay away from water logging areas **1+1+1**

Section-D

Question No. 34 to 36 are long answer questions.

34. (a) When a strong acid reacts with a strong base the resultant salt is neither acidic nor basic in nature i.e. it is neutral. For example when HCl (Hydrochloric acid), a strong acid, reacts with NaOH, a strong base, the resulting salt is sodium chloride and water.

(b) The remedy is to apply a weak acid, such as vinegar, to the wound. The acid neutralises the alkaline . solution and soothes the pain.

OR

(a) if the soil is too acidic (having low ph), then it is treated with materials like quick lime (calcium oxide) or slaked lime(calcium hydroxide) or chalk (calcium carbonate). all these materials are bases and hence react with the excess acid present in soil and reduce its acidity

Base A substance which is used to neutralise acid is known as base. Alkali is also a base.

- **Bases which are soluble in water are known as alkali. Bases do not dissolve in water.**
- **All alkalis are base but all bases are not alkalis.**
- **Examples of base are: zinc hydroxide, copper oxide.**
- **Examples of alkalis are: potassium hydroxide, sodium hydroxide.**

35. The five steps of nutrition are ingestion, digestion, absorption, assimilation, and egestion.

Ingestion- the process of intake of food.

Digestion- breaking down of food into smaller and simpler compounds is known as digestion.

Absorption-the process by which digested food is absorbed by blood.

Assimilation- **the process of utilising food for liberating energy.**

Egestion- The process of expelling the undigested food from the body. **5**

OR

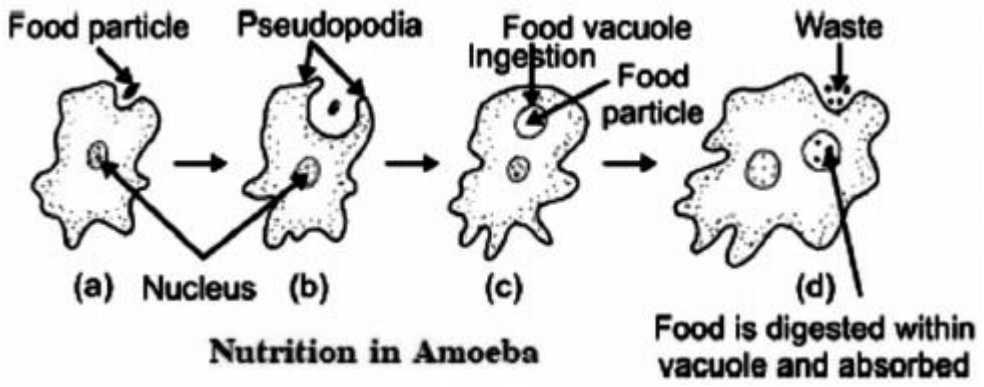
Amoeba is a unicellular organism.

It has no fixed shape.

It has finger like projections known as pseudopodia.

Diagram depicting various stages of nutrition in amoeba.

Diagram.



36.The 3 main factors that affect barometric (air) pressure are:

- Temperature.
- Altitude or Elevation.
- Moisture ow water vapour.

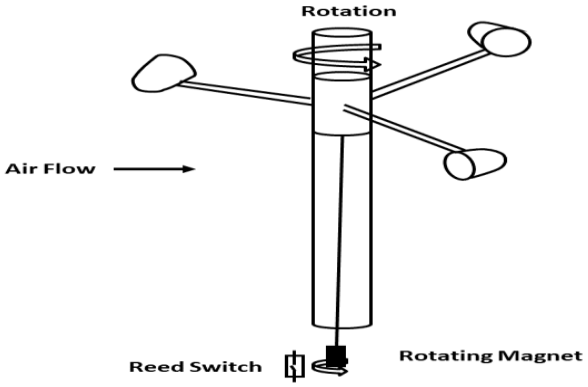
b. Tornadoes can occur are quite small as compared to cyclones, but their wind speed is very high and can reach up to 500 km/h. The funnel-like structure of a tornado engulfs everything that comes in its way including cars, buses, trees, debris, huts or even small houses due its speed.

. OR

Aneomometer and wind vane.

It consists of four cups mounted on a rod that can rotate freely on its axis. The greater the The speed of wind, the faster the cups rotate the rod. A scale placed at the bottom of the

Anemometer and it records the wind speed in desired unit of measurement..



1+2+2

Section-E

Question No. 37 to 39 are case-based/data -based questions with 2 to 3 short sub-parts. Internal choice is provided in one of these sub-parts.

37. (i)(d) 2 1 **(ii)** (a) 75-80 1

(iii) Arteries is the blood vessel which carry fresh oxygen from heart to all the parts of the body. 2 OR

(iv) The blood flows in arteries at a very high pressure, hence in order to sustain the pressure the arteries have thick wall. 2

38. Read the passage carefully and answer the following questions. 4

(i) (a) 118

(ii) (c) Pure water

(iii) Electron ,proton and neutron

OR

Match the following:

Column A		Column B	
1.	**Copper**	**c**	**Cu**
2.	**Element**	**d**	**Atoms of one kind only**
3.	**Valency**	**a**	**Combining capacity of atoms**
4.	**Proton**	**b**	**Positive charge**

39. a.Radiation 1+1+2

b. Dark coloured clothes are good absorbers and radiators of heat. They keep us warm

c. The process of heat transfer without medium is called radiation. Electromagnetic wave

OR

Dark colour is good absorber and radiator of heat. They keep us warm

*******Best of Luck*******