INDIAN SCHOOL AL WADI AL KABIR

CLASS: VII	DEPARTMENT: SCIENCE	DATE: 20/9/2022
MARKS :80	MIDTERM ANSWER KEY	DURATION: 2 ½ HOURS
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ANSWER KEY

1	2	3	4	5	6
(d) Organism 1- Insectivorous, Organism 2- Parasitic	(a) to trap the solar energy.	(c) Becomes hot by the process of conduction.	(a) Black colour absorbs more heat.	(c) R	(d) all of these
7	8	9	10	11	12
(a) Magnetic effect of electric current (1)	(d) X- Egg, Y- Silkworm, Z- Cocoon (1)	(d) Washing wool to remove dust and dirt. (1)	(c) A Sundial (1)	(c) in motion (1)	(b) length of the string (1)
13	14	15	16		
(a) 18 km/h (1)	(b) The balloon gets inflated. (1)	(d) Air pressure was lower at the mouth and higher inside the bottle. (1)	(d) On the ceiling (1)		

17. (i) (a) Eye

(ii) Strong windstorm caused by the difference in air pressure in the atmosphere. / A cyclone is a huge revolving storm caused by very high-speed winds blowing around a Central area of very low pressure in the atmosphere. (1+1=2)

(iii) Due to the following reasons, a cyclonic storm dies after reaching land-
1. Friction with the land or
2. Moisture deprivation (Any1) (1)
(iv) 1. It may block the rail and road transport system as well as telephones and other communication systems.
2. Continuous heavy rainfall may lead to floods. (1+1=2)

18. (i)(b) swallowed and partially digested. (1)
(ii)**Cellulose** is a carbohydrate that can be digested only by ruminants and not by humans. This is because **humans lack the cellulose digesting bacteria in their stomachs.** Ruminants have a large sac-like structure between the small and large intestine called the caecum where the food containing cellulose is digested by the action of certain bacteria. (1+1=2)
(iii)A. The grass-eating animals like cows quickly swallow the grass and store it in a part of the stomach called the rumen. Here food is partially digested and is called cud. **The cud returns to the mouth in small lumps and the animal chews it. This process is called rumination** (1)
(iv) Cattle, Camel, and sheep (Any 2) (½+½=1)

19. (i)(c) 37°C (1)

(ii)

Clinical Thermometer	Laboratory Thermometer
(i) Used to measure the human body temperature.	(i) Used to measure temperature in the laboratory.
(ii) The temperature range is 35^0 C to 42^0C.	(ii) The temperature range is -10^0C to 110^0C.
(iii) It has kink which prevents immediate backflow of mercury.	(iii) It does not have a kink.

½X4=2

20. (i) (a) liquid waste
(ii)(b) Evaporation
(iii)(a) Sewers (1X3=3)

21. (a) The process by which green plants make their own food from carbon dioxide and water by using sunlight energy in the presence of chlorophyll is called photosynthesis.
The word equation for it is -

Carbon dioxide + Water $\xrightarrow[\text{Chlorophyll}]{\text{Sunlight}}$ Glucose + Oxygen

(1+1=2)

(b) The stomata help in **the exchange of gases**, the carbon dioxide goes in and oxygen is released out/ Transpiration (1)

22. (a) Wool is a bad conductor of heat. It traps air between its fibres. This trapped air does not allow heat to pass from our body into the surrounding thereby keeping us warm. (1)

(b) The process by which **heat is transferred** from the hotter end to the colder end of an object **without actual movement of particles**. / The process by which **heat is transferred** in solids without the actual movement of particles. E.g.- Steel, Aluminium, Copper, Mercury (1+1=2)

23. (a)Electric fuse is required in all electrical appliances to prevent damage from excessive current flow and during short circuits. (1)

(b) Miniature circuit breaker. If the current through a circuit exceeds the safety limit, it automatically turns off and protects the devices connected to the circuit. / Safe to handle/ easy to use/ No need to get replaced/ sensitive (½+½=)

(c) A fuse wire has a low melting point. Whenever the current flowing through an electric circuit exceeds the safety limit, the fuse wire heats up and melts down, resulting in a break in the path of current flow. This stops the flow of current in the circuit (1)

24. (a)The villi are finger-like outgrowths that are present on the inner walls of the small intestine. The villi increase the surface area for absorption of the digested food. (1+1=2)

(b) It has enzymes that break down starch into simple sugars (Maltose). (1)

25. (a) The fibre obtained from plants or animals/ natural sources. Plant- Cotton, Jute, Coir. Animal- Wool, Silk (1)

(b) Removal of outer hair /fleece from the animal. Sheep cannot survive without their coat of hair during winter/To keep the body cool during summer. (1+1)

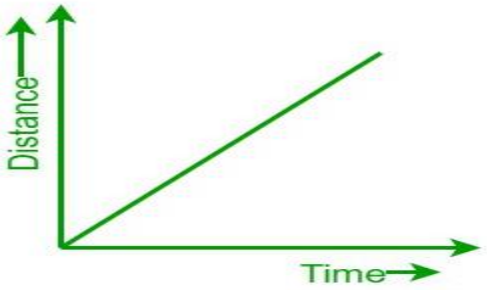
26. (a)

(1+1=2)

i.

For Stationary body

ii.



(For uniform motion)

(b) 25X18/5 = 90km/h (1)

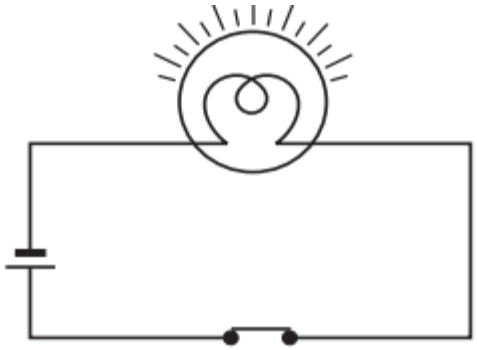
27. a. **Autotrophic Nutrition-The organisms who are capable of preparing their own food/who can perform photosynthesis** using simple substances that are available in their surroundings.
The conditions necessary for autotrophic nutrition are carbon dioxide, water, chlorophyll and water.
Heterotrophic Nutrition
The organisms completely depend on others for their nutrition. They depend on surrounding plants and animals for food. (½+½=1)

b. Pitcher plants have a pitcher-like structure which is a modified part of the leaf. The apex of the leaf forms a lid that can open or close the mouth of the pitcher. When an insect land in the pitcher, the lid closes and the trapped insect gets entangled in the hair present inside the pitcher. The insect is digested by the digestive juices secreted in the pitcher. (2)

c. Lichen is an association between algae and fungi. **Algae contain chlorophyll and provide food and nutrition to the fungus**. While the **fungus provides water, minerals, and shelter to the algae**. (1+1=2)

28.a. The mercury does not fall or rise in a clinical thermometer when taken out of the mouth because **of the presence of a kink.** It prevents mercury levels from falling on their own. (1)
b. Air conditioners are fitted at higher levels on the walls of a room in order to produce quick cooling in the room. **This is because the cooled air from the AC comes down and the warm air from below rises up and a convection current is set up.** (2)
c. Keep the thermometer in an upright position.
Make sure that the bulb of the thermometer does not touch the bottom or sides of the container (where the substance is placed).
Read the temperature of the object when the thermometer is in the substance. (Any 2 1+1=2)

29.a. Take a long piece of Insulated, flexible wire and an iron nail. Wind the wire tightly around the nail in the form of a coil. Connect the free ends of the wire to the terminals of a cell through a switch. When the current is switched on, the iron nail acts like an electromagnet. (2)
b. (i) Electric motors mainly use electromagnets. (ii) They are used in electric bells. (iii) Electromagnets are used to lift loads of iron and steel. (iv) They are used in telephones, telegraphs, generators, etc. (v) Electromagnets are also used in cranes. (Any 2) (1+1=2)
c.



(1)

30. a. A- Oesophagus/ food pipe, B- Stomach, C- Large intestine, D- Rectum (½X4=2)

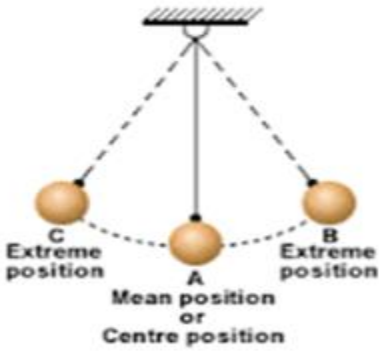
b. i-Liver

The liver is a reddish-brown gland situated in the upper part of the abdomen on the right side. It is the largest gland in the body. **It secretes bile juice that is stored in a sac called the gall bladder. Bile plays an important role in the digestion of fats.**

ii-Pancreas

The pancreas is a cream-colored gland located just below the stomach. **The pancreas secretes pancreatic juice. The pancreatic juice acts on carbohydrates and proteins and changes them into simpler forms. (1+1=2)**

c. Stomach, With the help of hydrochloric acid (½+½=1)



31. a. 1- Diagram+ 1- Label= 2

b. Time period= Time taken/ No: of oscillations, 46/23=2s (2)

c. A motion which is repeated in equal intervals of time. Periodic motion is performed, for example, by a rocking chair, a bouncing ball, a vibrating tuning fork, a swing in motion, the Earth in its orbit around the Sun, and a water wave. (1)

32. a. It is easier to ride a bicycle **in the direction of blowing wind** because the blowing wind exerts a force (or pressure) on us in the same direction in which our bicycle is moving and makes our bicycle move faster. (1)

b. A- Wind vane or weather cock- Instrument used to show the direction of the wind.

B- Anemometer – Measures wind speed (½X4=2)

c. The paper strip is lifted upwards, when we blow air above the paper strip, low pressure is created above the strip, because high-speed winds are always accompanied by reduced air pressure. Therefore, because of the higher air pressure below the strip, it is pushed upwards. (1+1=2)

TOTAL- 80 MARKS