CBSE

Class VII Science

Term 1

Sample Paper – 2 Solution

Time: 2 ½ hrs **Total Marks: 80**

SECTION A

1. **Ans.** Correct Option: [B]
   Solution: The pulp cavity contains nerves and blood vessels.

2. **Ans.** Correct Option: [A]
   Solution: Respiration in earthworm takes place through the skin.

3. **Ans.** Correct Option: [A]
   Solution: Summer monsoon winds are monsoon winds which bring rainfall over India.

4. **Ans.** Correct Option: [C]
   Solution: The layer of the B horizon is hard and compact. It is rich in minerals.

5. **Ans.** Correct Option: [D]
   Solution: The silk moth cuts open the cocoon at the end of the pupal stage. During the pupal stage, the caterpillar is enclosed in the hard shell of silk fibres called the cocoon.

6. **Ans**. Correct Option: [C]
   Solution: Llama and Alpaca yield wool in South America.

7. **Ans.** Correct Option: [A]
   Solution: This picture shows scouring by machine. Scouring involves the thorough washing of the sheared skin to remove grease, dust and dirt.

8. **Ans.** Correct Option: [C]
   Solution: Lime water contains calcium hydroxide which is a base. Bases are bitter in taste.

9. **Ans.** Correct Option: [C]
   Solution: Soda water is basic in nature. Bases change the colour of China rose indicator to green.

10. **Ans.** Correct Option: [B]
    Solution: The air from the land towards the sea is called land breeze.

11. **Ans.** Correct Option: [A]
    Solution: While reading a thermometer, we should not hold it by the bulb.

12. **Ans.** Correct Option: [B]
    Solution: The bulb in the thermometer has mercury.

13. **Ans.** Correct Option: [C]
    Solution: One of the most well-known periodic motions is that of a simple pendulum.

14. **Ans.** Correct Option: [A]
    Solution: Speed = Distance travelled/Time
    Thus, in case of A, in the same amount of time, the distance travelled is more as compared to that of B.

15. **Ans.** Correct Option: [B]
    Solution: The speed is zero if the graph is a straight line parallel to the time axis.

SECTION B

16. **Ans.** Leguminous crops have root nodules which contain Rhizobium. Rhizobia convert atmospheric nitrogen into nitrates. These nitrates mix with the soil and enrich it. Thus, the soil gets enriched with nitrogen compounds.

17. **Ans.** The topsoil is rich in humus and minerals. It is the home for many living things such as earthworms. It also contains decayed plant and animal remains. The presence of minerals, living things and decaying plant and animal remains makes the top soil fertile.

18. **Ans.** Yeasts are single-celled fungi. They respire anaerobically, i.e. they convert glucose into alcohol in the absence of oxygen.

19. **Ans.**
    1. Shearing is done only once in a year generally during the hot weather in summer.
    2. During shearing, the layer of hair along with a thin layer of skin which is dead is removed. Hence, it does not hurt the sheep.

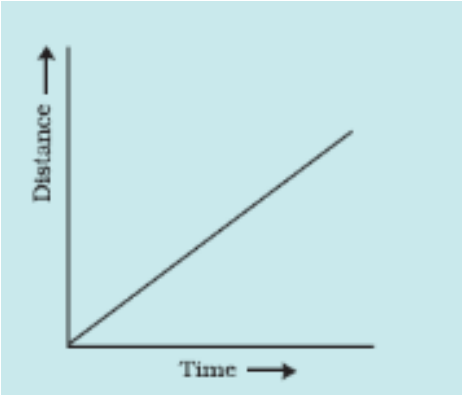
20. Ans.

Type of fibre	Burning smell
Artificial silk	Smell of burning paper
Natural silk	Smell of burning hair

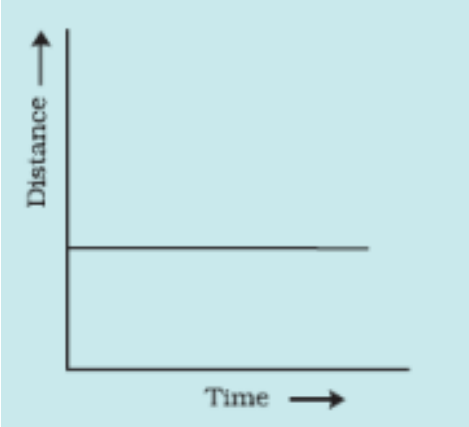
21. Ans. No. The range of a clinical thermometer is 35°C to 42°C, while the boiling temperature is far more than 42°C.

22. Ans.

(i) A bike moving with a constant speed:



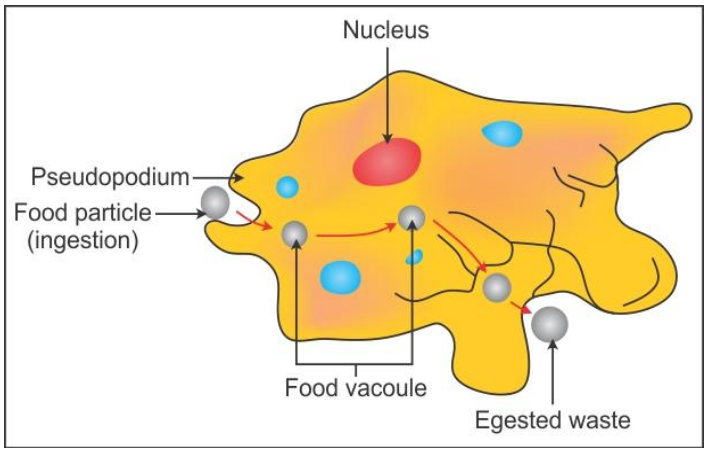
(ii) A car parked on the road side:



SECTION C

23. Ans.

(i) **<u>Amoeba</u>:**



(ii) Pseudopodia help amoeba in capturing of food and in movement. During feeding, amoeba produces two pseudopodia which surround the food particle. The two pseudopodia join and trap the food particle inside the body.

24. Ans.

(i) The trunk is helpful to elephants in the following ways:

1. It imparts a strong sense of smell to elephants.
2. It helps them to spray water on their back to keep them clean and cool.
3. Elephants breathe with the help of the trunk.
4. Elephants grasp their food and suck water with the help of their trunk.

(ii) **<u>Adaptations which help penguins to live in polar regions are as follows</u>**:

1. Penguins have thick skin and a layer of fat under the skin.
2. Penguins huddle together to make themselves warm.

25. Ans.

(i) Sand in deserts has a poor water-holding capacity. Because water is the most essential component required for plant growth, few plantations are found in the desert.

(ii) Clay has the smallest sized particles, i.e. less than 0.002 mm. Due to the small particle size, intermolecular spaces are small. Hence, the soil is not aerated. Its water-absorbing and water-retaining capacity is high; thus, it becomes waterlogged. For the growth of plants, it is important that the soil is well aerated and there is no water logging. Hence, clay soil is not suitable for plant growth.

26. Ans.

(i) A – Trachea
B – Diaphragm

(ii) During inhalation, we take about 21% oxygen and 0.04% carbon dioxide in our lungs. During exhalation, 16.4% oxygen and 4.4% carbon dioxide is taken out of the lungs.

27. Ans.

(i) An indicator is a dye which changes colour when it is put into an acid or a base.

(ii) Put one drop of each liquid on turmeric paper, turn by turn.

1. The liquid which turns the yellow turmeric paper red will be sodium hydroxide (base). The red turmeric paper formed here can now be used to test sulphuric acid.
2. Put one drop each of the remaining two liquids on red turmeric paper. The liquid which makes the red turmeric paper yellow again will be sulphuric acid. This is because sulphuric acid cancels the effect of the sodium hydroxide base on turmeric paper.
3. The liquid which has no effect on the red-turned turmeric paper will be salt solution because it is neutral.

28. Ans.

(i) A salt is a substance formed by the reaction of an acid with a base.

(ii) Salts can be of three types:

1. Neutral salts: Salts which form a neutral solution on dissolving in water are called neutral salts. The salts formed by the neutralisation of a strong acid by a strong base are neutral salts. Example: Sodium chloride (NaCl)
2. Acidic salts: Salts which form an acidic solution on dissolving in water are called acidic salts. The salts formed by the neutralisation of a strong acid with a weak base are acidic salts. Example: Ammonium chloride (NH_4Cl)
3. Basic salts: Salts which form basic solutions on dissolving in water are called basic salts. The salts formed by the neutralisation of weak acids with strong bases are basic salts. Example: Sodium carbonate (Na_2CO_3)

29. Ans.

(i) When one end of a wooden spoon is dipped in a cup of ice cream, there will be no change in the temperature of its other end. Wood is a bad conductor of heat, so there will be no flow of heat from one end to the other.

(ii) The material of a pan is a good conductor of heat. So, a handle of wood (which is a bad conductor of heat) is used in a frying pan so that it does not get heated by conduction.

30. Ans.

(i) Freezers are always located at the top of the refrigerator so as to easily circulate the cold air downwards and keep the refrigerator cold.

(ii) Cool air is denser than warm air, so the cool air falls through the warm air. Warm air being light rises.

31. Ans.

(i) We need to measure time in order to keep track of our day-to-day activities. For example, meeting with the doctor, attending our class on time etc.

(ii) Your speed should be greater than that of the dog. Thus, we will find the speed of the dog to know your minimum speed.

Speed = Distance covered/Time taken

= 3/30 = 1/10 km/min.

Therefore, speed = (1/10) × (1000/3600) = 1/36 m/s.

Thus, you must run at least above the speed of (1/36) m/s.

SECTION D

32. Ans.

(i) Although dolphins possess lungs, they breathe through their blowholes. Powerful muscles form a special plug within the blowhole which prevents water from entering the lungs when the dolphin is underwater. Dolphins come to the surface of water frequently to breathe in air. When they are underwater, they hold their breath; when they are out of breath, they return to the surface to take in more fresh air.

(ii) Air contains various unwanted particles such as dust, smoke, pollen etc. When we inhale the air, such particles get trapped in the hair present in the nasal cavity. However, the hair in the nasal cavity sometimes fails to trap these particles and they enter further in the respiratory system. This causes irritation of the lining of the cavity. As a result, we sneeze to expel these particles out of the body.

33. Ans.

(i) A – Sheep
B – Fleece

(ii) C – Shearing
D – Scouring

(iii) E – Wool

(iv) E, i.e. wool is used for making sweaters and shawls to protect ourselves from the low temperature in winters.

(v) The Bakharwal breed of sheep is used for producing wool used for making woollen shawls.

34. Ans.

(i)

1. Bar graph
2. Line graph
3. Pie chart

(ii) Advantages of drawing distance–time graphs:

1. The variation of distance travelled by an object with time can be seen more easily from a distance–time graph than from the distance and time values given in the table form.
2. From a distance–time graph, we can find the distance moved by an object at any point of time.