

Goa Board
Class VII Science
Term 1
Sample Paper – 3 Solution

Time: 3 hrs

Total Marks: 100

SECTION A

- 1. Ans.** Correct Option: [B]
Solution: Mushroom has saprophytic nutrition as it derives its food from dead and decaying organic matter.
- 2. Ans.** Correct Option: [A]
Solution: All ruminants are herbivores.
- 3. Ans.** Correct Option: [A]
Solution: Blubber
- 4. Ans.** Correct Option: [B]
Solution: Wind speed
- 5. Ans.** Correct Option: [D]
Solution: All of the above
- 6. Ans.** Correct Option: [B]
Solution: The level of oxygen in our body influences the breathing rate.
- 7. Ans.** Correct Option: [C]
Solution: The Bakharwal breed of sheep from Jammu and Kashmir is famous for making woollen shawls.
- 8. Ans.** Correct Option: [D]
Solution: Silk fibres are made of proteins.
- 9. Ans.** Correct Option: [A]
Solution: Woollen yarn is made up of woollen fibres. Fibres combine to form yarn.
- 10. Ans.** Correct Option: [C]
Solution: Amla contains ascorbic acid

11. Ans. Correct Option: [D]

Solution: Depending on the acids and bases used for the neutralisation reaction, the salt formed can be acidic, basic or neutral.

12. Ans. Correct Option: [B]

Solution: Curd contains lactic acid, and because acids are sour in taste, curd tastes sour.

13. Ans. Correct Option: [A]

Solution: Grape juice has tartaric acid in it. Acids change the colour of blue litmus paper to red.

14. Ans. Correct Option: [D]

Solution: Non-volatile liquids are preferred to thermometric liquids, so this cannot be a possible reason.

15. Ans. Correct Option: [B]

Solution: Sea breezes are caused by convection currents generated due to the movement of air.

16. Ans. Correct Option: [B]

Solution: The system by which a refrigerator removes heat from the freezer and refrigeration compartments and disposes it outside the unit relies on convection.

17. Ans. Correct Option: [B]

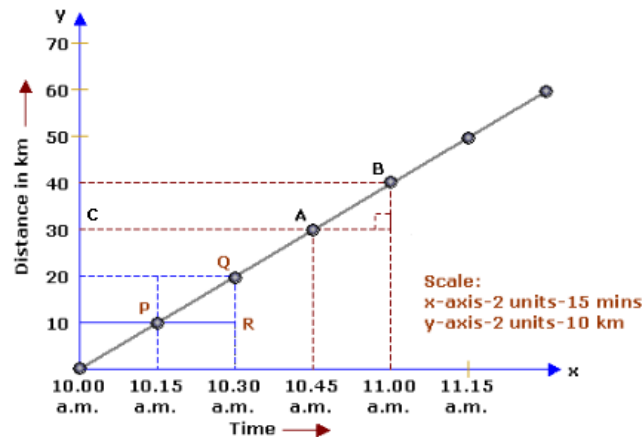
Solution: It is always better to wash the thermometer with an antiseptic solution.

18. Ans. Correct Option: [C]

Solution: Line

19. Ans. Correct Option: [C]

Solution:



Draw a line through the point A parallel to the x-axis and to the y-axis. This intersects the y-axis at the point C. The distance corresponding to the point A on the y-axis gives us the distance travelled by the vehicle by 10:45 am, i.e. 30 km.

20. Ans. Correct Option: [B]

Solution: The time taken by a pendulum to complete one oscillation is known as time period.

SECTION B

21. Ans. There are two different ways to replenish the soil. These are

- (i) Adding fertilisers
- (ii) Growing leguminous crops

22. Ans. Penguins are birds still they are not able to fly because

- (i) They do not need to avoid predators.
- (ii) They do not need to look for food as they eat fish.

Therefore, their wings have reduced and they have become good swimmers.

23. Ans. Water and minerals are transported to the leaves by the vessels which run like pipes throughout the roots, stems, branches and leaves.

24. Ans.

- (i) During both processes, energy is released by the breakdown of food.
- (ii) Carbon dioxide and water are also released during these processes.

- 25. Ans.** Silkworms secrete a fine filament made of fibroin protein from two glands on its head. The protein solidifies upon exposure to air and becomes silk fibres. Through the movement of its head from side to side in the form of the figure eight, the silkworm completely covers itself forming a cocoon.
- 26. Ans.** Blue litmus paper will become red on treating with juices of citrus fruits because citrus fruits contain acid which turns blue litmus paper red.
- 27. Ans.** Mineral acids are also called inorganic acids. These acids should never be tasted and touched because they are corrosive in nature and can cause skin burns.
- 28. Ans.** In solids, heat is transferred by the process of conduction. Heat is transferred from the hotter end to the colder end of an object. In this process, molecules of the substance do not move but only heat energy is transferred.
- 29. Ans.** Total time taken by first boy = $10/2 = 5$ h.
Total time taken by second boy = $(5/1) + (5/5) = 5 + 1 = 6$ h.
Thus, first boy won the race.
- 30. Ans.** Common units to measure time are second, minute, hour, day, week and year.

SECTION C

31. Ans.

(i)

1. Concrete ground absorbs more heat in comparison to soil and retains it for a longer time.
2. Urban areas lack the shade of trees.
3. The cooling effect in urban areas is relatively less due to less transpiration effect of plants.

(ii) The relative humidity of a place changes over a day because the Earth does not receive equal amount of heat throughout the day.

32. Ans.

- (i) The fungus provides shelter, water and minerals to the algae and, in return, the algae provide food to the fungi.
- (ii) *Cuscuta* does not have chlorophyll. It takes readymade food from the plant on which it climbs.

33. Ans.

- (i) The tree provides nutrients to the fungus and, in return, receives help from it to take up water and nutrients from the soil.
- (ii) Fertilisers and manures contain plant nutrients such as nitrogen, phosphorus and potassium. So, when fertilisers and manures are added to the soil in the fields, the soil gets enriched with nutrients such as nitrogen, phosphorus and potassium.

34. Ans.

- (i) When we inhale, some unwanted particles such as dust and pollen get trapped in the hair present in our nasal cavity. However, sometimes these particles may pass through the hair in the nasal cavity. They then irritate the lining of the cavity, as a result of which we sneeze. Sneezing expels these foreign particles from the inhaled air, and dust -free, clean air enters our body.
- (ii) During inhalation, the ribs move outwards due to which the size of the chest cavity increases. On the other hand, when we exhale, the size of the chest cavity tends to decrease.

35. Ans.

P: Wool

Wool is a natural fibre obtained from animals and is used for knitting sweaters.

Q: Silk

Silk is a natural fibre obtained from animals and is used for weaving saris.

R: Cotton

Cotton is a natural fibre obtained from plants and is used in filling quilts.

S: Jute

Jute is obtained from plants and is used in making gunny bags.

36. Ans.

(i)

Column I	Column II
(i) Scouring	(a) Cleaning sheared wool
(ii) Mulberry leaves	(b) Food of silkworm
(iii) Yak	(c) Wool-yielding animal
(iv) Cocoon	(d) Yields silk fibres

(ii) Shearing, Scouring, Sorting, Combing

37. Ans. We can perform the litmus test to show the presence of acid in orange juice as follows:

- (i) Take some orange juice in a test tube and add a little water to it.
- (ii) Put a drop of the orange juice solution on a strip of red litmus paper with the help of a dropper. We will find that there is no change in the colour of red litmus paper. This means that orange juice is not basic in nature because only basic substances or bases turn red litmus to blue.
- (iii) Now put a drop of orange juice solution on a strip of blue litmus paper. The blue litmus paper turns red.
This shows that orange juice is acidic in nature or orange juice contains an acid. This is because only acidic substances or acids turn blue litmus to red.

38. Ans.

- (i) Heat can transfer by
 - a) Conduction
 - b) Convection
 - c) Radiation
- (ii) There is a lot of concern over the use of mercury in thermometers, because mercury is a toxic substance and is difficult to dispose of if a thermometer breaks. Hence, digital thermometers which do not use mercury are available these days.

39. Ans.

- (i) In conduction, matter is not transported with heat; while in convection, matter is transported along with heat.
- (ii) Convection takes more heat upwards. Towards the top, the air gets heated by convection. Therefore, the hand above the flame feels hot. On the sides, however, there is no convection and air does not feel as hot as at the top.

40. Ans.

- (i) $1 \text{ min} = 1 \text{ cm}$
And $1 \text{ hour} = 60 \text{ min}$
Thus, $1 \text{ hour} = 60 \times 1 \text{ cm}$ (according to axis selection)
 $= 60 \text{ cm}$
Thus, we need a 60 cm long axis.

(ii)

- The motion can be uniform from point O to A.
- The motion can be uniform from point C to D.

SECTION D**41. Ans.**

- (i) Green plants which obtain their food partly from insects are called insectivorous plants.
- (ii) In the pitcher plant, the lamina (or blade) of the leaf is modified into a tube called the pitcher. The leaf apex forms a lid which can open or close the mouth of the pitcher. Hair which is directed downwards is present inside the pitcher. When an insect falls in the pitcher, the lid closes automatically. The trapped insect gets entangled in the hair of the pitcher and hence cannot come out. After some time, the insect dies in the pitcher.
- (iii) The walls of the pitcher plant secrete digestive juices which digest the proteins present in the body of the insect to form simple nitrogen compounds such as amino acids. These simple nitrogen compounds are absorbed by the walls of the pitcher and used by the whole pitcher plant.

42. Ans.

- (i) On land, frogs use their lungs to breathe, but there are no ribs or diaphragm to support breathing. The skin of a frog is permeable to oxygen, carbon dioxide and water. There are several blood vessels near the surface of the skin. So, when a frog is underwater, oxygen is transmitted through the skin directly into the bloodstream.
- (ii) Roots take up air from the air spaces present between the soil particles.

43. Ans. The rain which contains a higher level of acid than normal is called acid rain. Acid rain is caused by acidic gases such as sulphur dioxide, nitrogen dioxide and carbon dioxide which are released into the air as pollutants during the burning of various types of fuels. Sulphur dioxide dissolves in falling rain drops to form sulphuric acid, nitrogen dioxide dissolves in rain drops to form nitric acid and carbon dioxide dissolves in rain drops to form carbonic acid. The presence of sulphuric acid, nitric acid and carbonic acid in rain water makes the rain water acidic. When this acidic rain water falls on the Earth, we call it acid rain.

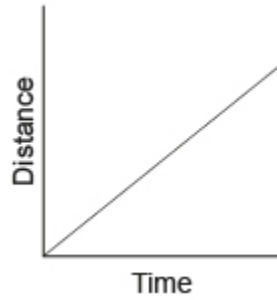
Acid rain causes damage to aquatic animals (like fish), trees, crop plants, metal structures and stone buildings and monuments. This happens as follows:

- (i) Acid rain makes the water of lakes, ponds and rivers too acidic due to which fish and other aquatic animals get killed.
- (ii) Acid rain eats up the leaves of the trees gradually. By losing leaves, the trees die. Acid rain also damages crop plants in the fields.
- (iii) Acid rain damages metal structures such as steel bridges.
- (iv) Acid rain damages the surfaces of buildings and monuments made of limestone.

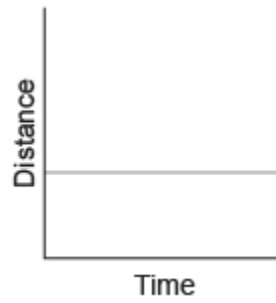
44. Ans.

(i)

1.



2.



3.



(ii)

1. Simple pendulum
2. Uniform