CBSE Sample Paper
Science Set – A Answer
Class 7

Section - A

1. Acetic acid and tartaric acid.
2. Pitcher plant.
3. Swallowing of prey.
4. The range of the clinical thermometer is from 35^0C to 42^0C.
5. In place of mercury, digital thermometer uses temperature sensitive resistance and LCD for temperature measurement and display respectively.
6. Speed of the wind, direction of the wind, temperature and humidity are the factors that contribute to the formation of cyclones.
7. Lactic acid.
8. Meteorological Department of the Government prepares the weather reports. This department collects data of temperature, wind, humidity, etc., and makes the weather prediction.
9. The process of selecting parents for obtaining special characters in their offspring is known as selective breeding.
10. Wool fibres retain air whereas silk fibres do not. Therefore, wool has greater bulk as compared to silk.
11. (i) Acetic acid
    (ii) Lactic acid
    (iii) Tartaric acid
    (iv) Ascorbic acid
12. The heat flows from a body at a higher temperature to a body at a lower temperature. There are three ways by which heat can flow from one object to other. These are conduction, convection and radiation.
13. Wool-yielding animals are:
    (1) Sheep
    (2) Yak
    (3) Angora Goat
    (4) Camel

14. By adding manure or fertilisers in the soil, nutrients can be replenished.

15. Strong winds of the cyclone push the water towards the shore even if the storm is hundreds of kilometres away. Water surface in the centre is lift by the low pressure of an eye of the storm. The rising water appears like a water wall and it enters the low-lying coastal areas and it cause severe loss of life and damage to property. It reduces the fertility of the soil. The high speed winds damage the houses, telephones and other communication systems, etc.

16. In an area, air moves from the region of high air pressure towards the region of low air pressure.

17. The organisms that survive in the absence of oxygen are called anaerobes. In the absence of oxygen, glucose breaks down into alcohol and carbon dioxide.

18. The regular seasonal journey undertaken by many species of animals and birds to escape the harsh and cold conditions of weather is known as migration. Many animals, birds and fishes migrate to warmer regions in winter and come back when winter is over. Migration is marked by its annual seasonality. For example, the Siberian crane that comes from Siberia migrates to India at places like Bharatpur in Rajasthan and Sultanpur in Haryana.

19. The layers of soil are different from each other in respect to their texture, colour, depth, particle size and chemical composition.

20. In our body, glands release hydrochloric acid that helps in the digestion of food. But too much of acid in the stomach causes indigestion. To get relief from indigestion, we take an antacid such as milk of magnesia which contains magnesium hydroxide. It neutralizes the effect of excessive acid.

21. The materials which allow heat to pass through them easily are known as conductors. For example-copper, iron etc.

The materials which do not allow heat to pass through them are known as insulators. For example- wood, plastic etc.

22. Clinical thermometer is used to measure our body temperature. The range of this thermometer is from 35 ^{o}C to 42 ^{o}C. It has kink which prevents the falling of mercury level on its own when the thermometer is taken out of the mouth. While for measuring temperature of other objects, we use laboratory thermometer. The range of this thermometer is from –10 ^{o}C to 110 ^{o}C. It does not have kink.

23. Grass eating animals like cows, buffaloes etc. quickly swallow the grass and store it in a separate part of the stomach called rumen.

In rumen, the food is partially digested and is called cud.

The cud returns to the mouth in small lumps and is chewed by the animal. The process is known as rumination and the animals are called ruminants.

24. (i) Air generally consists of fungal spores. When these spores come in contact with warm and moist things they germinate and grow. During rainy season, there are more chances of things getting wet. Fungi can grow on pickles, leather, clothes and various other articles which are kept in hot and humid weather for a long time. Hence, fungi appear more in rainy season.
(ii) Fungi have a saprophytic mode of nutrition. They secrete digestive juices on the dead and decaying matter and convert it into a solution. This solution provides them with nutrients which are easily absorbed by them.

25. John can decide by the use of indicator. If the sample of drink turns red litmus blue, it is basic. If it turns blue litmus red, it is acidic. If it does not affect litmus, it is neutral.

26. When we blow air into the mouth of the bottle, the air has higher speed near the mouth. Due to this, the air pressure decreases there. The air pressure inside the bottle is higher than that near the mouth. The ball is pushed out by the air inside the bottle. This is why a paper doesn't go inside.

27. It has adapted to the conditions of rainforests in many remarkable ways.

- It uses its trunk as a nose because of which it has a strong sense of smell. The trunk is also used by it for picking up food.
- Moreover, its tusks are modified teeth. These can tear the bark of trees that elephant loves to eat. So, the elephant is able to handle the competition for food rather well.

- Large ears of the elephant help it to hear even very soft sounds. They also help the elephant to keep cool in the hot and humid climate of the rainforest.

28. During heavy exercise our body requires more amount of energy but the oxygen supply required to produce this energy is limited. That's why our muscle cells respire anaerobically to fullfill the demand of energy.

29. (a)Two types of fibres obtained from the fleece of a sheep are longer fibres and shorter fibres.
(b)Longer fibres are used for making wool.
(c)The natural colour of the fleece of sheep and goat is black, brown or white.

30.

(a) When a pile of cocoons is either boiled or exposed to steam, the silk fibres separate out.

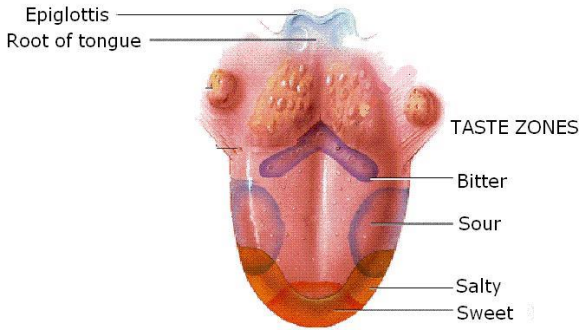
(b) The natural lustrous appearance of silk makes it attractive.

(c) Mulberry silk moth

31. Amoeba is a single celled organism found in pond water. It has a cell membrane, a dense, round nucleus and many bubbles like vacuoles. Amoeba constantly changes its shape and position. It pushes out one or more finger like projections, called pseudopodia or false feet for movement and capture of food. Amoeba feeds on some microscopic organisms. When it senses food, it pushes out pseudopodia around the food particle and engulfs it. The food becomes trapped in a food vacuole and digested by the digestive juices.

Or,

Regions of taste buds on tongue



32. Water absorbs heat from the atmosphere to change it into vapour state. When water vapour converts back into liquid state as raindrops, this heat is released to the atmosphere. This heat warms the surrounding air. This warm air tends to rise upward causing a decrease in air pressure. More air rushes to the centre of the storm. This cycle is repeated. A very low-pressure system with very high-speed winds revolving around it is formed. This is called a cyclone.

Or, In liquids (water), transfer of heat takes place due to convection, which involves actual movements of the particles. Hot water moves up and cold water moves down to take its place, which is shown by the cyclic movement of the paper pieces.

However, in solids, conduction takes place where heat transfer is due to the vibration of the particles without leaving their position. So, no movement of iron particles is observed.

33. Crops such as wheat are grown in the fine clayey soil, because they are rich in humus and are very fertile.

• For rice, soil rich in clay and organic matter and having a good capacity to retain water are ideal.

• For lentils and other pulses, loamy soil, which drain water easily, are required.

• For cotton, sandy loam or loam, which drain water easily and can hold plenty of air, are more suitable.

The climatic factors, as well as the components of soil determine the type of vegetation of any region.

Or,

Different particles of soil have different sizes which affect its properties such as:

• Sand particles are quite large. They cannot fit closely together, so there are large spaces between them. These spaces are filled with air. Water can drain quickly through these spaces. So, sandy soils tend to be light, well aerated and rather dry.

• Clay particles, being much smaller, pack tightly together, leaving little space for air. So, clay soils have little air. But they are heavy as they hold more water than the sandy soils.

• The best soil for growing plants is loamy soil. Loamy soil is a mixture of sand, clay and another type of soil particle known as silt. The size of the silt particles is between those of sand and clay. The loamy soil also has humus in it. It has the right water holding capacity for the growth of plants.

34. (i) The eggs of silk moth are incubated until they hatch and become larvae called caterpillars or silkworms.

(ii) These are fed on mulberry leaves for about six weeks.

(iii) Each larva sheds its skin four times. This is called moulting. During this period, they spin cocoons around it..

(iv) The cocoons are then gathered and boiled or exposed to steam to kill the insects inside them.

(v) The silk fibres are obtained from cocoons by a process called as reeling.

(vi) Then these fibres are spun into thread is called raw silk.

Or,

The wool which is used for knitting sweaters or for weaving shawls is the finished product of a long process, involves the following steps:

(i) **Shearing:** The fleece of the sheep along with a thin layer of skin is removed from its body.

(ii) **Scouring:** The sheared skin with hair is thoroughly washed in tanks to remove grease, dust and dirt. Now-a-days scouring is done by machines.

(iii) **Sorting:** After scouring, sorting is done. The hairy skin is sent to a factory where hair of different textures are separated or sorted.

(iv) **Dyeing:** The fibers can be dyed in various colors, as the natural fleece of sheep and goats is black, brown or white.

(v) **Carding and roving:** The fibers are straightened, combed and rolled into yarn. The longer fibers are made into wool for sweaters and the shorter fibers are spun and woven into woollen cloth.

Section - B

35. (a) a cyclone.

36. (c) magenta.

37. (a) 2 types of data.

38. (b) so that the level of mercury does not fall as soon as the thermometer is taken out of the mouth.

39. (a) methyl orange

40. (d) 20 ml/min.

41. (c) Anthrax.

42. (b) more bubbles will be observed in B, in 10 min.

43. (b) tobacco.

44. (c) diarrhoea.