

Maharashtra State Board

Class VI Science

Sample Paper – 2

Solution

I.

1. (b)

Every standardised weight has a hole in the centre which is filled with lead. Lead carries the stamp of the Weights and Measures Department.

2. (b)

The androecium of any flower is located between the corolla and the gynoecium.

3. (c)

Fern is a non-flowering plant, while datura and mango are flowering plants.

4. (b)

Mercury does not sublime; however, iodine, sal ammoniac and camphor are sublimatory substances.

5. (c)

16th September is observed as Ozone Day every year.

6. (c)

The bottle opener is a lever of second order in which the force is applied on the other side and the load is in the middle.

7. (a)

The central solid part of the core is made of iron and nickel and is extremely hot.

8. (c)

The lifespan of a dog is 16–18 years.

9. (d)

The diaphragm is the muscular partition between the chest and the abdominal cavity.

10. (c)

When elephants carry big wooden planks, the force applied is muscular force.

11. (d)

Hectare is the unit used to measure the area of fields.

12. (c)

In random motion, the direction of motion changes continuously.

13. (c)

Aerial roots grow from the stem. They grow downwards and become a column to support the branches of the tree.

14. (c)

Mammals have their skin covered with hair.

15. (d)

Tea leaves, fruit peels and vegetable peels are included in kitchen waste.

II.

16.

(a) Movement in plants:

Roots of plants grow towards water deep in the ground.

Branches of plants grow towards sunlight.

(b) Plants which excrete gum: Neem and babul

17. Differences between tree and shrub:

Tree	Shrub
1. Trees grow very tall.	1. Shrubs grow to a medium height up to 2–3 metres.
2. Trees have many branches which further branch as sub-branches and form a canopy.	2. Branches of shrubs start growing from the stems very close to the ground. They bear fewer branches as compared to trees.

18. Time is the period which passes between two events or the period it takes for an event to happen. Clocks are used to measure time.

19.

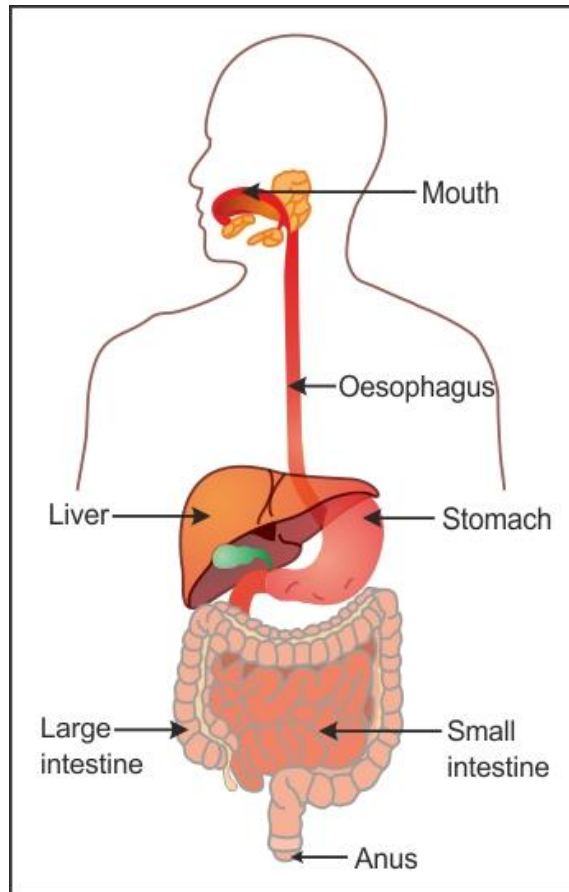
(a) Mixture of iron filing and soil = By using a magnet

(b) Mixture of camphor and sawdust = Sublimation

(c) Mixture of tea and tea leaves = Filtration

(d) Mixture of grain and dirt = Winnowing

20. Digestive system of human:



III.

21. In steam engines, work is done by using heat to change water into steam.

In the pressure cooker also, when water gets heated, a jet of steam starts coming out of the pressure cooker. Heat is used to change water into steam. Thus, it is a form of energy.

22. Causes of air pollution:

1. Release of toxic gases from factories.
2. Burning of wood and combustion of coal and fossil fuels.
3. Burning garbage, rubber and plastic which leads to the release of toxic substances and smoke in the air.

23. Different ways to take care of machines:

1. Dust should be wiped off from time to time by a clean cloth.
2. The parts of machines which get rubbed against each other must be regularly oiled to avoid wear and tear.
3. Rusting of machines must be avoided by painting and oiling them regularly.
4. Special maintenance departments must be set up to take care of and maintain machines.

24. The Earth's axis is slightly inclined. It revolves around the Sun in an elliptical orbit.
The Earth also rotates around its own axis while revolving around the Sun.
The inclined axis and its revolution around the Sun cause changes in seasons and climate.

25. Uses of radar system in measuring speed:

1. The radar system is used in sports competitions such as tennis, cycling and running.
2. It is used to find out the speed of bowling in a cricket match.
3. It is also used to spot and stop vehicles over speeding on busy roads.

IV.

26. Levers are classified on the basis of the position of the applied force, the fulcrum and the load.

1. Levers of first order: The fulcrum is in the middle. The load and the effort are on either side of the fulcrum.

Examples: Beam balance, farmer's lever

2. Levers of second order: The fulcrum is on one side. The force is applied on the other side and the load is in the middle.

Example: Wheel barrow

3. Levers of third order: The fulcrum is on one side. The force is applied in between and the load is on the other side.

Example: When we lift a weight, the elbow acts as the fulcrum, the load is in our hand at one end and we apply force at the forearm between the hand and the elbow.

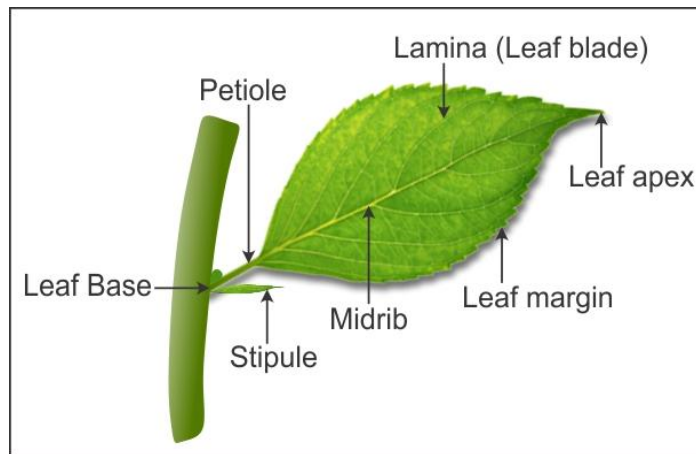
27. First, all impurities are removed from milk and it is standardised.

The milk is then heated to remove all water from it.

Because the heat required here is more than that required to kill germs, all disease-causing microorganisms and other microbes are destroyed.

The powder obtained through this process is then stored in airtight containers.

28. Structure of a leaf:



- Leaves grow from the nodes of the stem.
- A typical leaf is wide, thin and green.
- The flat part of the leaf is called lamina or the leaf blade.
- The edge of the leaf is known as leaf margin.
- The tip of the leaf is known as leaf apex.
- A thin stalk which joins the leaf to the stem is called the petiole.
- The part of the petiole joined to the stem is called the leaf base.
- Some leaves at their leaf base have small leaf-like structures called stipules.
- A thick central vein runs through the middle of the lamina and is called the midrib.
- The midrib branches out to form smaller veins and veinlets which support the leaf and supplies food and water to the leaf.

29. A spring balance is used to weigh an object. When the object to be weighed is hung from the hook of the spring, the gravity pulls the hung object downwards. At the same time, the tension in the spring exerts an upward pull on the object. Hence, the object swings for a while. However, at a point when the tension in the spring and the gravitational pull on the object become equal, the object becomes still.

30. Care to be taken to reduce the contamination of water supply in villages:

1. Awareness should be created among people about keeping water resources clean.
2. Public places such as railways stations, bazaars and playgrounds must be kept clean.
3. Water from factories should not be released in water bodies.
4. Sewage must be treated before releasing it into any water source.
5. People should avoid leaving behind litter.
6. Garbage should not be thrown in water reservoirs. The decomposition of garbage in water makes the water unfit for use.