

Maharashtra State Board

Class-VI Science

Board Paper –1

Solution

I.

1. (a)

A standard measure used for making any measurement is called a unit. Units bring about consistency in measurement.

2. (c)

Sepals are green. They protect the inner whorls of the flower in the bud stage.

3. (d)

Sparrow is a vertebrate, while earthworm, butterfly and cockroach are invertebrates.

4. (b)

Butter can be separated from buttermilk by the process of churning. During churning, the whole milk separates into butter which floats on the surface of buttermilk.

5. (c)

16th September is observed as Ozone Day every year.

6. (a)

The beam balance is an example of first order lever where the fulcrum lies between the force and the load.

7. (b)

The outermost part of the Earth is its crust. The mantle and the core lie below the Earth's crust and form the inner layers of the Earth.

8. (d)

Animals grow only during a specific period of time. Growth in animals does not occur continuously throughout life like plants.

9. (b)

During inhalation, the ribs get lifted slightly. The diaphragm sags downwards and the pressure on the lungs is reduced. As a result, air from outside enters the lungs through the nose.

10. (d)

When force is applied to an object, the stationary object is set in motion. The speed and the direction of motion of the object change. There is a change in the shape and size of the object.

11. (b)

The bowling speed of a fast bowler in a cricket match is measured using a radar gun. The radar gun was invented by John Barker in 1947.

12. (a)

The motion of an object through a certain point at regular intervals of time is called periodic motion. Motion along a straight line is called linear motion. Motion in which direction changes continuously is called random motion. Motion in a circular path is called circular motion.

13. (d)

The roots of sugarcane which grow above the ground from the stem are called prop roots or stilt roots. They give support to the stem and help them to stand erect.

14. (c)

Guava is a perennial plant. Radish, carrot and beetroot are biennials.

15. (d)

Tea leaves, fruit peels and fish bones are biodegradable wastes. Plastic is a non-biodegradable waste which cannot be decomposed by the action of microorganisms.

II.

16. Differences between hibiscus leaf and peepal leaf:

Hibiscus leaf	Peepal leaf
1. There is a thin midrib in the centre of the lamina of the hibiscus leaf.	1. There is a thick midrib in the centre of the lamina of the peepal leaf.
2. Small veins and veinlets arrange themselves parallel in the lamina, showing parallel venation.	2. Smaller veins and veinlets form a network in the lamina, showing reticulate venation.
3. Leaf margin is serrated.	3. Leaf margin is plain.
4. Leaf apex does not taper and is shorter.	4. Leaf apex is tapering and pointed.
5. Hibiscus leaf has stipules.	5. Peepal leaf does not have stipules.

17.

- (a) Elephant : 70–90 years :: Dog : **16–18 years**
(b) Cuckoos : Eggs :: Fern : **Spores**

18.

- (a) Standard measuring units bring about consistency in measurements.
(b) Units of Distance: Millimetre, centimetre, metre, kilometre
Units of Time: Second, minute, hour, day, week, month, year

19. Butter is lighter than creamy yoghurt. So, when creamy yoghurt is churned, butter separates from buttermilk and begins to float on the top. The floating butter is then removed carefully from the top of buttermilk.

20.

- (a) Bile juice
(b) Small intestine

III.

21. In the given food chain, if snakes were destroyed, then

- (a) The mice population will increase tremendously because there will be no snakes to kill and eat them.
(b) The plants will be eaten up by the increased mice population which feed on them.
(c) The hawk population will decrease because there will be no snakes for them to feed on.
(d) This would create an imbalance in the food chain and consequently the environmental balance would be disturbed.

22. Precautions to be taken to reduce the spread of diseases caused by sewage water:

- (a) Sewage should be allowed to flow through closed drainage pipes.
(b) Sewage water should be properly disposed of.
(c) Sewage water should not be allowed to get accumulated in open spaces to prevent the breeding of mosquitoes which spread diseases such as malaria and dengue.

23. Levers are of the following three types:

- (a) First order lever: Fulcrum is in the middle and the load and the force applied are on the either side, i.e. Force–Fulcrum–Load.
Example: Beam balance
- (b) Second order lever: Load is in the middle and the fulcrum and the force applied are on the either side, i.e. Fulcrum–Load–Force
Example: Bottle opener
- (c) Third order lever: Force applied is in the middle and load and the fulcrum are on the either side, i.e. Fulcrum–Force–Load
Example: Fishing rods which anglers use

24. Advantages of land:

- (a) Cultivation of land meets our food requirements.
- (b) Land provides us with a place to construct our homes.
- (c) It provides us with building materials such as soil, sand, stones and bricks.
- (d) Minerals and other raw materials required for industries are obtained from land.
- (e) Fuels such as coal and natural gas are obtained from the Earth's crust.

25.

- (a) Thermometer
- (b) Stop-watch

IV.

26.

- (a) The trapeze artists perform regular and precise movements to avoid a fall. A body is said to have periodic motion when it moves through a certain point at regular intervals of time. Therefore, the movements of trapeze artists are said to have periodic motion.
- (b) A child coming down from a slide is moving only in one direction. However, his speed is increasing continuously. A body is said to have non-uniform linear motion when it travels along a straight line and its speed continuously changes. Therefore, a child coming down from a slide shows non-uniform linear motion.

- 27.** The components of blood are separated by centrifugation and then stored separately. Sometimes, a patient may need whole blood or may need only a certain component of blood. The blood components are separated so that specific components of blood can be supplied according to the needs of the patient.

28. The roots which grow above the ground from the stem are called aerial roots. The aerial roots of the banyan tree arise from its branches, grow towards the ground and enter it. They form columns and help to support the branches of the tree.

29.

	Instance	Accurate measurement	Approximate measurement
(a)	Buying gold and silver articles	✓	
(b)	The time taken by an athlete to finish the race	✓	
(c)	Buying sugar from the grocery shop		✓
(d)	Salt to be added while cooking		✓

30. Care to be taken to maintain good social health in a town:

- (a) Development of surroundings in any area without damaging social environment.
- (b) Chalking out suitable plans to provide amenities to the local people.
- (c) Provision of sufficient and satisfactory facilities for medical treatment, recreation and playgrounds for children.
- (d) Provision of good, ample and clean supply of potable water to the people.
- (e) Active participation and cooperation of the people in keeping the surroundings clean without any garbage heaps.
- (f) Economical use of resources.