

Goa Board
Class VIII Science
Term 1
Sample Paper – 2 Solution

Time: 3 hrs**Total Marks: 100**

SECTION A

1. **Ans.** Correct Option: [C]

Solution: The nitrogen-fixing bacteria present in leguminous plants add nitrogen to the soil and thereby increase soil fertility.

2. **Ans.** Correct Option: [B]

Solution: The drip irrigation system provides water to the plants drop by drop. So, water does not get wasted at all. In this way, it conserves maximum amount of water.

3. **Ans.** Correct Option: [A]

Solution: Several communicable diseases such as cholera, tuberculosis, smallpox and hepatitis can be prevented by vaccination. Diabetes, goitre and scurvy are metabolic diseases and can be prevented by consuming or limiting the intake of specific nutrients.

4. **Ans.** Correct Option: [C]

Solution: The skin of snakes is in great demand for making fancy leather goods. Snake skin is sold at a high price in the market. Therefore, for easy money, snakes are killed indiscriminately to obtain their skin.

5. **Ans.** Correct Option: [B]

Solution: Children are protected against polio under the Pulse Polio Programme. Polio disease is prevented by giving children the oral polio vaccine (OPV).

6. **Ans.** Correct Option: [A]

Solution: Species whose numbers are diminishing to such a low level that they may face extinction soon are known as endangered species. Species which no longer exist anywhere on the Earth are called extinct species. Flying squirrel, black buck and snow leopard are examples of endangered species, while the dodo is an example of an extinct species.

7. **Ans.** Correct Option: [C]

Solution: Teflon is used in cookware coating as it is non-sticky.

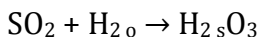
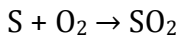
8. **Ans.** Correct Option: [C]

Solution: Synthetic fibres have high resistance to abrasion.

9. Ans. Correct Option: [C]

Solution: When sulphur is heated, it reacts with the atmospheric oxygen to form sulphur dioxide gas. This gas when dissolved in water forms sulphurous acid

(H₂SO₃).

**10. Ans.** Correct Option: [C]

Solution: Copper is less reactive than zinc, so it cannot displace zinc from its solution. Therefore, this reaction will not occur.

11. Ans. Correct Option: [A]

Solution: Sodium metal produces lots of bubbles rapidly when it is added to cold water.

12. Ans. Correct Option: [B]

Solution: Diesel acts as a fuel for heavy motor vehicles.

13. Ans. Correct Option: [B]

Solution: Perfumes are obtained from coal tar.

14. Ans. Correct Option: [A]

Solution: Bursting of an inflated balloon shows that gas exerts pressure on the walls of its container.

15. Ans. Correct Option: [C]

Solution: When more than one force acts on an object, the effect on the object is due to the net force acting on it.

16. Ans. Correct Option: [B]

Solution: The magnitude of non-contact forces decreases with the increase in separation.

17. Ans. Correct Option: [D]

Solution: To minimise friction due to water (or any other liquid) and air (or any other gas), the moving body should have a streamlined shape. Such a shape offers minimum resistance due to friction.

18. Ans. Correct Option: [C]

Solution: Friction is necessary to write. We are able to write on paper because there is friction between the tip of the pencil (or pen) and paper.

19. Ans. Correct Option: [C]

Solution: Flapping of wings by bees and mosquitoes produces a high frequency vibration in the air which is heard as buzzing.

20. Ans. Correct Option: [B]

Solution: Water is a denser medium, and hence, sound travels faster in it. Hence, beating drums near the water body ensured that the sound travelled faster and farther to be heard at far off places.

SECTION B

21. Ans. Due to the loss of forest cover, the percolation of rain water into the soil is reduced. There is a decrease in the water-holding capacity of the soil. The movement of water from the soil surface into the ground, i.e. the infiltration rate is reduced. The rain water from deforested soil rushes into the rivers quickly, eventually causing floods.

22. Ans. Loosening the soil allows the roots of plants to penetrate freely and deeper into the soil and allows the roots to breathe easily. The loose soil helps in the growth of worms and microbes present in the soil. These worms and microbes add humus to the soil and enrich it. Loosening brings nutrient-rich soil to the top for the intake of plants.

23. Ans. Seeds do not germinate under dry conditions. Irrigation of crop fields provides sufficient moisture for the germination of seeds.

24. Ans. Leguminous plants have nitrogen-fixing bacteria in their root nodules, which can fix atmospheric nitrogen and make it available to the plants and soil. These bacteria enrich the soil with nitrogen and thereby increase soil fertility.

25. Ans. The polyester shirt will dry faster.

Cotton readily absorbs water, whereas polyester is not a good absorbent of water. Therefore, polyester clothes dry faster.

26. Ans.

- (i) Nitrogen is used for preserving food materials because of its inert behaviour.
- (ii) Nitrogen is used up in the manufacture of fertilisers, ammonia etc.

27. Ans. On the basis of availability of materials, natural resources are of two types: Inexhaustible and exhaustible.

Inexhaustible natural resources are those which are present in nature in unlimited amounts and can never get finished by human activities. For example, air, sunlight, soil etc.

Exhaustible natural resources are those which are present in nature in limited amounts and can get finished by human activities. For example, petroleum, natural gas, coal etc.

28.Ans. This happens because the Earth pulls all objects towards itself due to the attractive force called the force of gravity.

29.Ans. A violinist puts rosin on his bow to increase friction between the bow and the violin strings, thereby producing sound.

30.Ans. Sound cannot travel in vacuum because sound travels by producing a vibration in the molecules of the medium surrounding it, and there are no molecules in vacuum.

SECTION C

31.Ans.

- (i) The negative effects of deforestation are
 - a. It causes an increase in the temperature of the Earth's atmosphere leading to global warming.
 - b. It leads to a shortage of wood and other forest products.
 - c. It causes soil erosion, makes the soil infertile and leads to desertification.
 - d. It causes frequent flooding of rivers, leading to loss of life and property.
 - e. It affects the water cycle, leading to a decrease in rainfall. This lowers the groundwater level and causes droughts.
 - f. It leads to extinction of many wild animals and plants.
- (ii) Increase in soil fertility cannot be caused by deforestation. Deforestation results in extensive soil erosion due to which the lower, hard and rocky layers get exposed. The fertile soil gets washed away during soil erosion. Hence, soil fertility gets reduced and is not increased during deforestation.

32.Ans.

- (i) Differences between manures and fertilisers:

Manures	Fertilisers
1. Natural substances obtained by the decomposition of plant and animal	1. Inorganic substances or compounds

remains by bacteria	
2. Provides humus to the soil	2. Does not provide humus to the soil
3. Less rich in plant nutrients	3. Rich in plant nutrients such as nitrogen, phosphorus and potassium
4. Can be prepared in fields	4. Prepared in factories
5. Inconvenient to store and transport	5. Easy to store and transport
6. Absorbed slowly by plants	6. Absorbed readily by plants

(ii) A cultivator is a tractor-driven agricultural implement used for ploughing. It has many ploughshares which can dig into a considerable area of soil at the same time, loosening and turning it. Because Mahesh uses a cultivator for ploughing, he is able to save both labour and time as compared to Satish.

33.Ans.

- (i) Honey is a nutritious food obtained from animals. It is used in ayurvedic medicines as it is rich in sugars, minerals and enzymes and has medicinal properties.
- (ii) The rearing of honeybees on a large scale is called apiculture. Honey is produced by rearing honeybees.

34.Ans.

- (i) Dry fruits are sold in sealed and airtight packets to prevent them from the attack of microbes and to preserve them for a longer time.
- (ii) If we do not preserve food properly, then the food may get spoilt by the action of microorganisms. Microorganisms which grow on food sometimes produce toxic substances that make the food poisonous, causing serious illness and may even result in death. Hence, it is important to preserve food properly to prevent it from getting spoilt.

35.Ans.

- (a) Terylene; PET
- (b) Nylon
- (c) Acrylic
- (d) PET

36.Ans. Differences in physical properties of metals and non-metals:

Metals	Non-metals
1. Metals are malleable and ductile.	1. Non-metals are neither malleable nor ductile. They are brittle.
2. Metals are good conductors of heat and electricity.	2. Non-metals are poor conductors of heat and electricity (Except graphite)

	which is a good conductor of electricity).
3. Metals are lustrous.	3. Non-metals are not lustrous. They are dull.
4. Metals are strong. They have high tensile strength (Except sodium and potassium which are not strong and have low tensile strength).	4. Non-metals are not strong. They have a low tensile strength.

37.Ans. LPG stands for liquefied petroleum gas. LPG is a good fuel because of its following advantages:

- (i) LPG burns easily.
- (ii) LPG has a high calorific value. Due to this, a given amount of LPG produces a lot of heat.
- (iii) LPG burns with a smokeless flame and hence does not cause air pollution.
- (iv) LPG does not produce any poisonous gases on burning.
- (v) LPG does not leave behind any solid residue on burning.

38.Ans.

- (i) The force of friction always acts on all the moving objects. It arises only when the surfaces of two objects are in touch with each other; therefore, it is considered a contact force.
- (ii) The wall of a dam is made stronger and thicker at the bottom than at the top so as to withstand high sideways pressure exerted by deep water stored in the reservoir of the dam.

39.Ans.

- (i) A ball bearing is a device which consists of a ring of small metal balls. It is designed to make the moving parts of a machine to roll over each other rather than slide.
- (ii) When we use a pencil eraser, friction between the eraser and the paper rubs off some rubber particles from the eraser. Thus, the eraser loses tiny pieces of rubber due to friction.

40.Ans.

- (i) Shrillness of the sound produced by a body is determined by the frequency of the vibrating body.
- (ii) Oceanic sound pollution is caused by
 - (a) Underwater blasting
 - (b) Dredging
 - (c) Underwater earthquakes

SECTION D

41.Ans. The process of transferring the seedlings from the nursery to the main field by hand is called transplantation or transplanting. Advantages of transplantation are

- (i) It enables us to select only the better and healthy seedlings for the cultivation of crops. This selection is, however, not possible when the seeds are directly sown in the soil.
- (ii) It allows deeper penetration of the plant roots inside the soil.
- (iii) It promotes better development of the shoot system of plants.
- (iv) It allows the seedlings to be planted at the right spacing so that the plants get uniform distribution of sunlight, water and nutrients.

42.Ans. We can prevent the spread of diseases, such as malaria and dengue, in the following ways:

- (i) Pools of stagnant water around the houses should be drained out so that mosquitoes do not breed in them.
- (ii) The windows and doors of the house should have a fine iron wire mesh so that mosquitoes cannot enter the house.
- (iii) Insecticides should be sprayed in the house periodically to kill mosquitoes.
- (iv) Oil should be sprayed on the surface of water in dirty water drains to kill the larvae of mosquitoes.
- (v) Mosquito-repellent creams should be applied on the exposed parts of the body before sleeping at night. Mosquito-repellent devices can also be used.

43.Ans.

- (i) Malleable: This means that metals can be beaten into thin sheets with a hammer. The property which allows the metals to be hammered into thin sheets is called malleability. Aluminium metal can be hammered to form aluminium foils.
- (ii) Ductile: This means that metals can be drawn (or stretched) into thin wires. The property which allows the metals to be drawn into thin wires is called ductility. Copper metal can be drawn into thin copper wires (used as electric wires).
- (iii) Lustrous: This means that metals have a shiny appearance. The shiny appearance of the metals is called metallic lustre. Gold metal is used for making jewellery because of its shiny lustre.
- (iv) Conductors: This means that metals allow heat and electricity to pass through them easily. Copper metal is used in making cooking utensils because of its high heat conductivity.
- (v) Sonorous: This means that metals make a ringing sound when we strike them. The property by virtue of which metals make a ringing sound is called sonority. Metal sheets are used for making bicycle bells and temple bells.

44.Ans.

- (i) When we press the sucker, the air between its cup and the surface escapes out. The sucker sticks to the surface because the pressure of the atmosphere works on it. To pull the sucker out, the applied force should be large enough so as to overcome the atmospheric pressure.
- (ii) Spacesuits are specially designed to protect astronauts from the cold, dangerous radiations and low pressure in space and to provide oxygen to breathe. Thus, wearing a spacesuit allows an astronaut to survive and work in space.