

**Goa Board**  
**Class VIII Science**  
**Term 1**  
**Sample Paper – 5 Solution**

**Time: 3 hrs**

**Total Marks: 100**

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**SECTION A**

- 1. Ans.** Correct Option: [D]  
Solution: Wheat and mustard are rabi crops, which are grown in the winter season.
- 2. Ans.** Correct Option: [D]  
Solution: Horticulture is the art or practice of garden cultivation and management.
- 3. Ans.** Correct Option: [A]  
Solution: Foot and mouth disease is a viral disease affecting cattle.
- 4. Ans.** Correct Option: [B]  
Solution: Ravi is suffering from loose motions because he consumed spoilt or contaminated food from a roadside vendor because of food poisoning.
- 5. Ans.** Correct Option: [D]  
Solution: Recycling of cardboard cartons as it is made of wood.
- 6. Ans.** Correct Option: [B]  
Solution: Asiatic lion is an endangered species.
- 7. Ans.** Correct Option: [A]  
Solution: A polymer is a large molecule made of many smaller and identical repeating units called monomers.
- 8. Ans.** Correct Option: [C]  
Solution: Melamine is a thermosetting plastic which when moulded once cannot be softened by heating.
- 9. Ans.** Correct Option: [D]  
Solution: Copper and aluminium are used for making cooking utensils and water boilers because they are good conductors of heat.
- 10. Ans.** Correct Option: [A]  
Solution: Metals combine with oxygen to form basic oxides.

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

Solution: Metals react with water to form either their respective oxides or hydroxides and liberate hydrogen gas.

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

Solution: When heated in air, coal burns and produces mainly carbon dioxide gas.

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

Solution: Hydrogen gas is not obtained during petroleum refining.

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

Solution: The greater is the magnitude of the charges and the smaller is the distance between them, the greater will be the electrostatic force between them.

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

Solution: The rapid motion and collisions of molecules with the walls of the container cause gas pressure.

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

Solution: Force is a vector quantity, while mass, length and distance are scalar quantities.

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

Solution: The glass tumbler will be the most difficult to hold. This is due to less friction between the smooth surface of the glass and that of his hand.

**18.Ans.** Correct Option: [D]

Solution: Friction decreases the efficiency of machines.

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

Solution: Dog whistles are not audible to human ears as their frequencies are in the range of 40,000 Hz, i.e. in the ultrasonic range which is outside the audible range.

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

Solution: Sound always travels faster in a denser medium. So, solids are the most favourable medium for sound to propagate faster.

**SECTION B**

**21.Ans.** Deforestation leads to a decrease in the water-holding capacity of the soil. The movement of water from the soil surface to the ground, i.e. the infiltration rate, is reduced. This causes floods.

**22.Ans.**

<b>Kharif Crops</b>	<b>Rabi Crops</b>
i. The crops which are sown in the rainy season are called kharif crops.	i. The crops grown in the winter season are called rabi crops.
ii. Their time period is generally from June to September.	ii. Their time period is generally from October to March.
Example: Paddy	Example: Wheat

**23.Ans.** Fertilisers are soluble in water and easily get washed off through irrigation and rainfall. They enter the water bodies and pollute them, thus disturbing the ecosystem.

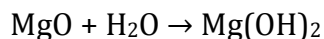
**24.Ans.** Pasteurisation is a process of heating milk to a temperature of 70°C for 15 to 30 seconds and then suddenly cooling it. Louis Pasteur discovered this process.

**25.Ans.** Plastic bottles should be recycled as they are non-biodegradable and do not decompose easily.

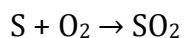
No. Plastic wastes should not be burned for disposing them off because burning of plastic wastes gives out harmful gases which pollute the air.

**26.Ans.**

(i) Magnesium oxide when dissolved in water forms magnesium hydroxide.



(ii) Sulphur when burnt in air reacts with the oxygen present in the air to form sulphur dioxide gas.



**27.Ans.** The two main reasons for which the economical use of coal is necessary:

- (i) Coal is an exhaustible source. If it is used indiscriminately, then it will be exhausted, as it is present in nature in a limited amount. It takes millions of years to form fossil fuels, so it is not possible to make new fossil fuels artificially.
- (ii) Coal generates polluting gases on burning. It is almost carbon and produces carbon dioxide on burning, which pollutes our environment. These polluting emissions have given rise to dangers of global warming and air pollution. So, their limited and economic use can control pollution and give a better environment.

**28.Ans.** A vacuum cleaner has a fan which creates a low pressure inside the device. Consequently, air and dirt particles are sucked into the device as the pressure outside is higher than inside.

**29.Ans.** Winter tyres have deeper treads than regular car tyres. This makes their surface rougher and helps them get a good grip on snow and ice-covered roads.

**30.Ans.** Loosening or tightening a string of a guitar changes its frequency/pitch. A player does this to adjust the sound produced by the guitar so as to match its frequency with that of the accompanying instruments.

### SECTION C

**31.Ans.**

- (i)
  - (a) Salt is added to pickles to prevent the attack of microbes.
  - (b) Vinegar prevents the spoilage of pickles because bacteria cannot live in such an environment.
  - (c) Use of oil prevents the spoilage of pickles by not permitting bacteria to grow in this environment.
- (ii) Sodium benzoate and sodium metabisulphite

**32.Ans.**

- (i) The perpendicular pipes, having rotating nozzles on the top, are joined to the main pipeline at regular intervals. When water is allowed to flow through the main pipe under pressure with the help of a pump, it escapes from the rotating nozzles. It gets sprinkled on the crop as if it is raining.
- (ii) When too much water is given to the soil, it becomes wet. Water accumulates around the plant. This is called water-logging.

**33.Ans.**

- (i) If deforestation continues, then rainfall and soil fertility will decrease. In addition, there will be increased chances of natural calamities such as floods and droughts.
- (ii) Trees are cut down in several countries, especially the developing ones where wood is used as firewood or turned into charcoal and used for cooking and heating purposes. This leads to deforestation.

**34.Ans.**

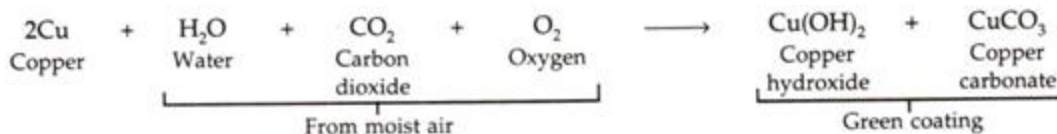
- (i) The functions of an ecosystem are
  - a. Transfer of matter and energy
  - b. Fixation of solar energy
- (ii) Carbon dioxide traps the heat rays reflected by the Earth and causes global warming by increasing the temperature on the Earth.

**35.Ans.**

- (i) Thermoplastics are made of linear chains of molecules with a few cross linkages. This allows them to soften when heated and to be bent into a variety of shapes and forms.
- (ii)

<b>Thermoplastics</b>	<b>Thermosetting plastics</b>
1. They can be softened repeatedly by heating and can be moulded into different shapes again and again.	1. Once set, they do not become soft on heating and cannot be moulded a second time.
2. They can be used for making articles which do not get too hot and are flexible.	2. They are used for making articles which may get too hot during use and are hard and rigid.

**36.Ans.** When a copper object is exposed to moist air for a longer time, it reacts with water, carbon dioxide and oxygen present in moist air to form a green coating on the copper object. The green coating (or green material) is a mixture of copper hydroxide [Cu(OH)<sub>2</sub>] and copper carbonate (CuCO<sub>3</sub>) which is formed by the action of moist air on the copper object. This reaction can be written as



The mixture of copper hydroxide and copper carbonate which forms the green coating is commonly known as 'basic copper carbonate' (because it is basic in nature).

If we make a suspension of a little of the green coating (from a copper vessel) in water and test it with litmus papers, then we will find that it turns red litmus paper to blue. This shows that the green coating formed on a copper vessel (or any other copper object) is basic in nature. The formation of a green coating of basic copper carbonate on the surface of copper objects on exposure to moist air is called corrosion of copper.

**37.Ans.**

- (a) The real source of energy of coal is solar energy because the plants and trees which decomposed to form coal grew on the Earth by absorbing sunlight energy during the process of photosynthesis.
- (b) Uses of coal:
- (i) As a fuel in homes and industries.
  - (ii) As a fuel at thermal power plants for generating electricity.
  - (iii) To make coal gas, an important industrial fuel.
  - (iv) To make coke.
  - (v) Earlier, coal was used as a fuel to make 'steam' to run steam engines of trains.
  - (vi) Coal was also used as a source of organic chemicals.

**38.Ans.**

- i. The force may make the object move from rest.
- ii. The force may change the speed of the object if it is moving.
- iii. The force may change the direction of motion of the object.
- iv. The force may bring about a change in the shape of the object.

**39.Ans.**

- (i) It is difficult to light a matchstick by striking it on a smooth surface because enough friction is not provided by a smooth surface to produce sufficient heat.
- (ii) Methods of increasing friction:
- (a) Making the surface rough
  - (b) Adding weight to the object that is moving

**40.Ans.**

- (i) Pitch is the effect or sensation produced in the brain due to the sound of some particular frequency. Pitch depends on the frequency of a vibrating body. It means that higher the pitch, higher is the frequency, and lower the pitch, lower is the frequency.
- (ii) Timbre or sound quality is that characteristic by virtue of which we can distinguish between two sounds of the same pitch and loudness produced by two different musical instruments or two different voices.

**SECTION D****41.Ans.**

- (i) An animal suffering from any disease shows the following symptoms:
  - a. Becomes inactive and stops taking food.
  - b. Watering in eyes and excessive secretion of saliva.
  - c. Its milk yield or egg-laying and working capacity reduce drastically.
- (ii) They are all transmitted through air.
- (iii) Robert Koch discovered the bacterium causing anthrax disease.

**42.Ans.**

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

The various advantages of the transplantation process are given below.

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

**43.Ans.**

- (i) The strong heating of coal in the absence of air is called destructive distillation of coal.
- (ii) The various products obtained by destructive distillation of coal are coal gas, coal tar and coke.
1. **Coal gas:** Coal gas is a gaseous fuel which is obtained by the strong heating of coal in the absence of air during the processing of coal to get coke. Coal gas is mainly a mixture of methane and hydrogen, with some carbon monoxide. All the gases present in coal gas can burn to produce heat due to which coal gas is an excellent fuel (having high calorific value). Coal gas is used as a fuel in industries. These days, however, coal gas is used as a source of heat rather than light.
  2. **Coal tar:** Coal tar is a thick, black liquid having an unpleasant smell which is obtained by heating coal in the absence of air. It is not a single compound, but it is a mixture of about 200 carbon compounds (or organic compounds). The products of coal tar are used to make synthetic fibres, drugs (medicines), plastics, synthetic dyes, perfumes, paints, varnishes, pesticides, photographic materials, roofing materials and explosives. Coal tar has been traditionally used for metalling roads.
  3. **Coke:** Coke is a tough and porous black solid substance. It is prepared by heating coal in the absence of air. Coke is an almost pure form of carbon. Coke is mainly used as a reducing agent in the extraction of metals (e.g. iron, zinc). It is used in the manufacture of steel. Coke is also used as a fuel.

**44.Ans.**

- (i) When we write with chalk on the black board, its rough surface rubs off some chalk particles which stick to the blackboard. This happens due to the friction between the surface of the black board and the chalk.
- (ii) Friction is an evil because
- (a) It wears out the rubbing machine parts.
  - (b) It produces heat which may damage machines.
  - (c) It results in wastage of energy and fuel.