

## Solved Sample Paper

Class VII

Subject: Science

Max Marks: 80

Time: 3 Hours

### GENERAL INSTRUCTIONS:

- Read the instructions carefully
- All the questions are compulsory.
- Question number 1 to 5 carries 1 mark each.
- Question number 6 is carries 2 marks each.
- Question number 7 carries 5 marks each.

### 1.) State whether the following statements are True or False: -

Marks: 5.0

- A. When the solution is basic, phenolphthalein gives a pink colour. (T)
- B. The correct order of processes used in obtaining fibre from fleece of sheep is Shearing → Scouring → Sorting. (T)
- C. The time taken by the pendulum to complete one oscillation is called its amplitude. (F)
- D. The humans are able to digest cellulose because of the presence of certain bacteria in them. (F)
- E. A plant collecting sunlight and turning it into food is an example of chemical change. (T)

### 2.) Fill in the blanks with appropriate answers: -

Marks: 5.0

- A. The decomposers act upon the dead plant and animal tissues and convert them into a dark coloured substance called humus.
- B. During convection, the water at the bottom of the vessel moves up, while the cool and denser water at the surface moves down.
- C. When the distance covered by an object is directly proportional to time, it is said to travel with constant speed.

- D. The stomach is the connecting link between the oesophagus and the small intestine.
- E. Galvanization is a method to prevent iron from rusting. It involves the coating of zinc over iron.

### 3.) Multiple Choice Questions (There can be more than one answer right):

Marks: 5.0

- A. Select the incorrect statement
  - a. Nitric acid turns red litmus blue.
  - b. Sodium hydroxide turns red litmus blue.
  - c. Sodium hydroxide and hydrochloric acid neutralize each other and form salt and water.
  - d. Indicator is a substance which shows different colours in acidic and basic solutions.
- B. A fuse in an electric circuit acts as a
  - a. Current multiplication
  - b. Voltage multiplication
  - c. Safety device
  - d. Power multiplier
- C. The shearing of wool is done only in summer because
  - a. They yield more wool in summer
  - b. The quality of the wool is better in summer
  - c. The sheep is able to survive without their protective coat
  - d. In winter sheep hibernates
- D. The mercury does not fall or rise in a clinical thermometer because of the
  - a. Glass of the thermometer
  - b. Kink near the bulb
  - c. Bulb of the thermometer
  - d. Special mercury used in the thermometer
- E. The inner surface of a spoon acts like a
  - a. concave mirror
  - b. convex mirror
  - c. concave lens
  - d. convex lens

#### 4.) Very Short Answer Questions:

Marks: 5.0

##### A. Give the composition of urine.

Ans. The urine comprises of 95% water, 2.5 % urea and 2.5% other waste products.

##### B. What is the chemical name of

- a. Baking Soda
- b. Milk of magnesia

Ans.

- a. Sodium hydrogen carbonate
- b. Magnesium hydroxide

##### C. Give one word for the transfer of pollen grains from anther to the stigma of a flower.

Ans. Pollination

##### D. Write the agent of seed dispersed in the following plants

- a. *Xanthium*
- b. Coconut

Ans.

- a. *Xanthium*- Animal
- b. Coconut- Water

##### E. Why two-thirds of the biodiversity of the world inhabits in the tropical rainforest?

Ans. The tropical rainforests have favourable climatic conditions of temperature, humidity and rainfall. These make them suitable for the flora and fauna to survive.

#### 5.) Match the items given in two columns: -

Marks: 20

A

Column A	Column B
Liver	Water conservation
Turmeric	Basic

Fusion of gametes	Bile juice
Drip irrigation	Natural indicator
Baking soda	Fertilization

B

Column A	Column B
Cocoon	Clinical thermometer
Curd formation	Natural indicator
Sheep wool	Chemical change
Limbus	Fleece
Body temperature	Silkworm

C

Column A	Column B
Lion tailed macaque	Cockroach
Lungs	Polar regions
Spiracles	Anaerobic respiration
Penguins	Alveoli
Yeast	Tropical rainforest

D.

Column A	Column B
Ammonia gas	Deforestation
Cutting of trees	Uric acid
Human	Aerobic bacteria
Birds	Fish
Aeration tank	Urea

Ans.

A.

Column A	Column B
Liver	Bile juice
Turmeric	Natural indicator
Fusion of gametes	Fertilization
Drip irrigation	Water conservation
Baking soda	Basic

B.

Column A	Column B
Cocoon	Silkmoth
Curd formation	Chemical change
Sheep wool	Fleece
Limtus	Natural indictor
Body temperature	Clinical thermometer

C.

Column A	Column B
Lion tailed macaque	Tropical rainforest
Lungs	Alveoli
Spiracles	Cockroach
Penguins	Polar regions
Yeast	Anaerobic respiration

D.

Column A	Column B
Ammonia gas	Fish
Cutting of trees	Deforestation
Human	Urea
Birds	Uric acid
Aeration tank	Aerobic bacteria

## 6.) Short Answer Questions:

Marks: 20.0

### A. Differentiate between land breeze and sea breeze

Ans.

Sea breeze	Land breeze
In day time, the surface of the land is warmer than the surface of sea. The warm air over the land moves upward.	In night the land absorbs the heat in the day and releases it very quickly in the night as compared to water.
There is decrease in air pressure. The air	The air over the land is cooler and denser

from the sea blows toward the land to occupy the space. This blowing air is called a sea breeze.

than the air over the sea. There is a low pressure area and the wind blowing from the land toward the sea. This is called land breeze.

**B. Give two adaptive features of the lion-tailed macaque**

Ans. The adaptive features of the lion-tailed macaque

Its silver-white mane surrounds the head from the cheeks down to its chin. It is a good climber and spends a major part of its life on the tree.

**C. Mention few reasons for the depletion of water table**

Ans. As the population is increasing the demand for water also increases.

The reasons for the depletion of water table are as follows

- Increase in population
- Industrial and Agricultural activities
- Scanty Rainfall
- Decrease in the effective area for seepage of water

**D. What are the alternative ways of sewage disposal?**

Ans. Alternative arrangement for sewage disposal like low cost and on-site sewage disposal systems such as septic tanks, chemical toilets, composition pit etc are very suitable for isolated buildings or a small cluster of houses. The excreta collected in these toilets can be used for generating biogas.

**E. Classify the crop according to the soil type in which it grows well.**

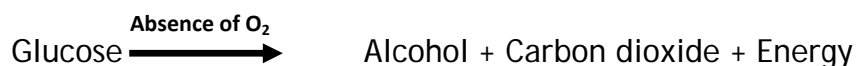
Crop	Soil type
Wheat and gram	
Paddy	
Lentils (masoor) and other pulses	
Cotton	

Ans.

Crop	Soil type
Wheat and gram	Clayey and Loamy
Paddy	Clayey
Lentils (masoor) and other pulses	Loamy
Cotton	Sandy-loam or loam

**F. Write about the anaerobic respiration in yeast.**

Ans. These anaerobes utilize glucose in the absence of oxygen to produce alcohol and carbon dioxide along with the production of energy.



These yeasts are used in industries for manufacturing alcohol, beer and wines.

**G. How the raw materials are transported to the food factories of the plants?**

Ans. Plants have pipe-like vessels to transport water and nutrients from the soil. The vessels are made of special cells, forming the **vascular tissue**. The vascular tissue for the transport of water and nutrients in the plant is called the **xylem and the food materials are transported through the phloem**. Thus, **xylem and phloem** transport substances in plants.

**H. A simple pendulum takes 15 seconds to complete 5 oscillations. What is the time period of the pendulum?**

Ans: The time taken by pendulum to complete 1 oscillation is called time period

The time taken by pendulum to complete 5 oscillation = 15sec

The time taken by pendulum to complete 1 oscillation =  $15/5 = 3$  sec

So time period = 3 sec

**I. Describe the role of villi in the small intestine.**

Ans. The villi increase the surface area for absorption of the digested food. The surface of the villi absorbs the digested food materials and passes into blood. The absorbed substances are transported via the blood vessels to different organs of the body.

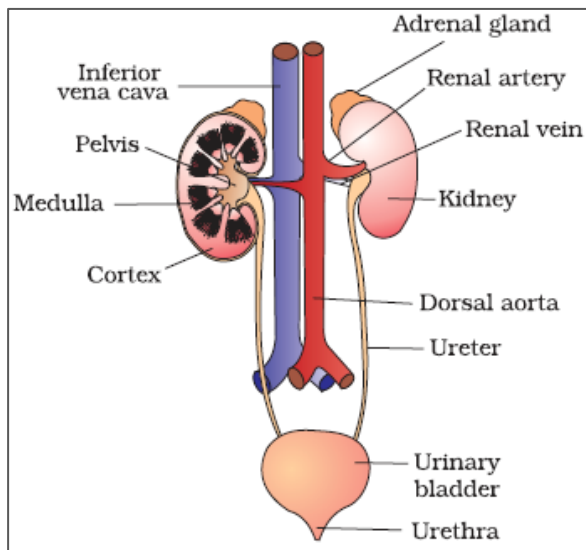
**J. Why clinical thermometer ranging 35°C to 42°C.?**

Ans. The normal temperature of human body is 37°C. The temperature of human body normally does not go below 35°C or above 42°C. That is the reason that this a clinical thermometer has the range 35°C to 42°C.

### 7.) Long Answer Questions: -

Marks: 20.0

#### A. Draw a well labeled diagram of the human excretory system



Human excretory system

#### B. Describe the different layers in soil profile.

Different layers of the soil are referred to as horizons.

The uppermost layer, the top soil, also known as **A-horizon** is generally dark in color and fertile as it is rich in humus and minerals. This layer is generally soft, porous and can retain more water. This provides shelter for many living organisms such as worms, rodents, moles and beetles. The roots of small plants are embedded entirely in the topsoil.

The next layer, middle layer called **B-horizon** has a lesser amount of humus but more of minerals. This layer is generally harder and more compact.

The third layer is the **C-horizon** which is made up of small lumps of rocks with cracks and crevices.

Below this layer is the **bedrock**, which is hard and difficult to dig with a spade. Water can be held in the tiny gaps.

#### C. i. What are the basic steps of digestion in animals?

#### ii. How does digestion occur in Ruminants grass-eating animals?



Ans.i. The breakdown of complex components of food into simpler substances is called digestion.

The process of digestion include

Ingestion  
Digestion  
Absorption  
Assimilation  
Egestion

ii. Ruminants quickly swallow the grass and store it in a separate part of the stomach called rumen. Here the food gets partially digested and is called cud. Later the cud returns to the mouth in small lumps and the animal chews it. This process is called rumination. The cellulose present in grass is digested here by the action of certain bacteria which are not present in humans.

**D. i. Name any two effects of electric current.**

**ii. Which concave mirror called a converging mirror and a convex mirror called a diverging mirror?**

Ans i. **Heating Effect** : When an electric current flows through a wire, the wire gets heated. It is the heating effect of current due to resistance of wire that flow of current. This effect has many applications like Electric Heater, Light Bulb etc.

**Magnetic effect** : When an electric current flows through a wire, it produces magnetic effect around it that is detected by magnetic compass. Magnetic Effect of electric current use in Electric Bell, Motor, Fan etc.

Ans ii. **Concave mirror** is called a converging mirror because parallel rays of light fall on the mirror they Converge at a point called focus.

**Convex mirror** is called a diverging mirror because parallel rays of light fall on it they diverge after reflection.