**PARISHRAM PUBLICATIONS**

Std.: X (English) | Science And Technology - II | Marks: 40

Date: 20-Dec-2019 | Parishram Academy | Time: 2 hrs

Chapter: All

**Q.1 (A) Multiple Choice Questions.** **(5)**

**1)** Which is true about Herbicide tolerant plants.

a. Selectively destroy the weeds

b. They have beneficisl effects on crops

c. They have harmful effects on crops as well

d. Nothing like this exists

**Ans.** Option a.

**2)** ..... form the colonies of useful microbes in alimentary canal and control other microbes and their metabolic activities, improve resistance.

a. Carbohydrate b. Vitamins c. Probiotics d. Proteins

**Ans.** Option c.

**3)** Heart in chordates is present on ..... side of body.

a. dorsal b. ventral c. dorso-ventral d. lateral

**Ans.** Option b.

**4)** Which of the following is man-made disaster ?

a. Forced migration b. Floods c. Infectious diseases d. Erosion

**Ans.** Option a.

**5)** ..... is the largest organization engaged in environmental activities.

a. BNHS b. UNEP c. WWF d. Green Peace

**Ans.** Option d.

**(B) Solve the following questions.** **(5)**

**1) Find co-related terms**

Get rid of waste : Excretion :: Assimilation of food for growith : .....

**Ans.** Get rid of waste : Excretion :: Assimilation of food for growith : **Nutrition.**

**2) Find the odd one out.**

Transferases, Lyases, Ligases, Rennet

**Ans.** Rennet

**3) Match the pair.**

| Column "A" | Column "B" |
|---|---|
| i. Earthquakes | a. Plants |

| | |
|---|---|
| ii. Wars | b. Geological |
| | c. Man made |

**Ans.**

| | |
|---|---|
| i. Earthquakes | Geological |
| ii. Wars | Man made |

**4) State true or false.**

It is advisable to disclose the aadhaar / PAN /credit card / debit card number and other personal information if demanded by any person.

**Ans. False**

**5) Name the following.**

Pseudocoelomates/Round worms

**Ans.** i. Ascaris (Intestinal worm)
ii. Filarial worm
iii. Loa loa (Eye worm)
iv. Wucheria
v. Entrobium
(Any four)

**Q.2 A) Give scientific reason. (Any two)** **(4)**

**1)** After doing physical activity, we feel hungry.

**Ans.** i. During physical activity we need more energy.
ii. Whenever a person needs extra energy, he/she breathes faster.
iii. As a result, more oxygen is supplied to our cells. It speeds up the breakdown of food and more energy is released.
iv. Due to rapid breakdown of food we feel hungry.

**2)** Nowadays, safer vaccines are being produced.

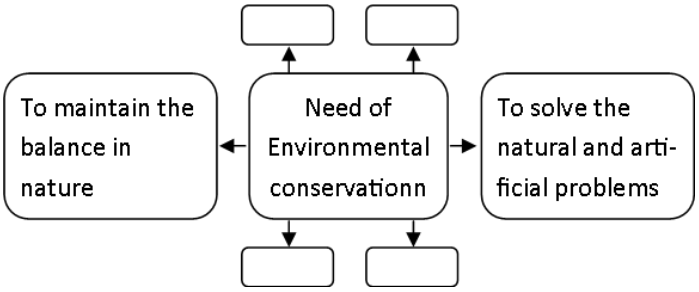
**Ans.** Before the advent of biotechnology, the vaccines were made from inactive or dead pathogens of that disease. But now the vaccine is made artificially using biotechnological processes. Such vaccines used to produce some disease symptoms in some cases. The antigen of the disease is researched upon and its genetic code is found out. A similar antigen is made in the laboratories which is used as remain active for longer duration. Therefore, the vaccines are now safer.

**3)** Duck billed Platypus is a connecting link.

**Ans.** i. Some plants and animals show some morphological characters by which they can be related to two different groups; hence they are called as ‘connecting links’.
ii. Duck billed platypus lays eggs which is similar to the group of reptiles.
iii. But it also shows relationship with mammals too due to presence of mammary glands and hairs.
iv. This indicates that Duck billed platypus is connecting link between reptiles and mammals. Therefore, Study of fossils is an important aspect of study of evolution.

**B) Solve the following questions. (Any three)** **(6)**

**1) Complete the chart**




**Ans.** i. To maintain the clean, pollution free air, water and land.
ii. To conserve the natural resources.
iii. To protect and conserve the biodiversity.
iv. To give quality of life and sustainable future to next generations.

**2) Distinguish Between**

Apiculture and Vermiculture

**Ans.**

| | Apiculture | Vermiculture |
|---|---|---|
| i. | Beekeeping (or apiculture) is the maintenance of honey bee colonies, commonly in man-made hives, by humans. | Vermiculture is the process of using worms to decompose organic food waste, turning the waste into a nutrient-rich material capable of supplying necessary nutrients to help sustain plant growth. |
| ii. | A beekeeper (or apiarist) keeps bees in order to collect their honey and other products that the hive produces (including beeswax, flower pollen, bee pollen, and royal jelly, to pollinate crops, or to produce bees for sale to other beekeepers. | This provides tremendous source of nutrients for plants that improves the texture and fertility of soil; and freeboard valuable nutrients into the soil. like N,P,K. |

**3)** Animals belonging to phylum Porifera.

**Ans.** Sycon, Euspongia (bath spong), Hyalonema, Euplectella

**4)** Explain the importance of good communication with others ?

**Ans.**
i. Various ways of expressions like establishing communication with friends, peers, cousins, teachers and more importantly parents, noting down our feelings, expressing our feeling with near and dear ones help us to relieve the stress.
ii. Good communication drives away feeling of loneliness, and thus contribute towards good social health.

**5)** Write short note on Power generation plants.

**Ans.**
i. A power plant or a power generating station, is basically an industrial location that is utilized for the generation and distribution of electric power in mass scale.
ii. Based on the type of energy source is used, there are different types of power generating stations.
iii. There are several examples of these power plants depending on the source of energy generation which is converted into electrical energy.
iv. Thermal power plant, Nuclear power plant, Hydroelectric plant , Wind turbines, Solar Thermal power plant, etc. are the examples of of some power plants.

v. These power plants depend on the sources and thus they are located in the respective geographical conditions of availability of source.

vi. Large generators are used in commercial power generation plants. Turbine is used to rotate the magnet in the generator. Based on which type of energy source is used to, power stations use different turbines.

**Q.3 Solve the following questions. (Any five)** **(15)**

**1)** Now-a-days, instead of chemical catalysts, microbial enzymes are used in chemical industry ? Explain ?

**Ans.**

i. These enzymes are active at low temperature, pH and pressure; due to which energy is saved and erosion-proof instruments are also not necessary.

ii. Enzymes carry out specific processes; hence unnecessary byproducts are not formed due to which expenses on purification are minimised.

iii. In case of microbial enzymatic reactions, elimination and decomposition of waste material is avoided and enzymes can be reused.

iv. Hence, such enzymes are eco-friendly.

v. Some examples of microbial enzymes are oxidoreductases, transferases, hydrolases, lyases, isomerases, ligases, etc.

vi. Thus, now-a-days , instead of chemical catalysts, microbial enzymes are used in chemical industry.

**2)**

| **Symbol** | | | | | |
|---|---|---|---|---|---|
| **Meaning of Symbol** | (a) ..... | (b) ..... | (c) ..... | (d) ..... | (e) ..... |

**Ans.**

| **Symbol** | | | | | |
|---|---|---|---|---|---|
| **Meaning of Symbol** | **Recycle** | **Renewable energy source** | **Save water** | **Say no to plastic** | **Do not litter** |

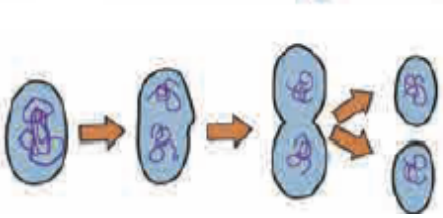
**3) Complete the sentences.**

**(Lungs, heart, carcinogenic, nervous, intoxicating, hazardous, addictions, peer-group, useful)**

The children fall into the trap of …… either due to …… pressure or due to false symbol of high standard living. Sometimes they try to imitate their elders. The addictive substances are ……, and they cause long term effects. Some are temporarily …… substances obtained from the plants. While some of the chemical ingredients in them can permanently damage the human nervous system, muscular system, heart, etc. Some tobacco like substances are …… in action especially on the mouth and …… .

**Ans.** The children fall into the trap of **addictions** either due to **peer-group** pressure or due to false symbol of high standard living. Sometimes they try to imitate their elders. The addictive substances are **hazardous,** and they cause long term effects. Some are temporarily **intoxicating** substances obtained from the plants. While some of the chemical ingredients in them can permanently damage the human nervous system, muscular system, heart, etc. Some tobacco like substances are **carcinogenic** in action especially on the mouth and **lungs.**

**4)**



d.

i. Does this method of reproduction favour variation ? Why ?
ii. Name the method of reproduction depicted here ?
iii. Name the Organism in which you find this method of reproduction ?

**Ans.**
i. No. In asexual reproduction as one parent is involved, it lacks genetic variations and the offspring product are similar to their parent.
ii. The method of reproduction is asexual mode of reproduction depicting binary fission.
iii. Ameba, Euglena, Paramecium

**5)** 1. State the principle of Electromagnetic Induction ?
2. Where is the principle used ?
3. Who gave this principle ?

**Ans.**
i. According to the principle of electromagnetic Induction, whenever magnetic field around a conductor changes, a potential difference is generated across the conductor.
ii. This principle is used in electric generators.
iii. The principle was given by Michael Faraday.

**6)** Vestigial organs, though non-functional in certain organism, it may be functional in other organisms. Explain.

**Ans.**
i. Degenerated or underdeveloped useless organs of organisms are called as vestigial organs.
ii. In living organisms, sudden development of new tissues or organs for living in changing environment is not possible. Instead, existing organs undergo gradual changes.
iii. Mostly, a specific structure in the body is useful under certain situation. However, same structure under different situation may become useless or even harmful.
iv. Such structure begins to degenerate under such situation as per the principle of natural selection. It takes thousands of years for a structure to disappear.
v. For example, Appendix, which is useless to human, is useful and fully functional organ in ruminants.
Hence, Vestigial organs, though non-functional in certain organism, it may be functional in other organisms.

**7)** State the type of disaster. Which precautions would you take during those disasters?

A

**Ans.**
i. Stay calm! If you're indoors, stay inside. If you're outside, stay outside.
ii. If you're indoors, stand against a wall near the center of the building, stand in a doorway, or crawl under heavy furniture (a desk or table). Stay away from windows and outside doors.

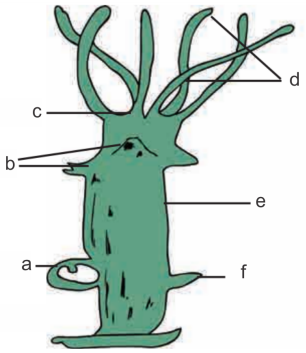
iii. If you're outdoors, stay in the open away from power lines or anything that might fall. Stay away from buildings (stuff might fall off the building or the building could fall on you).
iv. Don't use matches, candles, or any flame. Broken gas lines and fire don't mix.
v. If you're in a car, stop the car and stay inside the car until the earthquake stops.

**8)** i. Why some living organisms have to perform anaerobic respiration?
ii. Give examples of such living organisms.
iii. What are the two steps of anaerobic respiration?

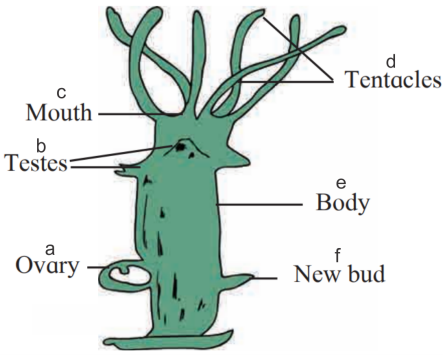
**Ans.** i. Some organisms cannot live in presence of oxygen, hence they have to perform anaerobic respiration for energy production.
ii. Yeast, seeds submerged in water, our muscle cells while exercising.
iii. Glycolysis and fermentation are two steps of anaerobic respiration.

**Q.4 Solve the following questions. (Any one)** **(5)**

**1)** Label a diagram of Hydra. Give any four characters of its phylum.

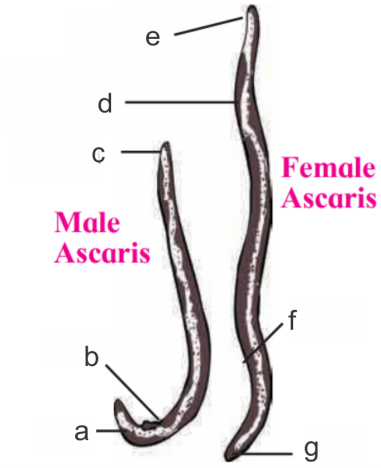



**Ans.**

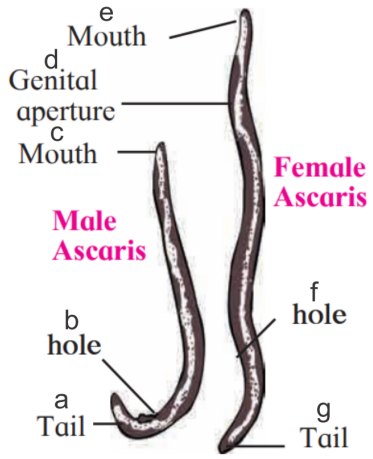



i. Hydra belongs to phylum Coelenterata/Cnidaria.
ii. Body of Coelenterates is cylindrical or umbrella-like. If it is cylindrical, it is called as 'Polyp' (Hydra, sea anemone) and if it is umbrella like called as 'Medusa' (jellyfish).
iii. Most of these animals are marine. Only few are fresh-water dwellers.
iv. Body of these animals is radially symmetrical & diploblastic.
v. Cnidoblast bearing tentacles are present around the mouth.
vi. Tentacles are useful for capturing the prey whereas cnidoblasts inject the toxin in the body of prey. Those are useful for protection too.

**2)** Label diagram of Round worm. Give any four examples of Aschelminthes.




**Ans.**




Examples of Aschelminthes-

i. Ascaris (Intestinal worm)
ii. Filarial worm
iii. Loa loa (Eye worm)
iv. Wucheria
v. Entrobium