



BOARD QUESTION PAPER: MARCH 2020

Science & Technology Part - 2

Time: 2 Hours

Total Marks: 40

Note:

- All questions are compulsory.
- Use of calculator is not allowed.
- The numbers to the right of the questions indicate full marks.
- In case of MCQs [Q. No. 1(A)], only the first attempt will be evaluated and will be given credit.
- For every MCQ, the correct alternative (A), (B), (C) or (D) with sub-question number is to be written as an answer.
For e.g. (i) (A), (ii) (B), (iii) (C).
- Scientifically correct, labelled diagrams should be drawn wherever necessary.

Q.1. (A) Choose the correct option and write its number for the following questions: [5]

- Transfer of information from molecule of DNA to mRNA is called _____ process.
(A) Transcription (B) Translation (C) Translocation (D) Mutation
- Body breaks up into several fragments and each fragment starts to live as a new individual. This is _____ type of reproduction.
(A) Budding (B) Fragmentation (C) Regeneration (D) Binary fission
- Incomplete combustion of fuels leads to formation of _____.
(A) Carbon monoxide (B) Carbon dioxide
(C) Chlorofluorocarbon (D) Hydrogen sulphide
- The spindle fibres start appearing from _____ stage of karyokinesis.
(A) Prophase (B) Metaphase (C) Anaphase (D) Telophase
- Salts which can be used as supplement of calcium and iron are obtained from _____.
(A) Carbonic acid (B) Acetic acid (C) Citric acid (D) Gluconic acid

Q.1. (B) Solve the following questions: [5]

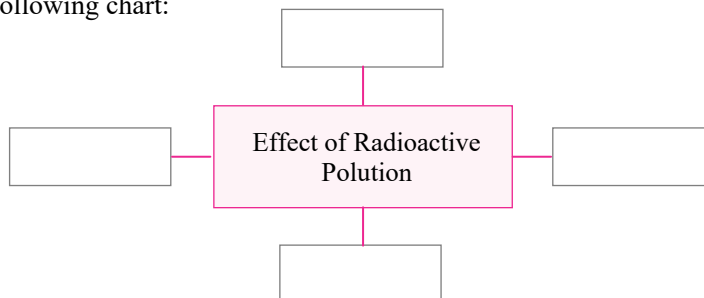
- Find odd one out:
Drying, Salting, Cooking, Soaking with sugar.
- Write the correct co-relation:
Annelida: Earthworm :: Platyhelminthes: _____
- State whether True/False:
Tobacco containing substances cannot cause cancer of mouth and lungs.
- Write function of testes.
- I am connecting link between Reptilia and mammals. What is my name?

Q.2. (A) Give Scientific Reasons. (Any two) [4]

- Indians should follow family planning for controlling the population.
- We feel exhausted after exercising.
- Hydroelectric energy, solar energy and wind energy are called renewable energies.

Q.2. (B) Solve the following questions. (Any three) [6]

- Complete the following chart:

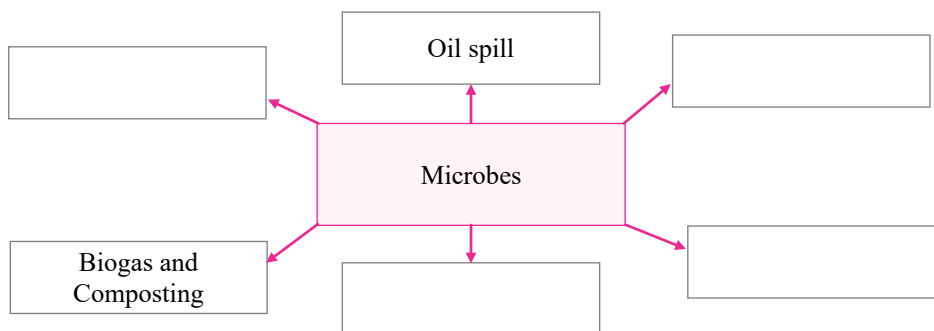




- ii. Distinguish between Aves and Mammalia.
- iii. By observing given picture, write any two effects of this disaster:



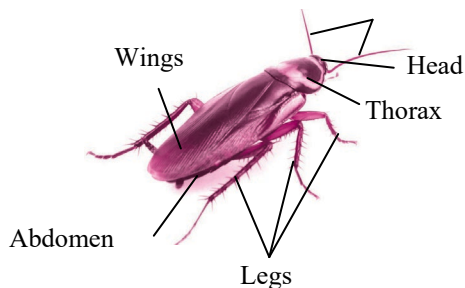
- iv. Explain four ways to minimize stress.
- v. Complete the following conceptual picture:



Q.3. Solve the following questions (Any five):

[15]

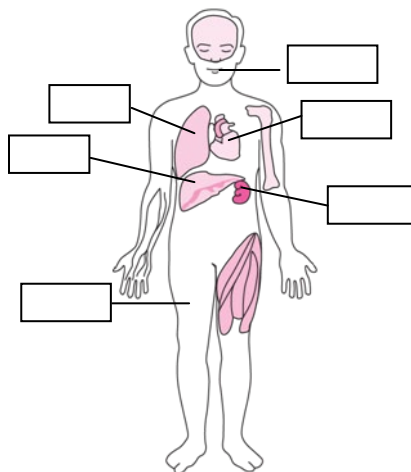
- i. Explain the importance of Anatomical evidences with examples.
- ii. What will you do? Why?
 - a. Child of your neighbor is addicted to tobacco chewing.
 - b. Your friend has developed the hobby of snapping selfies.
 - c. Your sister has become incommunicative. She prefers to remain alone.
- iii. Which precautions are necessary for proper decomposition of domestic waste?
- iv. Observe the following diagram. Write the answers of the following questions.



- a. To which phylum does the animal included in the diagram belong?
- b. What is the exoskeleton made up?
- c. What is the symmetry?
- v. Explain the following concepts in short:
 - a. Surrogacy
 - b. In Vitro Fertilization (IVF)
 - c. Sperm Bank



vi. Label the body organization of human in the following figure:



vii. Make a table based on forms of energy and corresponding devices:

| | Forms of Energy | Devices |
|----|-----------------|----------------------------|
| a. | Electric | _____ |
| b. | Mechanical | Sewing machine, Bicycle |
| c. | Thermal | _____ |
| d. | _____ | Solar cooker, Solar heater |

viii. Complete the paragraph using proper words:

(Mechanical, *Rhizobium*, Aquatic, Toxic, CO₂, Nitrogen, *Pseudomonas*, *Amoeba*, Bacteria, Hydrocarbons)
Spilling of petroleum oil occurs in ocean due to various reasons. This oil may prove fatal and toxic to _____ organisms. It is not easy to remove the oil layer from surface of water by _____ method. However, bacteria like _____ spp. and *Alcanivorax borkumensis* have the ability to destroy the pyridines and other chemicals. Hence, these _____ are used to clear the oil spills, These are called as hydrocarbonoclastic bacteria (HCB). HCB decompose the _____ and bring about the reaction of carbon with oxygen. _____ and water is formed in this process.

Q.4. Solve the following questions (Any one):

[5]

i. Attempts at various levels are performed for conserving environment. Which role would you like to perform. Give two actions each:

- a. Prevention b. Control c. Production
- d. Awareness e. Conservation

ii. a. What is Biotechnology?
b. Give one use of Biotechnology.
c. Give one commercial use of Biotechnology.
d. Write two bacterial examples of biofertilizer.
e. Write two names of crops genetically developed.