

# BOARD QUESTION PAPER: MARCH 2020

## Science & Technology Part - 2

Time: 2 Hours

Total Marks: 40

**Note:**

- i. All questions are compulsory.
- ii. Use of calculator is not allowed.
- iii. The numbers to the right of the questions indicate full marks.
- iv. In case of MCQs [Q. No. 1(A)], only the first attempt will be evaluated and will be given credit.
- v. 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).
- vi. 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]**

- i. Transfer of information from molecule of DNA to mRNA is called \_\_\_\_\_ process.  
(A) Transcription (B) Translation (C) Translocation (D) Mutation
- ii. 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
- iii. Incomplete combustion of fuels leads to formation of \_\_\_\_\_.  
(A) Carbon monoxide (B) Carbon dioxide  
(C) Chlorofluorocarbon (D) Hydrogen sulphide
- iv. The spindle fibres start appearing from \_\_\_\_\_ stage of karyokinesis.  
(A) Prophase (B) Metaphase (C) Anaphase (D) Telophase
- v. 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]**

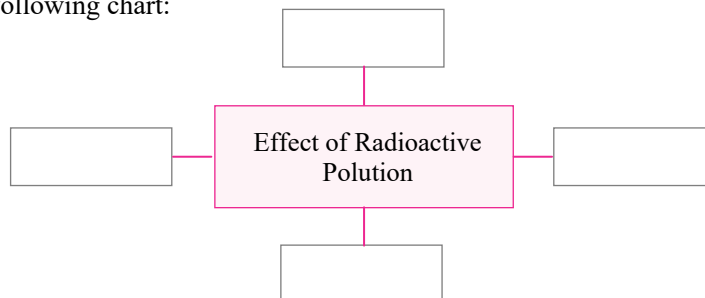
- i. Find odd one out:  
Drying, Salting, Cooking, Soaking with sugar.
- ii. Write the correct co-relation:  
Annelida: Earthworm :: Platyhelminthes: \_\_\_\_\_
- iii. State whether True/False:  
Tobacco containing substances cannot cause cancer of mouth and lungs.
- iv. Write function of testes.
- v.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

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

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

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

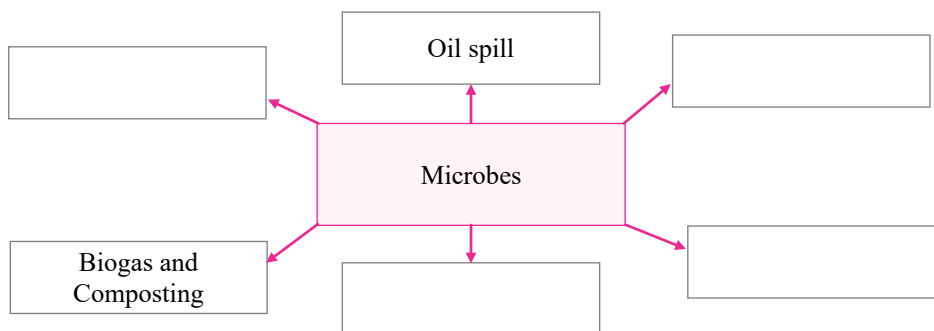
- i. Complete the following chart:



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



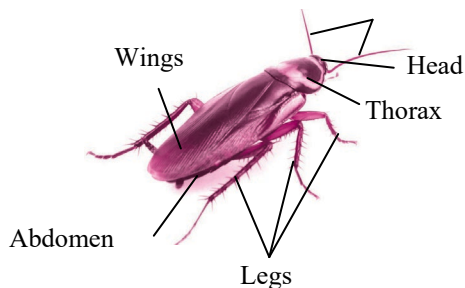
- iv. Explain four ways to minimize stress.
- v. Complete the following conceptual picture:



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

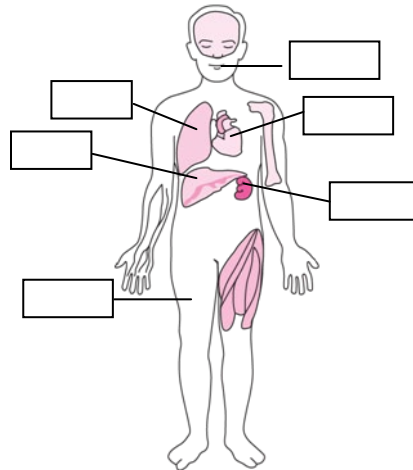
[15]

- 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, CO<sub>2</sub>, 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.

