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SCIENCE (Theory) — Paper II
(Botany and Zoology)

Time Allowed : 2 $\frac{1}{2}$ Hours]

[Maximum Marks : 100

PART - I

(BOTANY)

(Marks : 50)

SECTION - A

I. A) Choose and write the correct answers :

5 × 1 = 5

1. The main function of Pith is

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|---------------|-----------------|
| a) support | b) storage |
| c) conduction | d) ventilation. |

2. The plastid responsible for colouration in fruits and flowers is

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|----------------|---------------|
| a) Chloroplast | b) Leucoplast |
| c) Chromoplast | d) Tonoplast. |

3. The organelle that is rich with RNA is

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|---------------|--------------------|
| a) Lysosomes | b) Ribosomes |
| c) Microsomes | d) Golgi vesicles. |

4. The world of living organism with layers of water, air and soil on the surface of the earth is called

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|----------------|-----------------|
| a) Lithosphere | b) Biosphere |
| c) Atmosphere | d) Hydrosphere. |

5. Roots of Vinca rosea is an effective remedy for

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|-------------------|-----------------------|
| a) Blood pressure | b) Malarial fever |
| c) Blood cancer | d) Amoebic dysentery. |

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B) Match the following :

5 × 1 =

- | | |
|-----------------|-----------------------|
| 1. Cambium | a) Cristae |
| 2. Fermentation | b) Bio-degradable |
| 3. Chloroplasts | c) Secondary growth |
| 4. D.D.T. | d) Purgative |
| 5. Castor oil | e) Zymase |
| | f) Frets |
| | g) Non-biodegradable. |

SECTION - B

II. Answer any *ten* of the following :

10 × 2 = 20

- A) Differentiate between the following pairs (any *two* points only) :
- Active absorption and Passive absorption,
 - Aerobic respiration and Anaerobic respiration.
 - Parasitism and Commensalism.
- B) Give reasons for the following :
- Salt is added in the preparation of pickles.
 - Potassium hydroxide [KOH] solution is taken in Mohl's bottle for the experiment.
 - Silencers are used in two-wheelers.
- C) Give any *two* practical applications of the following :
- Epidermis.
 - Gibberellins.
 - Ocimum.
- D) Answer the following briefly :
- Define Transpiration.
 - State the important features of cell theory.
 - What is a vaccine ?

SECTION - C

III. Answer any *four* of the following :

4 × 5 = 20

- Draw a neat labelled diagram to show the internal structure of the Root.
- Describe an experiment to show suction due to Transpiration.
- Draw a neat labelled diagram of a Mitochondria.
- What are the factors affecting Photosynthesis ?
- Explain the role played by Ethylene as a phytohormone.
- What are the methods to control Noise Pollution ?
- Explain the traditional method of Prawn Culture.

SECTION - BII. Answer any *ten* of the following :

10 × 2 = 20

A) Differentiate between the following pairs (any *two* points only) :

1. Male Cockroach and Female Cockroach
2. Arteries and Veins
3. Testis and ovary.

B) Give reasons for the following :

4. Blood of Cockroach is called as Haemolymph.
5. The Pituitary gland is known as the Master gland.
6. Carbohydrates are considered as fuel food.

C) Give the importance of the following (any *two* points only) :

7. Hydrochloric acid in stomach.
8. Vitamin K.
9. ELISA and Western blot tests.

D) Answer the following briefly :

10. What is 'frog's spawn' ?
11. What happens to the air as it passes through the nasal passages ?
12. What are the marriage ages for girls and boys as fixed by the Government ?

SECTION - CIII. Answer any *four* of the following :

4 × 5 = 20

13. Draw and label the digestive system of Frog.
 14. Describe the respiratory system of Cockroach.
 15. Draw and label the structure of a typical Neuron.
 16. Explain the mechanism of respiration in man.
 17. Bring out any five differences between the Red and White blood cells.
 18. Explain the process of digestion in the stomach.
 19. Give an account of the fat soluble vitamins.
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