

8160

Register
Number

--	--	--	--	--	--

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

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

[Maximum Marks : 100

Instruction : Check the question paper for fairness of printing. If there is any lack of fairness, inform the Hall Supervisor immediately.

PART - I

(BOTANY)

(Marks : 50)

SECTION - A

Answer all the questions.

I. A) Choose and write the correct answer :

5 × 1 = 5

1. Sunken stomata are seen in
 - a) Begonia
 - b) Grass
 - c) Nerium
 - d) Opuntia.
2. Epinasty of leaves is caused by
 - a) Gibberellins
 - b) Ethylene
 - c) Cytokinin
 - d) Auxin.
3. The term 'protoplasm' was coined by
 - a) Purkinje
 - b) Robert Brown
 - c) Robert Hooke
 - d) Schleiden.
4. The world of living organism with layers of water, air and soil on the surface of the earth is called
 - a) Lithosphere
 - b) Atmosphere
 - c) Hydrosphere
 - d) Biosphere.
5. Clove oil is used to relieve
 - a) toothache
 - b) headache
 - c) malaria
 - d) dysentery.

[Turn over

B) Match the following :

5 × 1 = 5

- i) Endodermis
- ii) Oxygen evolution
- iii) Long-day plant
- iv) Cloning of gene
- v) Predation

- a) Shark and sucker fish
- b) Maize
- c) Lion and deer
- d) Starch sheath
- e) Chrysanthemum
- f) Escherichia coli
- g) Photosynthesis.

SECTION - B

II. Answer any ten of the following :

10 × 2 = 20

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

- 1. Pericycle of dicot root and dicot stem.
- 2. Chloroplast and Mitochondria.
- 3. Food chain and Food web.

B) Give reasons for the following :

- 4. Caustic potash is used in respiration experiment.
- 5. Water reaches to a great height in trees like pine. How ?
- 6. Plants are considered to belong to first trophic level.

C) Give any two practical applications of the following :

- 7. Cobalt chloride and Vaseline.
- 8. Lysosomes.
- 9. Recombinant DNA technology.

D) Answer the following briefly :

- 10. Write any two general characteristics of stems.
- 11. Expand NADP.
- 12. What is a Vaccine ?

SECTION - C

III. Answer any four of the following :

4 × 5 = 20

- 13. Draw a neat labelled diagram of T.S. of dicot root.
- 14. Explain the mechanism of opening and closing of stomata.
- 15. Draw a neat labelled diagram of the structure of plant cell.
- 16. Explain the factors affecting respiration.
- 17. How would you prove by an experiment that carbon dioxide is needed for photosynthesis ?
- 18. Write a note on traditional method of prawn culture.
- 19. What are the ways by which water gets polluted ?

PART - II**(ZOOLOGY)**

(Marks : 50)

SECTION - A

Answer all the questions.

I. A) Choose and write the correct answers :

5 × 1 = 5

1. The units of compound eye of cockroach are called
 - a) villi
 - b) cerebelli
 - c) ommatidia
 - d) alveoli.
2. The enzyme renin acts on
 - a) fat
 - b) protein
 - c) carbohydrate
 - d) milk protein.
3. Acromegaly is due to
 - a) hyperpituitarism
 - b) hypopituitarism
 - c) hyperthyroidism
 - d) hypothyroidism.
4. The Vitamin essential for production of prothrombin is
 - a) Vitamin A
 - b) Vitamin D
 - c) Vitamin K
 - d) Vitamin E.
5. The study of population is called
 - a) Statistics
 - b) Demography
 - c) Geography
 - d) Ecology.

B) Match the following :

5 × 1 = 5

- | | |
|--------------------------|-------------------|
| i) Cutaneous respiration | a) Kidney |
| ii) Vitamin E | b) Neuron |
| iii) Nitrogenous waste | c) Hibernation |
| iv) Nodes of Ranvier | d) Aestivation |
| v) T-helper cells | e) Anti-sterility |
| | f) HIV |
| | g) Nephron. |

[Turn over

SECTION - B

II. Answer any *ten* of the following :

10 × 2 = 20

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

1. Conglobate gland and collateral gland.
2. RBC and WBC.
3. Natality and Mortality.

B) Give reasons for the following :

4. Frog is an amphibious form.
5. Why should food be well masticated ?
6. Vitamin A is called anti-xerophthalmic Vitamin.

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

7. T-Helper cells.
8. Thymus gland.
9. Vitamin D.
1.

D) Answer the following briefly :

10. What is crura cerebri ?
11. What is a malpighian capsule ?
12. What is hermaphrodite ?

SECTION - C

III. Answer any *four* of the following :

4 × 5 = 20

13. Draw and neat labelled diagram of a leg of cockroach.
 14. Explain the male reproductive system of Frog.
 15. Draw a neat labelled diagram of L. S. of kidney of man.
 16. Explain how gaseous exchange takes place in human lungs.
 17. Describe the "Heart-attack" in man.
 18. Explain how long and short sightedness are caused and corrected.
 19. Give an account of water soluble vitamins.
-