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

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

[Maximum Marks : 100

SECTION - A

BOTANY

(Marks : 50)

I. Choose and write the correct answer :

5 × 1 = 5

1. is an edible fungus.

- | | |
|----------------|------------------|
| a) Aspergillus | b) Puccinia |
| c) Agaricus | d) Microsporium. |

2. Water that is readily absorbed by root hairs is

- | | |
|------------------|------------------------|
| a) soil water | b) gravitational water |
| c) imbibed water | d) capillary water. |

3. Three nitrogenous bases code for one

- | | |
|------------|---------------|
| a) protein | b) amino acid |
| c) DNA | d) RNA. |

4. An example for hypogeal germination is

- | | |
|----------|---------------|
| a) pea | b) mustard |
| c) maize | d) sunflower. |

5. Excessive noise can affect

- | | |
|----------|-------------|
| a) lungs | b) ears |
| c) nose | d) muscles. |

[Turn over

II. Fill in the blanks with suitable terms :

5 × 1 = 5

6. is a genetically modified rice variety.
7. CFC refers to
8. mutation plays a major role in plant breeding.
9. The pungent principle in ginger is
10. Spherical bacteria that occur in groups are called

III. Answer any five of the following questions in one or two sentences each :

5 × 2 = 10

11. Define the term 'Desalination'.
12. What is ammonification ?
13. Draw an aggregate fruit and label the parts.
14. What is bolting ?
15. What are the disadvantages of transpiration ?
16. What is pharmacognosy ?
17. Define the term 'fruit'.
18. Draw a succulent xerophyte.
19. Give an equation for anaerobic respiration.
20. Define eco-friendly agriculture.

IV. Write short answers for any four of the following questions each in 100 words. Draw diagrams wherever necessary. Question No. 22 is compulsory.

4 × 5 = 20

21. Write a note on two types of special chromosomes.
22. Draw the ultra structure of chloroplast and label the parts.
23. Write a note on economic importance of fungi.
24. Explain the types of baccate fruits with an example.
25. What are the effects of noise pollution ?
26. Explain the methods of rain-water harvesting.
27. Explain the significance of mutation.

V. Write a detailed answer for any one of the following questions in 200 words. Draw diagrams wherever necessary.

1 × 10 = 10

28. Give an account on photophosphorylation.
29. Describe the types of dry fruits.

SECTION - B

ZOOLOGY

(Marks : 50)

I. Choose and write the correct answer :

5 × 1 = 5

1. Tympanic membrane of frog is commonly called

- a) membranous labyrinth b) ear drum
c) middle ear d) eustachian tube.

2. Thrombus leads to

- a) cirrhosis b) obesity
c) pleurisy d) heart attack.

3. Nurse cells are also called

- a) sperm cells b) Leydig's cells
c) gamete cells d) sertoli cells.

4. The mass of undifferentiated cells in tissue culture is called

- a) totipotent cells b) callus
c) stem cells d) epithelial cells.

5. Diabetes mellitus is caused due to the deficiency of

- a) adrenalin b) glycogen
c) insulin d) ADH.

II. Fill in the blanks with suitable terms :

5 × 1 = 5

6. The acts as a "Pacemaker" of the heart.

7. is the first National Park in India.

8. Plant tissue culture is based on a principle called

9. has empty calories and has no nutritive value.

10. is an example for single cell protein.

[Turn over

III. Answer any *five* of the following questions in one or two sentences each :

5 × 2 = 10

11. What is mediastinum ?
12. What is Haemoglobin ?
13. What is dialysis ?
14. Draw a neat labelled diagram of pancreas showing islets of Langerhans.
15. Define gametogenesis.
16. What are the functions of eggs ?
17. Write a note on "Project Tiger".
18. Name the animals found in "Terai belt".
19. What is polyphagia ?
20. What are antigens ?

IV. Write short answers for any *four* of the following questions in 100 words each. Draw diagrams wherever necessary. Question No. 24 is a compulsory question.

4 × 5 = 20

21. Describe the head of frog.
22. Write a note on sexual dimorphism in frog.
23. Differentiate between enzymes and hormones.
24. Draw a neat labelled diagram showing the structure of hen's egg.
25. Enumerate the methods by which we can restore balance in ecosystem.
26. How will you prevent and control drug abuse ?
27. Give an account of organ transplantation.

V. Write detailed answer for any *one* of the following in 200 words. Draw diagrams wherever necessary.

1 × 10 = 10

28. Explain the location, structure and function of thyroid gland.
29. Describe the process of culture of embryonic stem cells in the laboratory.