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

Time Allowed : 2½ Hours]

[Maximum Marks : 100

SECTION - A**BOTANY**

(Marks : 50)

- I. Choose and write the correct answer : 5 × 1 = 5
1. Appearance of patches of green and non-green areas on the leaves is called

a) chlorosis	b) necrosis
c) wilting	d) mottling.
 2. In Penicillium the sexual reproduction occurs by the formation of

a) ascospore	b) conidia
c) aplanospore	d) endospore.
 3. The triplet code for phenyl alanine is

a) UCA	b) CCG
c) UUG	d) UUU.
 4. The fruit that does not belong to baccate is

a) orange	b) apple
c) tomato	d) mango.
 5. In man oxygen carrying capacity of blood is reduced by

a) carbon dioxide	b) carbon monoxide
c) sulphur dioxide	d) oxides of nitrogen.

II. Fill in the blanks with suitable terms :

5 ×

6. Ozone is depleted by
7. The colouring substance in turmeric is
8. The enzyme used as molecular scissors is
9. The timber wood is damaged by fungus.
10. Kalyanasona is a hybrid variety of

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

5 × 2

11. Draw a labelled diagram of potato osmoscope.
12. What is imbibition ?
13. What are the disadvantages of transpiration ?
14. What is senescence ?
15. Name the causative agents of
 - a) Tikka disease of groundnut
 - b) Blast disease of rice.
16. Draw a labelled diagram of Hiptage.
17. What is meant by seeding clouds ?
18. What is hybridization ?
19. What is Cypsela ? Give an example.
20. Mention one use each of
 - a) bark of neem
 - b) leaf of neem.

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 =

21. Write the differences between DNA and RNA.
22. Draw a schematic representation of aerobic respiration.
23. Explain the significance of mutation.
24. Enumerate the various methods to control air pollution.
25. What are the advantages of bio-fertilizers ?
26. Write a note on aggregate fruits.
27. Describe the ultrastructure of a bacterial cell.

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

1 × 10 = 10

28. Write an essay on the physiological role of mineral elements in plants.
29. Explain the structure of a monocot seed with a neat labelled diagram.

SECTION - B

ZOOLOGY

(Marks : 50)

I. Choose the correct answer :

5 × 1 = 5

1. The roof of the diencephalon is called

- | | |
|-----------------|--------------------|
| a) pineal body | b) hypothalamus |
| c) infundibulum | d) choroid plexus. |

2. Diabetes mellitus is caused due to malfunctioning of

- | | |
|----------------|-------------------|
| a) alpha cells | b) adrenals |
| c) beta cells | d) somatic cells. |

3. The polar bodies are formed in

- | | |
|-------------------|--------------------|
| a) Gametogenesis | b) Spermatogenesis |
| c) Spermiogenesis | d) Oogenesis. |

4. If transplantation of organs is done from pig to man, it is termed as

- | | |
|--------------------------|----------------------------|
| a) Organ transplantation | b) Tissue transplantation |
| c) Xeno transplantation | d) Nucleo transplantation. |

5. The vaccine which is given to newborn is

- | | |
|--------|--------|
| a) DT | b) DPT |
| c) BCG | d) TT. |

II. Fill in the blanks with suitable terms :

5 × 1 = 5

6. The lungs are protected by a double layered membrane called the

7. Expansion of GRAIN is

8. The mass of undifferentiated cells formed in tissue culture technique is called

9. Excretion of excessive water along with urine is called

10. An instrument used to observe the working of heart is called

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

5 × 2 = 10

11. What is meant by Thrombosis ?
12. Draw a labelled sketch of Pancreas showing Islets of Langerhans.
13. What is the treatment given for pleurisy ?
14. What are mosaic eggs ? Give an example.
15. What is the name of the hormone secreted by corpus luteum and what is the function of the hormone ?
16. Expand IVCN.
17. Name any four animals which are on the verge of extinction.
18. What are narcotic drugs ?
19. What are two types of vaccine ? Give an example for each.
20. Define aqua culture.

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 sexual dimorphism in frog with a neat labelled diagram.
22. Describe the internal structure of eye of frog with a neat diagram.
23. Explain myocardial infarction. Write a note on causes and treatment.
24. Draw a labelled diagram showing the stages of Oogenesis.
25. Enumerate the methods by which we can restore balance in Ecosystem.
26. Write short notes on Diabetes insipidus.
27. Write a short note on dialysis.

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

1 × 10 = 10

28. Describe the steps involved in the process of cloning mammals.
29. Explain the process of digestion in the duodenum of man.