

7424 (N)

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

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. Vitamin B_2 is manufactured by the action of

- a) Pseudomonas b) Nitrobacter
c) Bacillus d) Clostridium.

2. The number of carbon atoms in Pyruvic acid is

- a) 2 b) 3
c) 4 d) 6.

3. The type of mutation that causes death of the organisms is known as

- a) Lethal mutation b) Induced mutation
c) Gene mutation d) Chromosomal mutation.

4. The portion between the plumule and cotyledon is

- a) radicle b) embryo
c) hypocotyl d) epicotyl.

5. Which of the following is the main source of fresh water ?

- a) Rain b) Ocean
c) Ground water d) Ice.

[Turn over

- II. Fill in the blanks with suitable terms : 5 × 1 =
6. The word 'environment' is derived from the French word
 7. An alkaloid got from *Vinca rosea* is
 8. Penicillin is extracted from
 9. The haploid set of chromosomes is called
 10. Sonalika and Kalyansona are the hybrid varieties of
- III. Answer any *five* of the following questions in one or two sentences each : 5 × 2 =
11. Define Environmental pollution.
 12. What is ABA ?
 13. Draw an aggregate fruit and label the parts.
 14. Distinguish between pili and flagella.
 15. Mention the significance of zymase.
 16. Mention any two uses of Rhizome of Ginger.
 17. Draw a labelled diagram of a stoma in open condition.
 18. Mention any two aims of plant breeding.
 19. Distinguish between Baccate and Drupaceous fruits.
 20. What are the advantages of transpiration ?
- 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. Enumerate the differences between DNA and RNA.
 22. Draw a schematic representation of Dark reaction of photosynthesis.
 23. Explain the three basic elements of green revolution.
 24. What are the effects of acid rain ?
 25. Tabulate the bacterial diseases in plants, animals and human beings.
 26. Explain Zoochory with examples.
 27. Explain the steps involved in Genetic Engineering.
- V. Write a detailed answer for any *one* of the following questions in 200 words. Draw diagrams wherever necessary: 1 × 10 =
28. Explain an experiment to demonstrate anaerobic respiration.
 29. Describe the process of ...

SECTION - B

ZOOLOGY

(Marks : 50)

I. Choose the correct answer :

5 × 1 = 5

1. A large triangular, thin walled chamber found on the dorsal surface of the heart of frog is called

a) Auricle	b) Ventricle
c) Sinus Vinosus	d) Conus arteriosus.
2. Fibrinogen is produced in the

a) liver	b) pancreas
c) pituitary	d) blood.
3. If young ones are nourished by the maternal tissue or placenta, they are called

a) Oviparity	b) Viviparity
c) Ovoviviparous	d) Euviviparous.
4. The repeated mitotic division takes place during

a) Gametogenesis	b) Fertilization
c) Cleavage	d) Gastrulation.
5. An impairment of heart functions due to inadequate blood supply to the heart is called

a) CHD	b) RHD
c) Hypertension	d) Dyspnoea.

II. Fill in the blanks with suitable terms :

5 × 1 = 5

6. Pituitary gland is attached to the hypothalamus by a stalk called
7. 'Wild Life Protection Act' was enacted in the year
8. Cultured animal tissue becomes the host for
9. is the study of immunity.

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

5 × 2 = 10

11. What is thrombosis ?
12. Mention the important role played by haemoglobin in respiration.
13. Draw and label pancreas showing islets of Langerhans.
14. What is spermiogenesis ?
15. What is meant by unequal holoblastic cleavage ? Give example.
16. Expand (i) GRAIN and (ii) ISF.
17. Mention any two National Parks and any two Wild Life Sanctuaries in India.
18. What is meant by Polydipsia ?
19. What is deaddiction ?
20. What is endoscopy ?

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

4 × 5 = 20

21. Describe the eye of frog.
22. Describe the pulmonary respiration in frog.
23. Explain the structure of a tooth.
24. Draw a neat labelled structure of a mature sperm.
25. Write any five points to restore ecological balance.
26. Write an account of active acquired immunity.
27. Write a short note on Pearl Oyster culture.

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

1 × 10 = 10

28. Describe the structure of human heart. Draw a neat labelled diagrammatic section of human heart.
29. Describe the steps involved in the process of cloning in mammals.