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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.

SECTION - A

BOTANY

(Marks : 50)

I. Choose and write the correct answer :

5 × 1 = 5

1. The fungal disease on rice plant is

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|------------------|-------------------|
| a) tikka disease | b) canker |
| c) wilt | d) blast disease. |

2. The edible part in jackfruit represents

- | | |
|-------------|-------------|
| a) Ovule | b) Pericarp |
| c) Perianth | d) Ovary. |

3. Who coined the term 'vaccine' ?

- | | |
|-----------------------|-------------------|
| a) Alexander Flemming | b) Woodruff |
| c) William Kuhne | d) Edward Jenner. |

4. The air pollutant photochemical smog is due to

- | | |
|--------------------|--------------------|
| a) Sulphur dioxide | b) Carbon monoxide |
| c) Nitrogen oxides | d) Lead. |

5. The water that is available to the plant is

- | | |
|--------------------|-------------------------|
| a) Capillary water | b) Hygroscopic water |
| c) Dew | d) Gravitational water. |

[Turn over

II. Fill in the blanks with suitable terms :

5 × 1 = 5

6. The oxides of nitrogen, sulphur and carbon produce
7. The collection of findings of Samuel Hahnemann is called
8. forms different forms of dal.
9. The process of separation of fibres is called
10. help in the joining of the new strands of DNA during replication.

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

5 × 2 = 10

11. Define eutrophication.
12. How is Neem used traditionally ?
13. Define eco-friendly agriculture.
14. What are lenticels ?
15. Draw a labelled diagram of Stoma in open condition.
16. Represent the anaerobic breakdown of glucose in an equation.
17. Draw a labelled diagram of capsule.
18. What is senescence ?
19. What is a drupe ? Give an example.
20. What is the role of yeast in baking and brewing industry ?

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

4 × 5 = 20

21. Distinguish between DNA and RNA.
22. Draw the schematic representation of Calvin's cycle.
23. Explain Hydrochory with examples.
24. Write a note on the role of bacteria in industry.
25. What are the effects of noise pollution ?
26. Describe the methods of cultivation.
27. Write a note on applications of Biotechnology.

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

1 × 10 = 10

28. What are Phytohormones ? Write a note on auxins.
29. Describe Hypogeal Germination with an example.

SECTION - B

ZOOLOGY

(Marks : 50)

VI. Choose and write the correct answer :

5 × 1 = 5

30. The posterior thick walled chamber of a frog's heart is the

- a) Auricle
- b) Ventricle
- c) Conus arteriosus
- d) Sinus venosus.

31. Thrombus leads to

- a) Cirrhosis
- b) Obesity
- c) Pleurisy
- d) Heart attack.

32. The sperm produces a substance of enzymatic nature called sperm lysin. In mammals it is called

- a) Hyaluronic acid
- b) Hyaluronidase
- c) Oestrogen
- d) Androgen.

33. Glandular stem cells from pancreas give rise to

- a) Erythrocytes
- b) Leucocytes
- c) Thrombocytes
- d) Beta cells.

34. At the age of 15 days the vaccine given as per the schedule of immunization is

- a) MMR
- b) Measles
- c) Polio
- d) BCG.

VII. Fill in the blanks with suitable terms :

5 × 1 = 5

35. Teeth embedded in sockets is termed

36. is the first National Park in India.

37. In the embryonic stem cell culture, the mouse embryonic skin cells are called layer.

38. is the study of immunity.

39. is an instrument used to measure blood pressure.

[Turn over

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

5 × 2 = 10

40. Define the term 'assimilation'.
41. Draw a labelled diagram of artery.
42. What is bronchitis ?
43. Define Telolecithal egg.
44. List the organs derived from Mesoderm.
45. Expand IUCN.
46. Name the few fauna found in the Thar desert.
47. Define hypertension.
48. What is meant by Polyurea ?
49. Define Dialysis.

IX. Write short answers for any *four* of the following questions in 100 words each. Draw diagrams wherever necessary. Question No. 53 is compulsory.

4 × 5 = 20

50. Write short notes on the Urinogenital system of female frog.
51. Write short notes on the head of frog.
52. Explain the hormones secreted by Neurohypophysis.
53. Draw a labelled sketch of human ovum.
54. Write short notes on Man in Biosphere.
55. Write a short note on CHD.
56. Give an account of organ transplantation.

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

1 × 10 = 10

57. Describe the steps involved in tissue culture in animals.
 58. Explain the composition of blood.
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