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Part III — ZOOLOGY

(English Version)

Time Allowed : 3 Hours]

[Maximum Marks : 150

PART - I

- Note :**
- All the questions are to be answered.
 - Each question carries *one* mark.
 - Choose and write the correct answers in the answer-book.

30 × 1 = 30

- The granulation of tissues around the site of fracture is called
 - Nodule
 - Papilla
 - Rudiment
 - Callus.
- The opacity in the lens of the eye is the characteristic feature of
 - Presbyopia
 - Retinopathy
 - Myopia
 - Cataract.
- Stones with bladder and lower ureter can be crushed and removed by
 - Cystoscopy
 - Kidney transplantation
 - Peritoneal dialysis
 - Haemodialysis.
- An important role in unifying the emotional responses of two sides of brain is played by
 - Corpus callosum
 - Anterior commissure
 - Hippocampal commissure
 - Optic chiasma.

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5. The hormone produced by Leydig cells is
- a) Estrogen
 - b) Progesterone
 - c) Relaxin
 - d) Testosterone.
6. The chromosomal structural details can also be best done during the cell division called
- a) Meiosis
 - b) Amitosis
 - c) Mitosis
 - d) Cytosis.
7. The scrutiny of established matings to obtain information about the genic characters or traits is called
- a) Pedigree chart
 - b) Pedigree analysis
 - c) Genic analysis
 - d) Karyotyping.
8. Which one of the following can give a skeleton model of a protein from the results on its atomic details ?
- a) Karyotyping
 - b) Idiogram
 - c) X-ray graphy
 - d) X-ray crystallography.
9. The number of immigrations and emigrations as well as births and deaths is called
- a) total growth rate
 - b) growth rate
 - c) zero population growth rate
 - d) birth rate.
10. The important cattle without any hump is
- a) Bos ruminant
 - b) Bos indicus
 - c) Bos taurus
 - d) Bos burbalis.

11. The factor that enriches the gene pool with new modified genes is
- a) mutation
 - b) somatic variation
 - c) decrease in chromosome
 - d) increase in cytoplasm.
12. The second law of Lamarck is based on
- a) inheritance of acquired characters
 - b) use and disuse characters
 - c) the need of an organ
 - d) gradual change to increase in size.
13. Induced breeding is performed by a technique called
- a) Homogeniser
 - b) Centrifugation
 - c) Hypophystation
 - d) Dehydration.
14. Bluish mucous coatings on the skin, fin and gills are the symptoms of
- a) Costiasis
 - b) Viral haemorrhagic septicaemia
 - c) Dropsy
 - d) Gill rot.
15. The accessory respiratory organs, in addition to gills are found in
- a) Murrels
 - b) Channa marulius
 - c) Tilapia
 - d) Cat fish.
16. The rejuvenation of tissue is maintained by
- a) Vitamin K
 - b) Vitamin E
 - c) Vitamin D
 - d) Vitamin B.
17. Gout is a common name of one of the arthritis given below :
- a) Metabolic
 - b) Rheumatic
 - c) Infectious
 - d) Osteoarthritis.

18. Isometric exercise is best for
- a) protein synthesis
 - b) lipid digestion
 - c) calcium absorption
 - d) glycogen storing.
19. The narrowing of the arteries caused by plaque on their inner linings will lead to the disease called
- a) Myocardia
 - b) Heart block
 - c) Atherosclerosis
 - d) Angina pectoris.
20. The main cause of Mitral stenosis is
- a) Rheumatic fever
 - b) Viral fever
 - c) Pleurisy
 - d) Pneumonia.
21. The photosensitive pigment present in the outer segment of the rod is
- a) Haemoglobin
 - b) Carotenoid
 - c) Rhodopsin
 - d) Scotopsin.
22. Plague is caused by the bacterial species called
- a) Yersinia Pestis
 - b) Vibrio Cholerae
 - c) Salmonella choleraesuis
 - d) Neisseria gonorrhoeae.
23. Organ transplantation from pig to man is an example for
- a) Autograft
 - b) Allograft
 - c) Isograft
 - d) Xenograft.
24. Which of the following is antigen presenting cells ?
- a) Dendric cells
 - b) Tonsils
 - c) Phagocytes
 - d) Erythrocytes.

25. In man, thymus reaches to its maximum size in
- a) a few months before birth
 - b) a few months after birth
 - c) a few weeks after birth
 - d) just prior to birth.
26. Which are the first kind exotic breeds of cattle introduced in India about 90 years back ?
- a) European breed
 - b) Australian breed
 - c) American breed
 - d) English breed.
27. The female fish which exhibits buccal incubation is
- a) Murrels
 - b) Channa
 - c) Cat fish
 - d) Tilapia mosambica.
28. The record of the electric potential changes in the heart during the cardiac cycle is called
- a) Stethoscope
 - b) Sphygmomanometer
 - c) Haemocytometer
 - d) Electrocardiogram.
29. The person who suffers from jaundice must undergo the following test :
- a) C. T. Scan
 - b) Blood pressure test
 - c) Urine analysis
 - d) Counting of RBC.
30. The caterpillar of Bombyx mori produces
- a) Tasar silk
 - b) Eri silk
 - c) Munga silk
 - d) Mulberry silk.

PART - II

Note : i) Answer any *fifteen* questions.

ii) Each question carries *three* marks.

15 × 3 = 45

31. Mention any two causes of obesity.
32. Write any two symptoms of liver cirrhosis.
33. What is Hering-Breuer reflex ?
34. What is angiogram ? Mention its use.
35. What is amnesia ?
36. How will you identify the Grave's disease ?
37. Define Vasectomy.
38. What is transduction ?
39. Differentiate between cell mediated and humoral immunities.
40. Write any two uses of Karyotyping.
41. What is Bio-informatics ?
42. List out any two names of bioreserves of India.
43. Mention any two symptoms of Cowpox.
44. Suggest any two situations in which a doctor might advise a C. T. Scan.
45. How is urine-glucose tested ?
46. Mention any two types of silk.
47. What is Royal jelly ?
48. What is meant by 'Survival of the fittest' ?
49. What is composite fish culture ? Give an example.
50. Name any two commercially important sea-weeds cultured in Indian waters.

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PART - III

Note : i) Answer any *seven* questions including Question No. **56** which is compulsory.

ii) Each question carries *five* marks.

7 × 5 = 35

51. Draw and label the human spermatozoon structure.
52. Describe the structure of sarcomere.
53. Mention any five symptoms of AIDS.
54. Give a brief account of life cycle of schistosoma haematobium.
55. Give an account of the structure of immunoglobulin with neat diagram.
56. What are the effects of global warming ? Mention any five.
57. State any five measures to eradicate poverty.
58. Write about any two contagious diseases found in cattle. Mention their prevention also.
59. Describe the structure of haemocytometer.
60. Explain Hardy-Weinberg Law.
61. Classify the types of ponds on the basis of their utilization.
62. Write a note on edible Oyster and its economic importance.

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PART - IV

Note: i) Answer any *four* questions.

ii) Each question carries 10 marks.

4 × 10 = 40

63. Explain the digestive process taking place in our small intestine.
 64. Describe the composition of blood.
 65. Pituitary gland is a Master gland. Discuss.
 66. Describe the life cycle of *Taenia solium* with neat diagrams.
 67. Write an essay on protein structure, protein model and its uses.
 68. Write an essay on Fresh Water Management explaining any five ways.
 69. Write an essay on cattle wealth in India.
 70. Describe the various types of Mariculture.
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