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Part III — ZOOLOGY

(New Syllabus)

(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

- Lamarckism is popularly known as
 - Origin of species
 - Germ plasm theory
 - Theory of inheritance of acquired character
 - Survival of the fittest.
- Who among the following is Neo-Darwinian ?
 - E. Haeckel
 - Wallace
 - McDougall
 - Lamarck.
- The country that dominates in Aquaculture industry is
 - Arabia
 - Myanmar (Burma)
 - China
 - Denmark.

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4. Induced breeding technique performed in fish culture is
- a) Integrated fish culture b) Hypophystation
c) Sport fish culture d) Ornamental fish culture.
5. The disease caused by protozoan parasite in fishes is
- a) Gill rot b) Saprolegniasis
c) Costiasis d) Dropsy.
6. 60% of a fish farming complex is
- a) rearing pond b) nursery pond
c) production pond d) breeding pond.
7. The superior method for identification of urine sugars is
- a) Thin layer chromatography
b) Benedict's reagent method
c) Glucose oxidase method
d) o-toluidine method.
8. The normal range of RBC in men is
- a) 4.5 - 6.5 million/mm³ b) 4.0 - 5.6 million/mm³
c) 4.5 - 5.9 million/mm³ d) 4.1 - 5.1 million/mm³.
9. The negative waves in a normal ECG are
- a) P, Q and R b) P, R and T
c) Q, R and S d) Q and S.
10. Central Munga and Eri Research Station is situated at
- a) Titabar b) Berhampur
c) Channapatna d) Ranchi.

11. The splenomegaly and hepatomegaly are the clinical manifestations of the genetic disease called
- a) Agammaglobulinemia b) Thalassemia
c) Albinism d) Sickle cell anaemia.
12. Which one of the following chemicals is used for enucleation during the transfer of whole nucleus ?
- a) Polyethylene glycol b) Endonuclease
c) Ligase d) Cytochalasin B.
13. Idiogram refers to
- a) electrocardiogram
b) a diagrammatic representation of chromosome
c) graph showing heart defect
d) a diagrammatic representation of genes.
14. The bacteria that help in degrading variety of toxic compounds and oils are
- a) *Gibberella fusarium* b) *Pseudomonas*
c) *Yersinia pestis* d) *Salmonella typhi*.
15. The important Indian draught breed cattle is
- a) Malvi b) Ongole
c) Sahiwal d) Kankrej.
16. The follicles and the oocyte together constitute
- a) Corpus luteum b) Thyroid follicle
c) Corpus albicans d) Graafian follicle.
17. The pathogenic form of *Entamoeba histolytica* is
- a) Sporozoites b) Merozoites
c) Trophozoites d) Schizonts.

18. What kind of barrier is the skin ?

- a) Physiological
- b) Anatomical
- c) Phagocytic
- d) Inflammatory.

19. Which statement is not correct about lymph nodes ?

- a) They are surrounded by fibrous capsule
- b) They act as filter for the lymph
- c) In the human body 60 lymph nodes are present totally
- d) They help in the proliferation and circulation of *T* and *B* cells.

20. Graft between syngenic individuals is known as

- a) Autograft
- b) Isograft
- c) Allograft
- d) Xenograft.

21. The treatment by which the stones in the bladder and ureter are disintegrated by focussing shock waves from outside the body is

- a) Cystoscopy
- b) Ureterorenoscopy
- c) Endoscopy
- d) Lithotripsy.

22. Which one of the following stages is used in *in vitro* fertilization ?

- a) 2-celled stage
- b) Blastula stage
- c) 8-celled stage
- d) 4-celled stage.

23. Which of the following symptoms is caused by Bacterial conjunctivitis ?

- a) Red eye with yellow eye-discharge
- b) Red eye without discharge and with a cold
- c) Red eye with itching and watery discharge
- d) Red eye with history of trauma in the eye.

24. The type of diabetes that develops due to heavy viral infection is
- Insulin dependent diabetes
 - Non-insulin dependent diabetes
 - Inflammation diabetes
 - Harmful diabetes.
25. The principal hormone secreted by corpus luteum is
- Androgen
 - Oestrogen
 - Progesteron
 - Testosterone.
26. What is the name of the smaller globules formed from fat particles by the bile salts ?
- Lipid granules
 - Oil particles
 - Chilomicrons
 - Fatty acids.
27. Thick filaments of the sarcomere are formed of
- Actin
 - Myosin
 - Fibrin
 - Globulin.
28. Inflammation of the lungs is called
- Pleurisy
 - Bronchitis
 - Pneumonia
 - Tuberculosis.
29. Complete the following equation :
- $$\text{Fibrinogen} \xrightarrow{\quad ? \quad} \text{Fibrin}$$
- Prothrombin
 - Prothrombinase
 - Thrombokinase
 - Thrombin.
30. Which of the following is the transmitter substance present at the synaptic cleft ?
- Epinephrin
 - Norepinephrin
 - Acetyl choline
 - Thyroxine.

PART - II

Note : i) Answer any *fifteen* questions.

ii) Each question carries *three* marks.

15 × 3 = 45

31. Write any two deficiency ailments of Vitamin A.
32. Why do we consider open fracture as a serious injury ?
33. What is Hering-Breuer reflex ?
34. What is Angiogram and what is its use ?
35. Define sleep.
36. What is meant by scotopic vision ?
37. What is vasectomy ?
38. Write the contribution of the following Microbiologists :
 - a) Louis Pasteur
 - b) Alexander Flemming.
39. What is lysozyme ?
40. Define the term 'pedigree chart'.
41. Give any two uses of transgenic organisms.
42. What is meant by Greenhouse Effect ?
43. How will you identify Catla Catla ? Give any two features of it.
44. Write down the characteristic features of American breeds. Give two examples.
45. Write down any two uses of Stethoscope.
46. Mention any two differences between *Apis florea* with *Apis indica*.
47. Mention any two symptoms of Pebrine disease.
48. Define chromosomal aberrations.
49. Write about the water quality of aquarium tank.
50. Which is called as 'medicinal food' of 21st Century ? Why ?

PART - III

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

ii) Each question carries 5 marks.

7 × 5 = 35

51. Describe the origin and conduction of heartbeat with a diagram.
52. List out the functions of skin.
53. What is chemotherapy ? Mention any four characteristics of a chemotherapeutic agent.
54. Describe the structure of HIV with a suitable labelled diagram.
55. What are the Immuno deficiency diseases ? Explain.
56. Mention any *five* effects of global warming.
57. Discuss any two different methods adapted for the disposal of hazardous wastes.
58. Write about various by-products of poultry.
59. Explain the P, Q, R, S and T waves of ECG with a diagram.
60. Write a note on speciation.
61. What is hypophystation ? Explain the induced breeding techniques.
62. Explain composite fish culture.

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PART - IV

Note : i) Answer any *four* questions.

ii) Each question carries 10 marks.

4 × 10 = 40

63. Write in detail about carbohydrate and proteins.
 64. Describe the mechanism of muscle contraction with diagram.
 65. Name the hormones of anterior pituitary and explain in detail.
 66. Describe the structure, genetics and cultivation of virus.
 67. What is Human Genome Project ? How does it work ? Mention its significance.
 68. What is known as Energy Crisis ? What are the steps to be taken to avert it ?
Explain any four measures to develop new sources of energy.
 69. What is Computed Tomography Scan ? Add a note on its advantages and use of it in the medical field.
 70. Give an account of any five fresh water ornamental fishes.
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