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**Part III — ZOOLOGY**

( English Version )

Time Allowed : 3 Hours ]

[ Maximum Marks : 150

**PART - I**

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

30 × 1 = 30

1. The inability to recall memories from the past is called as
  - a) Amnesia
  - b) Coma
  - c) REM sleep
  - d) Alzheimer.
2. The hormone which directly stimulates the smooth muscles of uterus and causes the contraction and helps in the delivery of the foetus is
  - a) Thyroxine
  - b) Estrogen
  - c) Progesterone
  - d) Oxytocin.
3. The hormone that increases the rate of amplitude and frequency of heartbeat is
  - a) Epinephrine
  - b) Norepinephrine
  - c) Aldosterone
  - d) Cortisone.
4. The unit which is used to measure the intensity of sound is
  - a) hertz
  - b) joule
  - c) decibel
  - d) newton.

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5. The normal blood glucose level during fasting is
- a) 70 to 110 mg/dl                      b) 80 to 200 mg/dl  
c) 100 to 150 mg/dl                      d) 200 to 250 mg/dl.
6. X-Chromosome belongs to
- a) Group A                                  b) Group B  
c) Group C                                  d) Group D.
7. About how many genes have been identified in human genome ?
- a) 60,000                                      b) 30,000  
c) 10,000                                      d) 800.
8. The sequential and linear arrangement of amino acids in a polypeptide represent its
- a) Primary structure                      b) Secondary structure  
c) Tertiary structure                      d) Stable structure.
9. Of the following, which is non-biodegradable waste ?
- a) Leather                                      b) Fibre  
c) Paper    d) Plastic.
10. The hatching period of hen's egg is about
- a) 21-22 days                                  b) 18-20 days  
c) 23-24 days                                  d) 15-17 days.
11. The theory of inheritance of acquired characters was proposed by
- a) Charles Darwin                              b) Lamarck  
c) Hugo de Vries                                d) H. J. Muller.
12. The factor that enriches the gene pool with new modified genes is
- a) mutation                                      b) somatic variation  
c) decrease in chromosomes                  d) increase in cytoplasm.

13. Which one of the following is an exotic fish ?
  - a) *Catla*
  - b) *Rohu*
  - c) *Tilapia*
  - d) *Mugil.*
14. Appearance of small red spots on gill filament is the symptom of
  - a) Saprolegniasis
  - b) Dropsy
  - c) Gill rot
  - d) Costiasis.
15. The place in which more than 300 species of marine ornamental fishes are seen is
  - a) Lakshadweep islands
  - b) Andaman Group of islands
  - c) Gulf of Mannar
  - d) Palk Bay.
16. Each gram of carbohydrate is capable of yielding
  - a) 9.3 calories
  - b) 4.1 calories
  - c) 4.0 calories
  - d) 9.0 calories.
17. The ulcer is caused mostly due to the infection of the bacterium called
  - a) *Salmonella*
  - b) *Helicobacter pylori*
  - c) *Acetobacter aceti*
  - d) *Yersinia pestis.*
18. Sliding-filament hypothesis of muscular contraction was proposed by
  - a) Singer and Nicholson
  - b) William Harvey
  - c) Hanson and Huxley
  - d) Hippocrates.
19. Pathological fracture may be caused due to
  - a) Hyperparathyroidism
  - b) Hypoparathyroidism
  - c) Hypothyroidism
  - d) Hyperthyroidism.
20. When a portion of a thrombus clot becomes fragmented and enters the circulating blood is called as
  - a) Bolus
  - b) Embolus
  - c) Cerebral thrombosis
  - d) Coronary thrombosis.

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21. The first line of treatment which disintegrates stones by focusing shock waves on them from outside the body is
- a) cystoscopy
  - b) lithotripsy
  - c) endoscopy
  - d) ureterorenoscopy.
22. Which is referred to as obligate intracellular parasites ?
- a) Plasmodium
  - b) Ascaris
  - c) Viruses
  - d) Bacteria.
23. Histamine is secreted by
- a) Epithelial cells
  - b) Red blood cells
  - c) White blood cells
  - d) Mast cells.
24. The heavy chain (H-Chain) of immunoglobulin has a molecular weight of approximately
- a) 50,000 daltons
  - b) 25,000 daltons
  - c) 75,000 daltons
  - d) 40,000 daltons.
25. The chemical groups which are not immunogenic on their own are defined as
- a) Antigens
  - b) Immunogens
  - c) Paratope
  - d) Hapten.
26. Of all carps which is considered as the tastiest fish ?
- a) *Catla catla*
  - b) *Labeo rohita*
  - c) Catfishes
  - d) *Cirrhinus mrigala*.
27. Which blood is used in blood cells counting ?
- a) Artery blood
  - b) Venous blood
  - c) Kidney blood
  - d) Capillary blood.
28. Which instrument is used to examine the interior of the body cavity ?
- a) Endoscope
  - b) Sphygmomanometer
  - c) Stethoscope
  - d) CT scan.

29. The disease Nosema is caused by
- a) Bacteria
  - b) Protozoa
  - c) Fungus
  - d) Viruses.
30. Which silk is considered as superior in quality ?
- a) Mulberry silk
  - b) Tasar silk
  - c) Munga silk
  - d) Eri silk.

### PART - II

Note : i) Answer any *fifteen* questions.

ii) Each question carries *three* marks.

15 × 3 = 45

31. What is marasmus ? Mention its symptoms.
32. What are the types of Hernia ?
33. What is meant by dislocation of joints ? Classify them.
34. What is bronchitis ? Mention its types.
35. Write a short note on Alzheimer's disease.
36. Trace the pathway of the sound wave to the brain.
37. Write any six symptoms of Grave's disease.
38. What are the vaccines developed by Louis Pasteur ?
39. What are the three main functions of antibodies ?
40. What is called pedigree analysis ?
41. What is Gene therapy ? Mention its types.
42. What is called rain water harvesting ? State its advantages.

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43. What are the symptoms of cow pox ?
44. Based on its origin, list out the exotic breeding of fowl. Give examples.
45. What are the disadvantages of autoanalyser ?
46. What is 'Nuptial flight' ?
47. Mention the important research centres of Sericulture in India.
48. What is 'bottleneck effect' ?
49. Define integrated fish culture.
50. Mention the nutritive value of edible oyster.

### 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. What are the factors responsible for obesity ?
52. Describe the functional area of the cerebral cortex.
53. Enumerate the methods of control and management of AIDS.
54. Explain the pathogenicity of *Ascaris lumbricoides* and its control.
55. Explain the classification of grafts with examples.
56. List out the greenhouse gases and their sources.
57. What are the various measures to eradicate poverty in human society ?
58. Explain Artificial insemination of cattle.
59. What are the uses of C.T. scan ?

60. Explain the role of chromosome aberrations in modern Synthetic theory of Evolution.
61. What are the prospects of Aquaculture ?
62. What are the bionomics of *Catla*?

**PART - IV**

*Note :* i) Answer any *four* questions.

ii) Each question carries *ten* marks.

4 × 10 = 40

63. Write an essay on composition of blood.
64. Enumerate the various eye defects. Comment on corrective measures.
65. What is the need for birth control ? Enumerate the various methods of contraception.
66. Give an account of bacterial diseases in man.
67. Illustrate with example, the cloning mechanism. Comment on its merits and demerits.
68. What is known as energy crisis ? What are the steps to be taken to solve energy crisis ?
69. Give an account of the uses of Beehive products.
70. Explain the induced breeding technique in fish culture.

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the top of chromosome 12, and the bottom of chromosome 12.

What are the products of photosynthesis?

What are the products of cellular respiration?

PART 12

1. Answer any two questions.

2. Each question carries ten marks.

1. Write a note on composition of lipid.

2. Describe the various cyclical changes in cellular metabolism.

3. What is the need for path control? Describe the various methods of

control.

4. The amount of heat released during the

oxidation of a substance is a measure of its energy value.

Describe

the various stages of cellular respiration.

5. Describe the various products of cellular respiration.

6. Describe the various methods of path control in cellular