

Code No.

L – 4022

**Entrance Examination for Admission to the P.G. Courses in the Teaching Departments, 2021**

**CSS**

**ZOOLOGY (PURE & APPLIED)/AQUATIC BIOLOGY AND FISHERIES/  
INTEGRATIVE BIOLOGY**

**General Instructions**

1. The Question Paper is having two Parts — Part 'A' Objective type (60%) & Part 'B' Descriptive type (40%).
2. Objective type questions which carry 1 mark each are to be (✓) 'tick marked' in the response sheets against the appropriate answers provided.
3. 8 questions are to be answered out of 12 questions carrying 5 marks each in Part 'B'.
4. **Negative marking** : 0.25 marks will be deducted for each wrong answer in Part 'A'.

**Time : 2 Hours**

**Max. Marks : 100**

To be filled in by the Candidate

Register  
Number

in Figures

in words

**PART – A**

(Objective Type)

Choose appropriate answer from the options in the questions. **One mark each.**

**(60 × 1 = 60 marks)**

1. Which of the following is not correctly matched?
  - a) Protozoans – Contractile vacuoles
  - b) Arthropods – Green glands
  - c) Annelids – Nephridia
  - d) Mollusks – Malpighian tubules

**DO NOT WRITE HERE**

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2. Acoelomate organisms belong to

- a) Platyhelminthes
- b) Nematelminthes
- c) Protozoa
- d) Porifera

3. Notochord is present only in the larvae forms of

- a) Hemichordate
- b) Urochordata
- c) Cephalochordate
- d) Vertebrates

4. The accessory respiratory organ of Ascidia is
- a) Vascular trabecula
  - b) Vascular ampullae
  - c) Atrium
  - d) Branchio visceral vessel
5. Ecological growth efficiency would be net production divided by
- a) Ingestion
  - b) Assimilation
  - c) Gross production
  - d) Natality
6. In India the soil erosion is mainly due to
- a) Deforestation
  - b) Soil drifting by wind
  - c) Drought conditions
  - d) Soil drifting by floods
7. Neo Darwinism explains
- a) Population explosion
  - b) Gene pools
  - c) Survival of fittest
  - d) Gene mutations
8. Which of the following event would least likely to influence the process of natural selection?
- a) Natural mortality
  - b) Mutation
  - c) Inbreeding
  - d) Migration
9. The life span of RBC in human ranges from
- a) 80 to 100 days
  - b) 100 to 120 days
  - c) 120 to 140 days
  - d) 130 to 150 days
10. The centre for speech and movement is
- a) Pons verolii
  - b) Cortex
  - c) Cerebellum
  - d) Medulla oblongata
11. Which of the following is sex linked character?
- a) Myopia
  - b) Baldness
  - c) Haemophilia
  - d) Tuberculosis

12. Transfer of gene from one organism to other organism through virus or bacteriophages is called as
- a) Transformation
  - b) Gene transformation
  - c) Transduction
  - d) rDNA technology
13. Type of yolk present in Amphioxus is
- a) Telolecithal
  - b) Mesolecithal
  - c) Alecithal
  - d) Centrolecithal
14. During gastrulation
- a) Blastocoel appears
  - b) Blastocoel disappears
  - c) Blastomere forms
  - d) Morula is formed
15. Which of the following is not correctly matched?
- a) Nucleus – Robert Brown
  - b) Ribosomes – Nageli and Cramer
  - c) Golgi bodies – Camillo Golgi
  - d) Mitochondria – Carl Benda
16. Meiosis is biologically significant because
- a) It halves the chromosome number
  - b) It requires two steps
  - c) It produces daughter cells
  - d) Most cells divide mitotically
17. Holoenzyme is
- a) Incomplete enzyme
  - b) Complete enzyme
  - c) Protein part of enzyme
  - d) Coenzyme
18. Select the correct epimeric pair
- a) D-glucose and D-galactose
  - b) D-glucose and L-glucose
  - c) D-glucose and L-fructose
  - d) D-glucose and D-ribose

19. The most abundant class of Ig in the body is
- a) IgG
  - b) IgA
  - c) IgM
  - d) IgD
20. T- lymphocytes are formed by the
- a) Bone marrow
  - b) Thyroid
  - c) Thymus
  - d) Bursa fabricius
21. A new characteristic can be introduced in an organism using
- a) Autoradiography
  - b) CT scan
  - c) Blotting technique
  - d) Gene cloning
22. Compared to genomic libraries cDNA library is
- a) Small in size
  - b) Represent genes of DNA only
  - c) Represents genes of both RNA & DNA
  - d) Both (a) and (b)
23. Select the exocrine gland from the following
- a) Adrenal
  - b) Testis
  - c) Brain
  - d) Pancreas
24. Hyper secretion of somatotropin in child hood leads to
- a) Dwarfism
  - b) Acromegaly
  - c) Gigantism
  - d) Goiter
25. Correlation analysis deals with
- a) Two attributes
  - b) Two variables alone
  - c) Variables
  - d) Averages

26. The Student's t test is
- a) A parametric test
  - b) A nonparametric test
  - c) A test for comparing regression coefficients
  - d) A test for comparing variances
27. Malaria is transmitted by
- a) *Culex quinquefasciatus*
  - b) *Aedes aegypti*
  - c) *Anopheles stephensi*
  - d) *Glossina palpalis*
28. Apiculture is the care and management of
- a) Wasps
  - b) Silk-worm
  - c) Honey bee
  - d) Lac insect
29. The organization which published the Red List of species is
- a) ICFRE
  - b) IUCN
  - c) UNEP
  - d) WWF
30. To conserve coral reefs, Government of India declared one of the following as a marine park
- a) Gulf of Mannar
  - b) Andaman Islands
  - c) Gulf of Kutch
  - d) Lakshadweep islands
31. Which gland is used for induced breeding?
- a) Pituitary
  - b) Parathyroid
  - c) Adrenal
  - d) Thyroid
32. *Chanos chanos* is popularly known as
- a) Milk fish
  - b) Trout
  - c) Common carp
  - d) Mullet



41. Monosex culture is practiced in the culture of
- a) Catla
  - b) Silver carp
  - c) Tilapia
  - d) Mullet
42. Induced breeding technique is used in
- a) Marine fishery
  - b) Capture fishery
  - c) Culture fishery
  - d) Inland fishery
43. Spawning of fishes is induced by injecting females with
- a) Progesterone
  - b) Prostaglandin
  - c) FSH and LH
  - d) Estrogen
44. An example of a shellfish is
- a) Shrimp
  - b) Swordfish
  - c) Mussels
  - d) Seaweed
45. Coastal aquaculture is also called as
- a) Mariculture
  - b) Brackish water culture
  - c) Inland aquaculture
  - d) Offshore culture
46. The freshwater prawn species need salinity for
- a) Survival
  - b) Growth
  - c) Maturation
  - d) Breeding
47. Cryopreservation techniques is mostly useful for
- a) Fertility
  - b) Infertility
  - c) Sperm bank
  - d) Egg bank



48. PCR is used
- a) To diagnose genetic diseases
  - b) To solve crimes
  - c) To study gene function
  - d) All of these
49. Microchip technique is used to study
- a) Multiple genes simultaneously
  - b) Transcription
  - c) Proteome
  - d) All of the above
50. The recent development in the field of proteomics is
- a) Protein chip
  - b) MALDI — TOF mass spectroscopy
  - c) Metabonomics
  - d) Bioinformatics
51. The most important discovery in the 20th century in the field of biology is
- a) Anti- biotic
  - b) Sulpha drugs
  - c) Artificial synthesis of genes
  - d) Blood groups
52. Which of the following is best suited to get the surface view of the object?
- a) SEM
  - b) TEM
  - c) Both (a) and (b)
  - d) Compound microscope
53. In SDS electrophoresis, proteins are separated on basis of
- a) Charge
  - b) Mass
  - c) Both (a) and (b)
  - d) Structure
54. A technique other than microscopy which can be used in study of cell is
- a) Chromatography
  - b) Plasmolysis
  - c) Autoradiography
  - d) Maceration

55. In Bioinformatics special data base is on
- a) DNA/RNA sequences
  - b) Protein sequence
  - c) Genome survey
  - d) Statistical analysis of genomes
56. Broiler chick belong to
- a) Asiatic breeds
  - b) White Plymouth rock
  - c) Light Brahma
  - d) Brahma
57. The virus causes SARS is
- a) Corona virus
  - b) Influenza
  - c) Gemini viruses
  - d) Retro viruses
58. The first vaccine developed from animal cell culture was
- a) Hepatitis B vaccine
  - b) Influenza vaccine
  - c) Small pox vaccine
  - d) Polio vaccine
59. The hereditary material in a cell is
- a) DNA
  - b) Gene
  - c) Exons
  - d) Cistrons
60. Which of the following is related to genetic engineering and biotechnology?
- a) Spectrophotometer
  - b) Electron microscope
  - c) pH meter
  - d) PCR

ANSWER SHEET — PART — A

1	A	B	C	D	E
2	A	B	C	D	E
3	A	B	C	D	E
4	A	B	C	D	E
5	A	B	C	D	E
6	A	B	C	D	E
7	A	B	C	D	E
8	A	B	C	D	E
9	A	B	C	D	E
10	A	B	C	D	E
11	A	B	C	D	E
12	A	B	C	D	E
13	A	B	C	D	E
14	A	B	C	D	E
15	A	B	C	D	E
16	A	B	C	D	E
17	A	B	C	D	E
18	A	B	C	D	E
19	A	B	C	D	E
20	A	B	C	D	E

21	A	B	C	D	E
22	A	B	C	D	E
23	A	B	C	D	E
24	A	B	C	D	E
25	A	B	C	D	E
26	A	B	C	D	E
27	A	B	C	D	E
28	A	B	C	D	E
29	A	B	C	D	E
30	A	B	C	D	E
31	A	B	C	D	E
32	A	B	C	D	E
33	A	B	C	D	E
34	A	B	C	D	E
35	A	B	C	D	E
36	A	B	C	D	E
37	A	B	C	D	E
38	A	B	C	D	E
39	A	B	C	D	E
40	A	B	C	D	E

41	A	B	C	D	E
42	A	B	C	D	E
43	A	B	C	D	E
44	A	B	C	D	E
45	A	B	C	D	E
46	A	B	C	D	E
47	A	B	C	D	E
48	A	B	C	D	E
49	A	B	C	D	E
50	A	B	C	D	E
51	A	B	C	D	E
52	A	B	C	D	E
53	A	B	C	D	E
54	A	B	C	D	E
55	A	B	C	D	E
56	A	B	C	D	E
57	A	B	C	D	E
58	A	B	C	D	E
59	A	B	C	D	E
60	A	B	C	D	E



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**PART – B**  
(Descriptive Type)

Answer **any eight** questions.

**(8 × 5 = 40 Marks)**

1. Write an essay on the canal system in Porifera.
2. Discuss the models of Energy flow in an ecosystem.
3. Classify the hormones with suitable examples.
4. Enumerate the mechanism of DNA replication.
5. Explain in detail the process of gametogenesis.
6. Write in detail about the functions of antibodies.
7. Discuss how aquaculture supports future food need of the world.
8. Give an account on Integrated fish farming system.
9. Write an essay on nutritional value of crustaceans.
10. List down the various goals of the human genome project.
11. What is Biosphere reserve? What are the concept and benefits of biosphere reserves?
12. List out the types of marine pollution and add a brief on its preventive measures.





















