

Code No.

**V – 2334**

**Entrance Examination for Admission to the P.G. Courses in the  
Teaching Departments, 2025**

**CSS**

**APPLIED AQUACULTURE**

For office use only

**General Instructions**

1. The Question Paper is having 100 Objective Questions, each carrying one mark.
2. The answers are to be (✓) 'tick marked' **only** in the "**Response Sheet**" provided.
3. **Negative marking : 0.25 marks** will be deducted for each wrong answer .

**Time : 2 Hours**

**Max. Marks : 100**

To be filled in by the Candidate

Register Number	in Figures								
	in words								

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Choose appropriate answer from the options in the questions.

**(100 × 1 = 100 marks)**

1. Which group of animals is known for a water vascular system?
  - A. Mollusca
  - B. Annelida
  - C. Echinodermata
  - D. Arthropoda

DO NOT WRITE HERE

- 
2. Which fish is protected in Indian Wildlife Act:
- |             |             |
|-------------|-------------|
| A. Seahorse | B. Arowana  |
| C. Salmon   | D. Arapaima |
3. The headquarters of the Central Institute of Fisheries Technology (CIFT) is located at :
- |            |            |
|------------|------------|
| A. Chennai | B. Kochi   |
| C. Mumbai  | D. Kolkata |

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19. The neurotransmitter released at neuromuscular junctions is:
- A. Acetylcholine
  - B. Dopamine
  - C. GABA
  - D. Histamine
20. The flight muscles in insects are also called
- A. Skeletal muscles
  - B. Catch muscles
  - C. Fibrillar muscles
  - D. Smooth muscles
21. Which organ is primarily responsible for deamination of amino acids?
- A. Kidney
  - B. Liver
  - C. Pancreas
  - D. Small intestine
22. The resting membrane potential is mainly maintained by:
- A. Calcium pumps
  - B. Sodium-chloride symporter
  - C. Proton pump
  - D. Sodium-potassium pump
23. The hormone responsible for stimulating molting in arthropods is:
- A. Insulin
  - B. Prolactin
  - C. Cortisol
  - D. Ecdysone
24. The giant neurons are characteristic of which animal group?
- A. Amphibians
  - B. Cephalopods
  - C. Mammals
  - D. Echinoderms
25. Asian seabass is:
- A. Gonochoistic
  - B. Protogynous
  - C. Protandrous
  - D. Viviparous
26. Which of the following is a biogenic amine?
- A. Alanine
  - B. Serine
  - C. Glutamic acid
  - D. Histamine

27. The physical location of a gene on a chromosome is known as:
- A. Allele
  - B. Genotype
  - C. Locus
  - D. Codon
28. A condition where both alleles are fully expressed in the heterozygote is called:
- A. Co-dominance
  - B. Incomplete dominance
  - C. Epistasis
  - D. Mutation
29. The phenomenon where a single gene influences multiple traits is called:
- A. Epistasis
  - B. Pleiotropy
  - C. Co-dominance
  - D. Polygenic inheritance
30. The term "C-value paradox" is related to:
- A. Codon redundancy
  - B. Mutational pressure
  - C. Chromosome condensation
  - D. Genome size Vs. complexity
31. A circular DNA molecule capable of autonomous replication is called:
- A. Histone
  - B. Operon
  - C. Plasmid
  - D. Centromere
32. The scientific name of the edible oyster commonly harvested in India is:
- A. *Crassostrea virginica*
  - B. *Crassostrea madrasensis*
  - C. *Ostrea edulis*
  - D. *Perna viridis*
33. The enzyme responsible for DNA synthesis is:
- A. DNA polymerase
  - B. DNA ligase
  - C. DNA helicase
  - D. RNA polymerase
34. The national fish of India is:
- A. Catla
  - B. Oil Sardine
  - C. Mackerel
  - D. Hilsa

35. DNA fingerprinting is based on:
- A. Ribosomal RNA patterns
  - B. Repetitive DNA sequences
  - C. Enzyme digestion rates
  - D. Histone modifications
36. The RNA molecule that carries the genetic message from DNA is:
- A. rRNA
  - B. tRNA
  - C. mRNA
  - D. miRNA
37. Phylogenetic trees are used to represent.
- A. Evolutionary relationships
  - B. Genetic recombination
  - C. Cellular metabolism
  - D. Protein synthesis
38. A nucleosome consists of
- A. DNA and RNA
  - B. DNA wrapped around histones
  - C. Chromatin and cytoplasm
  - D. tRNA and rRNA
39. The regulatory protein in prokaryotic transcription initiation is:
- A. Primase
  - B. Helicase
  - C. Topoisomerase
  - D. Sigma factor
40. The immunity that is present from birth and not antigen-specific is:
- A. Innate immunity
  - B. Acquired immunity
  - C. Passive immunity
  - D. Humoral immunity
41. Which of the following cells are primarily responsible for antibody production
- A. T lymphocytes
  - B. B lymphocytes
  - C. Macrophages
  - D. Neutrophils

42. The part of an antigen recognized by the immune system is the:
- A. Epitope
  - B. Hapten
  - C. Paratope
  - D. Receptor
43. The major histocompatibility complex (MHC) is involved in:
- A. Lipid digestion
  - B. Hormone regulation
  - C. Antigen presentation
  - D. Antibody synthesis
44. Which organ is considered a primary lymphoid organ?
- A. Spleen
  - B. Thymus
  - C. Lymph node
  - D. Tonsils
45. The immunoglobulin found in secretions such as saliva and tears is
- A. IgG
  - B. IgM
  - C. IgA
  - D. IgE
46. Monoclonal antibodies are produced using:
- A. T cell fusion
  - B. Macrophage culture
  - C. Bacteria transformation
  - D. Hybridoma technology
47. The complement system enhances
- A. Carbohydrate digestion
  - B. Hormone signaling
  - C. Antigen-antibody reactions
  - D. Protein synthesis
48. An overreaction of the immune system to harmless substances is called:
- A. Allergy
  - B. Autoimmunity
  - C. Immunodeficiency
  - D. Graft rejection



49. Which cells play a major role in cell-mediated immunity?
- A. B cells
  - B. T cells
  - C. Plasma cells
  - D. Mast cells
50. Notochord is persistent throughout life in :
- A. Urochordata
  - B. Amphibia
  - C. Cephalochordata
  - D. Mammalia
51. Vaccines provide protection primarily through:
- A. Cell-mediated immunity
  - B. Hypersensitivity
  - C. Innate immunity
  - D. Acquired immunity
52. Which of the following is not an indigenous Cichlid:
- A. *Etroplus suratensis*
  - B. *Oreochromis niloticus*
  - C. *Etroplus canarensis*
  - D. *Pseudetroplus maculatus*
53. The largest inland water body among the following is:
- A. Vembanad Lake
  - B. Loktak Lake
  - C. Ashtamudi Lake
  - D. Pulicat Lake
54. Penaeid prawns are commonly caught by:
- A. Gillnetting
  - B. Trolling
  - C. Cast netting
  - D. Trawling
55. Which of the following is a major pelagic fish of India?
- A. *Scylla serrata*
  - B. *Sardinella longiceps*
  - C. *Lates calcarifer*
  - D. *Etroplus suratensis*

56. The demersal fisheries mainly consist of :
- A. Bottom-dwelling species
  - B. Surface-dwelling species
  - C. Coral reef fishes
  - D. Freshwater fishes
57. Which Indian river supports the highest carp aquaculture production?
- A. Ganga
  - B. Godavari
  - C. Mahanadi
  - D. Narmada
58. The crustacean group that includes non-penaeid prawns is:
- A. *Scylla spp.*
  - B. *Pamulirus spp.*
  - C. *Macrobrachium spp.*
  - D. *Metapenaeus spp.*
59. The primary export promotion body for seafood in India is:
- A. CMFRI
  - B. MPEDA
  - C. CIFT
  - D. CIFRI
60. Which fishing zone is located beyond 200 nautical miles from the coast?
- A. Territorial waters
  - B. Exclusive Economic Zone
  - C. High Seas
  - D. Continental shelf
61. Which of the following is not directly involved in translation?
- A. mRNA
  - B. DNA
  - C. tRNA
  - D. Ribosome
62. Wetlands are important in fisheries because they :
- A. Increase water salinity
  - B. Block river flow
  - C. Increase pollution
  - D. Serve as breeding and nursery grounds



69. Which of the following shows pentamerous radial symmetry in adult stage?

- A. Mollusca
- B. Arthropoda
- C. Echinodermata
- D. Annelida

70. GIFT is selectively bred :

- A. Catla
- B. Tilapia
- C. Rohu
- D. Tuna

71. Which species of freshwater prawn is commonly cultured in India?

- A. *Metapenaeus dobsoni*
- B. *Scylla serrata*
- C. *Penaeus monodon*
- D. *Macrobrachium rosenbergii*

72. *Pokkali* farming is traditionally practiced in :

- A. Assam
- B. Maharashtra
- C. Kerala
- D. Tamil Nadu

73. Which of the following lacks a true coelom?

- A. Annelida
- B. Mollusca
- C. Platyhelminthes
- D. Echinodermata

74. The term "biosecurity" in aquaculture refers to :

- A. Water quality enhancement
- B. Enhancing pond depth
- C. Increasing salinity
- D. Measures to prevent disease outbreaks

75. Which is not a larval stage of shrimp?

- A. Nauplius
- B. Megalopa
- C. Mysis
- D. Protozoa

76. What is the common practice to increase natural productivity in ponds?
- A. Manuring
  - B. Aeration
  - C. Salinization
  - D. Netting
77. Traditional prawn filtration is carried out in :
- A. East coast of India
  - B. Kerala backwaters
  - C. Himalayan rivers
  - D. Kutch salt pans
78. The major constraint in integrated fish farming is:
- A. Market demand
  - B. Cost of fingerlings
  - C. Management complexity
  - D. Excess water supply
79. Rigor mortis in fish refers to:
- A. Spoilage of fish due to bacteria
  - B. Formation of off-odor compounds
  - C. Loss of scales during handling
  - D. Stiffening of muscles after death
80. The bacteria most commonly associated with seafood spoilage is:
- A. *Escherichia coli*
  - B. *Bacillus subtilis*
  - C. *Pseudomonas spp.*
  - D. *Clostridium tetani*
81. The proximate composition of fish includes:
- A. Moisture, protein, fat, ash
  - B. Protein, starch, calcium, zinc
  - C. Fats, vitamins, cellulose, urea
  - D. Amino acids, pigments, fiber, lipids

82. The freezing method where each shrimp is frozen separately is called:
- A. Individual Quick Freezing
  - B. Block freezing
  - C. Vacuum freezing
  - D. Plate freezing
83. HACCP is a system designed to:
- A. Enhance nutrient absorption
  - B. Label organic products
  - C. Improve packaging quality
  - D. Ensure food safety by identifying hazards
84. The agar is produced from :
- A. Microalgae
  - B. Seaweed
  - C. Seagrass
  - D. Fish oil
85. A common indicator of fish spoilage is :
- A. Increase in omega-3 content
  - B. Lower protein digestibility
  - C. Decrease in moisture
  - D. Formation of trimethylamine
86. The freezing point of fish is generally:
- A. 0°C
  - B. 5°C
  - C. -1°C to -2°C
  - D. -10°C
87. The primary benefit of chilled storage is to:
- A. Delay microbial growth
  - B. Enhance protein synthesis
  - C. Increase fat content
  - D. Reduce salt content

88. The national agency in India responsible for seafood inspection is:
- A. CMFRI
  - B. MPEDA
  - C. EIA
  - D. NFDB
89. Fishmeal is primarily made from :
- A. Whole low-value fish
  - B. Fish oil
  - C. Bones and scales
  - D. Shrimp heads
90. Fish silage is produced by :
- A. Smoking and salting
  - B. Dehydration
  - C. Acid fermentation
  - D. Solar drying
91. A major fish by-product used in cosmetic formulations is:
- A. Fish scale powder
  - B. Fish roe
  - C. Fish skin
  - D. Fish collagen
92. Flame cells are the excretory structures in:
- A. Platyhelminthes
  - B. Arthropoda
  - C. Coelenterata
  - D. Mollusca
93. The Fisheries Research Institute responsible for inland capture fisheries in India is :
- A. CIFT
  - B. CMFRI
  - C. CIFRI
  - D. FSI
94. The FAO Code of Conduct for Responsible Fisheries was adopted in:
- A. 1995
  - B. 1985
  - C. 2001
  - D. 2015

95. The fisheries development project implemented by the Government of India is:
- A. PMSSY
  - B. PMMSY
  - C. PMAY
  - D. MNREGA
96. The Kerala Inland Fisheries and Aquaculture Act was passed in the year:
- A. 2024
  - B. 2020
  - C. 2015
  - D. 2010
97. The purpose of KMFRA is to:
- A. Promote ornamental fish culture
  - B. Regulate marine fishing in Kerala waters
  - C. Enforce inland aquaculture policy
  - D. Establish hatcheries
98. Which organization works to improve marketing of fish and fishery products in Kerala?
- A. CMFRI
  - B. FSI
  - C. NFDB
  - D. MATSYAFED
99. The closed season for trawl fishing in Kerala is usually observed during:
- A. October to December
  - B. March to April
  - C. June to July
  - D. August to September
100. NBFGR stands for:
- A. National Bureau of Fisheries Genomic Research
  - B. National Board of Fish Germplasm Resources
  - C. Nutrition Breeding and Fish Genetics Research
  - D. National Bureau of Fish Genetic Resources
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# RESPONSE SHEET

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
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52	A	B	C	D	E
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93	A	B	C	D	E
94	A	B	C	D	E
95	A	B	C	D	E
96	A	B	C	D	E
97	A	B	C	D	E
98	A	B	C	D	E
99	A	B	C	D	E
100	A	B	C	D	E

## **ROUGH WORK**

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