

Code No.

**R – 2101**

**Entrance Examination for Admission to the P.G. Courses in the  
Teaching Departments, 2023**

**CSS**

**APPLIED AQUACULTURE**

**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								

Choose appropriate answer from the options in the questions.

**(100 × 1 = 100 marks)**

1. In Cage Aquaculture, Floating cages are used in the water bodies are deeper than?
  - a) 3 m
  - b) 5 m
  - c) 7 m
  - d) 10 m

DO NOT WRITE HERE

- 
2. The Kyoto Protocol came into action in:
- |         |         |
|---------|---------|
| a) 2007 | b) 1992 |
| c) 1997 | d) 2005 |
3. Which state has received the state award for best hilly and North Eastern State in the Fisheries sector?
- |             |              |
|-------------|--------------|
| a) Assam    | b) Meghalaya |
| c) Nagaland | d) Tripura   |

4. Biosynthetic precursor of Ketone bodies is
  - a) Acetyl Co-A
  - b) Succinyl Co-A
  - c) Adrenyl Co-A
  - d) All of the above
5. Neon tetra breeds in which waters.
  - a) Soft and acidic
  - b) Soft and alkaline
  - c) Hard and acidic.
  - d) Hard and alkaline
6. The method of rearing Daphnia in a culture medium made up of soil, manure and water is known
  - a) Autotrophic
  - b) Detrital
  - c) Xenic
  - d) Axenic
7. Name the process of mating of  $F_1$  hybrid to one of its parents.
  - a) Intergressive hybridisation
  - b) Parental line
  - c) Test cross
  - d) Back cross
8. Polyculture of fishes were first developed in \_\_\_\_\_
  - a) India
  - b) China
  - c) Thailand
  - d) Taiwan
9. The average fish consumption in urban part of India is
  - a) 1 to 2 kg/person/year
  - b) 3 to 5 kg/person/year
  - c) 6 to 8 kg/person/year
  - d) 8 to 10 kg/person/year
10. Measurement of carbonate and bicarbonate ions is a \_\_\_\_\_
  - a) Hardness
  - b) Alkalinity
  - c) Transparency
  - d) Turbidity
11. The historic book "Classic of Fish Culture" was written by \_\_\_\_\_
  - a) H.B. Wilson
  - b) Fan Lei
  - c) T.V.R. Pillay
  - d) V.G. Zingran

12. Pistia is a type of weed
- a) Floating
  - b) Submerged
  - c) Marginal
  - d) Algal weed
13. Which agent is used to control aquatic insects in culture ponds?
- a) Soap oil emulsion
  - b) Bleaching powder
  - c) Lime
  - d) Formalin
14. Fishes feeding on a single type of feed are known as
- a) Stenophagic
  - b) Monophagic
  - c) Euryphagic
  - d) Carnivorous
15. The complex of protein with carbohydrate is known as
- a) Lipoprotein
  - b) Glycoprotein
  - c) Metalloprotein
  - d) None of the above
16. Pen culture is a \_\_\_\_\_
- a) Barrier in the bay
  - b) Fixed or floating
  - c) Both (a) and (b)
  - d) Raceway
17. Two or more species cultured in the same pond is known as \_\_\_\_\_
- a) Polyculture
  - b) Monoculture
  - c) Raceway culture
  - d) Integrated Aquaculture
18. Which of the following is a predatory cat fish?
- a) *Clarius batrachus*
  - b) *Lates calcarifer*
  - c) *Catla catla*
  - d) *Chanos chanos*

19. Ammonia produced in the liver of fish is converted into non-toxic form in the blood called
- a) Glutamine
  - b) Uric acid
  - c) Creatine
  - d) Creatinin
20. Total freshwater aquaculture production, India ranks at \_\_\_\_\_ in the world.
- a) First
  - b) Second
  - c) Forth
  - d) Sixth
21.  $\text{CaCO}_3$  is also commercially known as \_\_\_\_\_
- a) Agriculture lime
  - b) Quick lime
  - c) Dolomite
  - d) Bleaching powder
22. Wintering pond is used for \_\_\_\_\_
- a) To protect fish stock from cold
  - b) For quarantine
  - c) For raising brooders
  - d) For growing spawn
23. An individual having four copies of a single genome is known as
- a) Autotetraploid
  - b) Aneuploid
  - c) Autotriploidy
  - d) Polyploidy
24. Asexual progeny of a single cell or individual is known as
- a) Blastula
  - b) Clone
  - c) Zygote
  - d) Ova
25. Identify the enzyme which synthesises DNA from RNA template
- a) Restriction Enzyme
  - b) Reverse Transcriptase
  - c) DNA ligase
  - d) Restriction Endonuclease

26. Which zone is generally preferred for semi-intensive farming system?
- a) Inter-tidal
  - b) Supra-tidal
  - c) Low-lying areas
  - d) None of the above
27. Protozoal larval stages of *Penaeus monodon* feed on \_\_\_\_\_
- a) Diatoms
  - b) Freshly hatched Artemia nauplii
  - c) Rotifers
  - d) None of the above
28. How many days are required for the fry of fish to grow up to fingerling size?
- a) 40 – 60 days
  - b) 30 – 60 days
  - c) 35 – 50 days
  - d) 50 – 65 days
29. Which of the following is suitable for Fish farming?
- a) Tilapia
  - b) Tuna
  - c) Sardine
  - d) Haddock
30. The aquatic organism, which can withstand wider range of salinity is known as?
- a) Estuarine
  - b) Oligohaline
  - c) Stenohaline
  - d) Euryhaline
31. Water stability of shrimp feed should be a minimum of
- a) 30 min
  - b) 45 min
  - c) 2 hrs
  - d) 24 hrs
32. The feed intake can be increased by the addition of
- a) Antioxidants
  - b) Pigments
  - c) Attractants
  - d) None of the above

33. The digestion of protein is more efficient in
- a) Herbivorous fishes
  - b) Carnivorous fishes
  - c) Omnivorous fishes
  - d) Detritivorous fishes
34. Mictic females meiotically produce haploid eggs which if unfertilised develop into \_\_\_\_\_
- a) Male
  - b) Female
  - c) Cyst
  - d) None of the above
35. The cells of marine algae are washed with isotonic \_\_\_\_\_ to remove salts without bursting of cells.
- a) Ammonium formate
  - b) Ammonium chloride
  - c) Ammonium nitrate
  - d) Ammonium sulphate
36. Constant illumination is required for culture of
- a) Flagellates
  - b) Rotifers
  - c) Diatoms
  - d) Artemia
37. While the harvesting of algal cells, the following chemical is used for coagulation and precipitation of cells at the bottom
- a) Ferric chloride
  - b) Ammonium chloride
  - c) Ferric sulphate
  - d) Ammonium nitrate
38. Name the type of translocation in which the exchange of segments between two non-homologous chromosomes occur
- a) Reciprocal translocation
  - b) Shift translocation
  - c) Simple translocation
  - d) Reverse translocation

39. The phenomenon of the production of additional or secondary phenotypes because of influence of gene
- a) Complementary gene effect                      b) Inhibitory effect
  - c) Masking effect                                      d) Pleiotrophism
40. Name the type of mutation that abolishes the expression of a gene
- a) Null Mutation                                      b) Dominant mutation
  - c) Recessive mutation                              d) Co-dominant mutation
41. Diagram that shows the occurrence and appearance of phenotypes of a particular gene or organism
- a) Karyotype    b) Idiotype
  - c) Pedigree    d) Family
42. Which one spawns in small grassy pits?
- a) Magur    b) Asian sea bass
  - c) Rohu    d) Greasy grouper
43. Gonadotropin Releasing Hormone (GnRH) is available in the trade name of
- a) Sumach    b) Puberogen
  - c) Prolan    d) Ovaprim
44. Indian major carps spawn naturally in spawning grounds characterised by water conditions.
- a) Flowing and deeper                              b) Stagnant and shallow
  - c) Flowing and shallow                              d) Stagnant and deeper
45. Spawning of fishes on the water surface is called as \_\_\_\_\_ spawning.
- a) Muffled    b) Sympathetic
  - c) Floating    d) None of the above



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53. Which is one of the characteristic larval stage of lobster.
- a) Mysis
  - b) Megalopa
  - c) Zoea
  - d) Phyllosoma
54. \_\_\_\_\_ is used to improve the hatching rate in fish hatcheries.
- a) EDTA
  - b) Sodium thiosulphate
  - c) Sodium hypochlorite
  - d) Lime
55. Generally, spawning in Seacucumber, *Holothuria scabra* is induced by which method?
- a) Thermal stimulation
  - b) Electric shock
  - c) Chemical
  - d) Mechanical
56. The free swimming larva of digenean parasite is called as \_\_\_\_\_
- a) Coracidium
  - b) Miracidium
  - c) Oncomiracidium
  - d) Glochidia
57. Which among the following is the largest Ramsar lake in Kerala?
- a) Ashtamudi
  - b) Vembanad
  - c) Kadalundi
  - d) Vellayani
58. The largest mangrove forest in the world is
- a) Kenya
  - b) Andaman
  - c) Sunderbans
  - d) None of the above
59. World Ocean Day is celebrated on
- a) June 8
  - b) February 2
  - c) July 15
  - d) August 5

60. World Fisheries Day is celebrated on
- a) 5<sup>th</sup> August
  - b) 9<sup>th</sup> January
  - c) 26<sup>th</sup> June
  - d) 21<sup>th</sup> November
61. What is the scientific name of Pearl oyster?
- a) *Pinctada fucata*
  - b) *Perna viridis*
  - c) *Penaeus indicus*
  - d) *Saccostrea cuculata*
62. Which of the following fish have spines that contain powerful venom?
- a) *Scarus vetula*
  - b) *Conus purpurascens*
  - c) *Pterois radiata*
  - d) *Chironex fleckeri*
63. The term “Biology” was coined by:
- a) Henry Walter Bates
  - b) Gregor mendel
  - c) Carolus Linnaeus
  - d) Jean-Baptiste Lamarck
64. Comb jelly:
- a) *Physalis physalis*
  - b) *Mnemiopsis leidyi*
  - c) *Chironex fleckeri*
  - d) *Gonyaulax catenella*
65. Moon Coral:
- a) *Leptoria phrygia*
  - b) *Porolithon onkodes*
  - c) *Cribrochalina olemda*
  - d) *Favia lizardensis*
66. *Dinoflagellates* belong to the kingdom:
- a) Metazoa
  - b) Metaphyta
  - c) Monera
  - d) Protista

67. The meat of which of the following fishes produces a “narcotic high”?
- a) sturgeons
  - b) tarpon
  - c) herrings
  - d) puffers
68. To which of the taxa, Red, brown, and green algae belong to?
- a) Monera
  - b) Metaphyta
  - c) Fungi
  - d) Protista
69. Who first coined the term ‘biosystematics’?
- a) Engler and Prantl
  - b) Bentham and Hooker
  - c) Linnaeus and Bauhin
  - d) Camp and Gily
70. Which of the following fishes do not have a swim bladder?
- a) puffers
  - b) bowfin
  - c) tuna
  - d) sturgeons
71. Phyllotaxy is defined as:
- a) Arrangement of veins in the leaf blade
  - b) Arrangement of underground stem
  - c) Arrangement of petiole on the stem
  - d) Arrangement of leaves on the stem
72. Seahorse is \_\_\_\_\_
- a) *Hippocampus*
  - b) *Equus*
  - c) *Elephas*
  - d) *Hippophae*
73. Intertidal zones:
- a) Zone between highest high tide and lowest high tide
  - b) Zone between lowest high tide and highest low tide
  - c) Zone between lowest high tide and lowest low tide
  - d) Zone between highest high tide and lowest low tide

74. Which of the following fishes have a skeleton that is entirely made up of cartilage?
- a) Puffer fishes
  - b) Sharks
  - c) Jelly fishes
  - d) Sturgeons
75. Mosses belong to which of the following phyla?
- a) Pterophyta
  - b) Psilophyta
  - c) Bryophyta
  - d) Anthophyta
76. The antibiotic "Chlorellin" is obtained from:
- a) Algae
  - b) Actinomycete
  - c) Fungi
  - d) Chlorophyll
77. Caudal fins of Salmon is:
- a) Heterocercal
  - b) Truncated
  - c) Lunated
  - d) Rounded
78. Gall bladder is absent in:
- a) Walruses
  - b) Manatees
  - c) Blue Whales
  - d) Seals
79. Comb jellies are classified under:
- a) Molluscs
  - b) Foraminifera
  - c) Brachiopods
  - d) Ctenophores
80. To which of the following kingdoms does *barnacles* belong to?
- a) Fungi
  - b) Metazoa
  - c) Monera
  - d) Protista

81. Which of the following is a member of the phylum Cnidaria?
- a) Horseshoe crabs
  - b) Copepods
  - c) Sponge
  - d) Jellyfish
82. The term “Ecology” was coined by:
- a) W.M. Stanley
  - b) Carl Correns
  - c) Ernst Haeckel
  - d) John Ray
83. The book “Zoonomia” was published by:
- a) Jean-Baptiste Lamarck
  - b) Charles Darwin
  - c) Gregor Mendel
  - d) Erasmus Darwin
84. Which of the zones is the deepest zone?
- a) Neritic zone
  - b) Littoral zone
  - c) Pelagic zone
  - d) Hadal zone
85. Eutrophication:
- a) lead to decreased biomass
  - b) is essential for the growth of fish
  - c) caused by diatoms
  - d) is responsible for algal bloom
86. Oysters belong to which kingdom?
- a) Foraminifera
  - b) Coccoliths
  - c) Metazoa
  - d) Brachiopods
87. Which of the following fish species migrate to rivers from oceans?
- a) salmon
  - b) carp
  - c) perch
  - d) cichlid

88. Sea urchins are classified under:
- a) Foraminifera
  - b) Molluscs
  - c) Brachiopods
  - d) Echinoderms
89. Which of the following is also known as Wisley Primrose?
- a) *Perovskia*
  - b) *Helianthemum*
  - c) *Kalmia latifolia*
  - d) Heathers
90. Blue-green algae belong to the kingdom:
- a) Monera
  - b) Metaphyta
  - c) Protista
  - d) Metazoa
91. Who first formulated the germ-plasm theory of inheritance?
- a) August Weismann
  - b) Hugo de Vries
  - c) Gregor Mendel
  - d) Karl von Linne
92. Which of the following is also known as “sea lettuce”?
- a) Chondrus
  - b) Limu
  - c) Dulse
  - d) Ulva
93. Charles Darwin’s voyage on the ship HMS Beagle began on the year:
- a) 1851
  - b) 1829
  - c) 1831
  - d) 1858
94. Baculum is absent in:
- a) Pinnipeds
  - b) Cetacea
  - c) Chiroptera
  - d) Rodentia

95. High rates of perinatal fatalities are seen among;
- a) Manatees
  - b) Sea Lions
  - c) Seals
  - d) Blue Whales
96. Laminaria is a source of:
- a) Spirulina
  - b) Carrageenan
  - c) Agar-Agar
  - d) Iodine
97. Reserve food of algae *Cryptophyceae*:
- a) Starch
  - b) Oil
  - c) Fats
  - d) Leucosin
98. Pantropical spotted dolphin:
- a) *Conchoderma auritum*
  - b) *Orcinus orca*
  - c) *Balaenoptera gigas*
  - d) *Stenella attenuata*
99. Classification of organisms based on Binomial system of nomenclature was introduced by:
- a) Gregor Mendel
  - b) Alfred Russel Wallace
  - c) Carl von Linnaeus
  - d) Hugo de Vries
100. Klamath River Basin is situated in which country?
- a) India
  - b) Uganda
  - c) Brazil
  - d) USA



# ANSWER 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
28	A	B	C	D	E
29	A	B	C	D	E
30	A	B	C	D	E
31	A	B	C	D	E
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33	A	B	C	D	E
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36	A	B	C	D	E
37	A	B	C	D	E
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40	A	B	C	D	E
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43	A	B	C	D	E
44	A	B	C	D	E
45	A	B	C	D	E
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48	A	B	C	D	E
49	A	B	C	D	E
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51	A	B	C	D	E
52	A	B	C	D	E
53	A	B	C	D	E
54	A	B	C	D	E
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76	A	B	C	D	E
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91	A	B	C	D	E
92	A	B	C	D	E
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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