

Code No.

L – 4023

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

**CSS
APPLIED AQUACULTURE**

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. _____ is called as aquatic chicken
 - a) Catla
 - b) Rohu
 - c) Tilapia
 - d) *Channa striatus*

DO NOT WRITE HERE

-
2. Induced breeding and seed production technology for grouper was developed by
- a) CIBA
 - b) CIFT
 - c) CIFA
 - d) CMFRJ
3. In animal cell, DNA is present in
- a) Nucleus
 - b) Mitochondria
 - c) (a) and (b)
 - d) None

4. Induced breeding and seed production technology for sea bass was developed by
 - a) CIBA
 - b) CMFRI
 - c) CIFT
 - d) CIFRI

5. The process of message transfer from DNA to mRNA is called
 - a) Transcription
 - b) Translation
 - c) (a) and (b)
 - d) None

6. Which is a marginal weed
 - a) Ipomea
 - b) Typha
 - c) (a) and (b)
 - d) None

7. Chelating agent used in shrimp hatchery is
 - a) Sodium thiosulphate
 - b) EDTA
 - c) Oxytetracycline
 - d) None of these

8. One molecule of glucose on complete oxidation produces
 - a) 30 ATP mole
 - b) 38 ATP mole
 - c) 40 ATP mole
 - d) 45 ATP mole

9. The most widely used cryoprotectant in fish gamete preservations are
 - a) Methanol
 - b) DMSO
 - c) Acetic acid
 - d) None of these

10. The deterioration of fats and oils is known as
 - a) Hydrogenation
 - b) Rancidity
 - c) Saponification
 - d) Autooxidation

11. Liming of the pond is done to
 - a) Reduce the pH of the water
 - b) To kill the parasites and raise the pH
 - c) As a fertilizer
 - d) To increase the productivity

12. Organic fertilizers include
- a) NPK
 - b) Urea
 - c) Cow dung
 - d) Super phosphate
13. The common predatory fish found in the pond is
- a) *Chanoschanos*
 - b) *Glassogobiusgiuris*
 - c) *Mugilparsia*
 - d) *S. Longiceps*
14. Fish poison of plant origin is
- a) Aldrin
 - b) Nuvan 100 EC
 - c) Thiometon
 - d) Mahua oil cake
15. Permanent hardness is due to
- a) Dissolved sulphates and Chlorides of Calcium and Magnesium
 - b) Dissolved Calcium oxide
 - c) Sodium carbonate
 - d) Carbon dioxide
16. Blooms are produced by
- a) Dinoflagellates
 - b) Copepods
 - c) Nematodes
 - d) Bacteria
17. The best food for fry of catla is
- a) Phytoplankton
 - b) Zooplankton
 - c) Oil cake
 - d) Wheat bran
18. *Macrobrachium rosenbergi* breeds in
- a) Sea
 - b) Estuaries
 - c) Fresh water
 - d) Salt water
19. Larval food of prawns consists of
- a) Fish larvae
 - b) Diatoms and Zooplankton
 - c) Rice bran
 - d) Wheat bran

20. Acrosome is found in
- a) Tail portion of sperm
 - b) Head of the sperm
 - c) Near the micropile of the egg
 - d) Adjacent to the mitochondria of the sperm
21. Infusoria is a
- a) Mollusc
 - b) Crustacean
 - c) Fisher
 - d) Protozoan
22. Intensive aquaculture the design of the tank should be
- a) Square
 - b) Circular
 - c) Rectangular
 - d) Cylindrical
23. Catabolism of protein leads to the release of
- a) Nitrite
 - b) Methane
 - c) Nitrate
 - d) Ammonia
24. n-3 fatty acids are rich in
- a) Marine fish oil
 - b) Fresh water fish oil
 - c) Vegetable oil
 - d) All
25. Hybridoma is a cell formed by fusion of
- a) Melanin cells with B lymphocyte
 - b) Meninges cells with antibody producing cell
 - c) Myeloma cell with T lymphocyte
 - d) Myeloma cell with B lymphocyte
26. Nucleotide is a combination
- a) Sugar, phosphoric group and nucleoside
 - b) Nucleoside and phosphoric group
 - c) Nucleoside and phosphate group
 - d) Nucleoside and sugar

27. The most abundant RNA type in the cell is
- a) mRNA
 - b) r RNA
 - c) t RNA
 - d) Viral RNA
28. Chromosome are observed during
- a) Anaphase
 - b) Telophase
 - c) Metaphase
 - d) Interphase
29. The peptide chain termination in the protein synthesis is done by the genetic code
- a) AGU
 - b) UAA
 - c) CAU
 - d) ACU
30. Transcription is the process of conversion of
- a) DNA to r RNA
 - b) DNA to m RNA
 - c) DNA to t RNA
 - d) DNA to mitochondrial DNA
31. Adjuvant is a substance that
- a) Enhance immune response
 - b) Inhibit immune response
 - c) Degrade immune response
 - d) none
32. Lymphocytes carrying neither T-cells nor B-cell markers are called
- a) Null cell
 - b) Hepatic cells
 - c) Germ cell
 - d) Chimera

33. Ideal slope of pond is
- a) 2:1
 - b) 1:1
 - c) 1:2
 - d) None of the above
34. Raceways are _____ based aquaculture farming system
- a) Water
 - b) Land
 - c) Re-cycling
 - d) Integrated
35. PCR process was discovered by Kary B. Mullis in
- a) 1983
 - b) 1980
 - c) 1974
 - d) 1995
36. Monocytes produce
- a) Antibodies
 - b) Antigen
 - c) Immunoglobulin
 - d) None
37. It is the study of fish by description, numbers and morphology of chromosomes
- a) Syntype
 - b) Holotype
 - c) Neotype
 - d) Karyotypes
38. Trimethyl amine is excreted by
- a) Marine teleosts
 - b) Amphibians
 - c) Africa
 - d) All the above
39. India's contribution towards the world fish production is
- a) 9.06 mmt
 - b) 4.07 mmt
 - c) 8 mmt
 - d) 11 mmt

40. The present marine fish landing of India as on 2019-2020
- a) 2.82 m t
 - b) 3.56 m t
 - c) 4.95 m t
 - d) 2.91 m t
41. Which fishery institute is engaged in harvest and post harvest aspect of fisheries?
- a) CIFE
 - b) CIFT
 - c) CIBA
 - d) DIFA
42. Which organization is providing financial support to fishery sector?
- a) EIC
 - b) CIFT
 - c) NABARD
 - d) CMFRI
43. It is an organization for fish export promotion Government by Ministry of Commerce
- a) FFDA
 - b) BFDA
 - c) MPEDA
 - d) None
44. The major storage lipid of fish is
- a) Cholesterol
 - b) Lecithin
 - c) Ganglioside
 - d) Triglyceride
45. A non protein nitrogen source involved in bitter taste of fish
- a) TMAO
 - b) Glycine
 - c) Hypoxanthine
 - d) Creatine
46. The black discoloration of prawns is due to the action of
- a) Pyruvate kinase
 - b) Polyphenol oxidase
 - c) Fumerase
 - d) Protease

47. Protein content of fish muscle is
- a) 10-15%
 - b) 12-25%
 - c) 16-22%
 - d) 15-24%
48. The major ω -3 fatty acid of fish lipid is
- a) Eicosapentaenoic acid
 - b) Lauric acid
 - c) Palmitic acid
 - d) Stearic acid
49. Proteins lost during thaw drip
- a) Actomyosin
 - b) Sarcoplasmic protein
 - c) Stroma proteins
 - d) Myosin
50. Quality of shrimp can be assessed by the estimation of
- a) Indole
 - b) Glucose
 - c) Vitamin C
 - d) Arginine
51. The first frozen fish industry in india was established at
- a) TamilNadu
 - b) Mumbai
 - c) Kerala
 - d) None
52. Which freezer are mostly used for onboard freezing in larger factory vessels?
- a) Horizontal Plate Freezer
 - b) Vertical Plate Freezer
 - c) (a) and (b)
 - d) Air blast freezer
53. Optimum growth temperature required for the growth of psychrophilic bacteria is
- a) 15°C
 - b) 18°C
 - c) 20°C
 - d) 10°C

54. At present, which product rank first in export from India to other countries (value)
- a) Frozen fish
 - b) Frozen shrimp
 - c) Frozen cuttle fish
 - d) None
55. The following is the seafood-borne pathogen
- a) *Alteromonas putrefaciens*
 - b) *Pseudomonas salinaria*
 - c) *Listeria monocytogenes*
 - d) *Morganella morganii*
56. Faecal indicator bacteria is
- a) Lactobacillus
 - b) *E. coli*
 - c) Vibrio
 - d) Pseudomonas
57. The freezer that operates without the compressors and condensers
- a) Vertical plate freezer
 - b) Horizontal plate freezer
 - c) Liquid nitrogen freezer
 - d) Carbondioxide freezer
58. The role of microorganism in spoilage of foods was first reported by
- a) Kircher
 - b) Robert hook
 - c) Pasteur
 - d) None
59. Green fluorescent zebra fishes are produced by
- a) Androgenesis
 - b) Gynogenesis
 - c) Transgenesis
 - d) Hormone treatment
60. HACCP refers to a
- a) Freezing technology
 - b) Canning technology
 - c) Quality management system
 - d) Aquaculture technology

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

Applied Aquaculture

PART – B

(Descriptive Type)

Answer **any eight** questions.

(8 × 5 = 40 Marks)

1. Write a note on specific defence mechanism in fish.
2. Describe the larval forms of *Macrobrachium rosenbergii*.
3. Write a note on Mendel's principles of inheritance.
4. Describe about Monoclonal antibody technique.
5. Describe the cell cycle and its control mechanism.
6. Major inland fishery resources of Kerala.
7. Indian oil sardine fishery of Kerala.
8. Role of MPEDA in export of seafood.
9. Comment on pond preparation for aquaculture based on best management practices.
10. Comment on Biofloc Technology.
11. Role of HACCP in fish processing industry.
12. Monsoon trawl ban in Kerala and its implications on fishery resources.

