

Ph.D. ENTRANCE EXAMINATION, APRIL 2022

AQUACULTURE AND FISHERY MICROBIOLOGY

Time : Two Hours

Maximum : 100 Marks

I. Answer all questions :

- 1 Rampani net is mainly used for catching :
 - a) Shrimps.
 - b) Mackeral.
 - c) Tuna.
 - d) Catla.
- 2 Which of the following scheme of the Government of India has the target of increasing fish production to 22 million metric tonnes by 2024-25 ?
 - a) PMMSY.
 - b) Matsyasamridhi.
 - c) Blue revolution.
 - d) Green revolution.
- 3 Which among the following is a carrageenan yielding seaweed ?
 - a) Gracilaria corticata.
 - b) Caulerpa racemosa.
 - c) Gelidiella acerosa.
 - d) Kappaphycus alvarezii.
- 4 Omega 3 fatty acids are higher in :
 - a) Sardine.
 - b) Anchovies.
 - c) Bombay duck.
 - d) Pangasius.
- 5 Which of the following ornamental fishes produces non-sticky eggs ?
 - a) Zebra fish.
 - b) Melon barbs.
 - c) Giant gourami.
 - d) Angel fish.
- 6 Scientific name of Common carp :
 - a) Catla catla.
 - b) Ctenopharyngodon idella.
 - c) Cyprinus carpio.
 - d) Wallago attu.
- 7 Which species completes entire life cycle in the sea ?
 - a) Penaeus indicus.
 - b) Penaeus semisulcatus.
 - c) Penaeus monodon.
 - d) Parapenaeopsis styliifera.

- 8 Moulting in decapod crustacean is known as :
- a) Ecdysis.
 - b) Shedding.
 - c) Decapsulation.
 - d) Regeneration.
- 9 Radula is the part of digestive system in :
- a) Molluscs.
 - b) Fishes.
 - c) Crustaceans.
 - d) Echinoderms.
- 10 Function of X-organ in crustaceans :
- a) Production of moult preventing hormone.
 - b) Production of moult accelerating hormone.
 - c) Production of chromatophore enhancing hormone.
 - d) None of the above.
- 11 Largest gland in fish is :
- a) Pituitary gland.
 - b) Parotid gland.
 - c) Pancreas.
 - d) Liver.
- 12 Mud bank formation is a regular phenomenon in :
- a) Karnataka.
 - b) Tamil Nadu.
 - c) West Bengal.
 - d) Kerala.
- 13 Sex is determined in male prawn by identifying :
- a) Petasma.
 - b) Thelycum.
 - c) Appendix interna.
 - d) Rostrum.
- 14 Aflatoxin is produced by :
- a) Virus.
 - b) Bacteria.
 - c) Fungus.
 - d) Flies.
- 15 Mono sex culture is practiced in :
- a) Milk fish.
 - b) Tilapia.
 - c) Bighead carp.
 - d) Common carp.

- 16 Which of the following is used as fish eradicator in aquafarm ?
a) Tea seed oil cake. b) Zeolite.
c) Neem cake. d) Coconut oil cake.
- 17 Jigging is a fishing method used for catching :
a) Shrimps. b) Squids.
c) Tuna. d) Soles.
- 18 Phyllosoma is the larval stage of :
a) *Panulirus homarus*. b) *Palaemon serratus*.
c) *Parapenaeopsis stulifera*. d) *Charybdis cruciata*.
- 19 Which among the following states first introduced KMFR Act in India ?
a) Kerala and Tamil Nadu. b) Kerala and Karnataka.
c) Kerala and Goa. d) Kerala and West Bengal.
- 20 More than 90% of *Harpodon nehereus* catch is from :
a) Kerala and Karnataka. b) Tamil Nadu and Andhra Pradesh
c) West Bengal and Orissa. d) Maharashtra and Gujarat.
- 21 The duration of trawl ban in Kerala in 2021 :
a) 47 days. b) 50 days.
c) 52 days. d) 57 days.
- 22 Excretory material of bony fishes is :
a) Urea. b) Ammonia.
c) Uric acid. d) Amino acid.
- 23 NETFISH is functioning under :
a) FSSAI. b) INCOIS.
c) CMFRI. d) MPEDA.
- 24 Length of coastline of India is :
a) 7900 km. b) 8118 km.
c) 8900 km. d) 8918 km.

- 25 Contribution of fisheries to the GDP of India is :
- a) 1%.
 - b) 2%.
 - c) 5%.
 - d) 15%.
- 26 Inland fish production in India during 2019-20 is :
- a) 8.0 MMT.
 - b) 9.43 MMT.
 - c) 10.43 MMT.
 - d) 3.72 MMT.
- 27 Indian fisheries Act was passed in the year :
- a) 1957.
 - b) 1927.
 - c) 1789.
 - d) 1897.
- 28 According to the Indian fisheries statistics, percapita consumption of fishes in the year 2019-2020 is :
- a) 19.41 kg.
 - b) 18.41kg.
 - c) 22.00 kg.
 - d) 10.41 Kg.
- 29 Headquarters of Coastal Aquaculture Authority of India is :
- a) New Delhi.
 - b) Cochin.
 - c) Chennai.
 - d) Mumbai.
- 30 Value wise, major export share of Indian seafood is through ————— Product.
- a) Live fish.
 - b) Chilled seafood.
 - c) Frozen shrimp.
 - d) Frozen cuttle fish.
- 31 Sardines belongs to the family :
- a) Scombridae.
 - b) Clupeidae.
 - c) Synodontidae.
 - d) Lutjanidae.
- 32 Red Ring is :
- a) Shrimp.
 - b) Lobster.
 - c) Plankton.
 - d) Alage.
- 33 Puffer fish poison mainly affects :
- a) Digestive system.
 - b) Respiratory system.
 - c) Reproductive system.
 - d) Nervous system.

- 34 NFDB is :
- a) National Farmers Development Board.
 - b) National Farm Designing Beauru.
 - c) National Fisheries Development Beauru.
 - d) National Fisheries Development Board
- 35 Codex alimentarius commission related to :
- a) FSSAI.
 - b) EIA.
 - c) Food trade.
 - d) Food safety standards.
- 36 Indicator of human hygiene is :
- a) Staphylococcus aureus.
 - b) Faecal streptococci.
 - c) E. coli.
 - d) Vibrio cholera.
- 37 Which among the following is a fisheries management tool ?
- a) MPA.
 - b) Sanctuaries.
 - c) Ranching.
 - d) All the above.
- 38 Which among the following is related to statistical analysis of data ?
- a) One-way ANOVA.
 - b) Duncan's test.
 - c) T-test.
 - d) All the above.
- 39 Principle of freeze drying :
- a) Panelling.
 - b) Dehydration.
 - c) Osmosis.
 - d) Sublimation.
- 40 Name a freezer used for producing IQF products :
- a) Plate freezer.
 - b) Tunnel freezer.
 - c) Fluidized bed freezer.
 - d) Liquid immersion freezer.
- 41 Salt tolerant bacteria is :
- a) Sporendonema epizoium.
 - b) Halobacterium salinaria.
 - c) Hafnia alvae.
 - d) Lactobacillus planatrum.

- 42 Colour retained by gram positive bacteria after staining is :
- a) Pink.
 - b) White.
 - c) Yellow.
 - d) Violet.
- 43 Permitted codend mesh size in trawl net :
- a) 10 mm.
 - b) 20 mm.
 - c) 25 mm.
 - d) 30 mm.
- 44 Concentration of dissolved oxygen for good growth of fishes in ponds :
- a) 5 mg/l.
 - b) 7.5 mg/l.
 - c) 12 mg/l.
 - d) 2.5 mg/l.
- 45 Additive used in surimi preparation :
- a) Egg white.
 - b) Sucrose.
 - c) Salt.
 - d) All the above.
- 46 Thermophilic bacteria having significance in canning is :
- a) *Bacillus stereothermophilus*.
 - b) *Clostridium nigrificans*.
 - c) *Vibrio vulnificans*.
 - d) *Salmonella typhi*.
- 47 Causative agent of bacterial gill disease :
- a) *Flavobacterium branchiophyllum*.
 - b) *Edwardsiella tarda*.
 - c) WSSV.
 - d) *Aeromonas hydrophyla*.
- 48 Methyl testosterone is used for :
- a) Faster growth.
 - b) Sex reversal.
 - c) Better colour in fish.
 - d) Cross breeding.

49 Sodium amytal is a :

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|---------------------|-------------------------|
| a) Antibiotic. | b) Antibacterial agent. |
| c) Anesthetic drug. | d) Antiviral agent. |

50 BHA is used as :

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|-------------------------|---------------------|
| a) Antimicrobial agent. | b) Antiviral agent. |
| c) Colour additive. | d) Antioxidant. |

(50 × 1 = 50 marks)

II. Write short answers on any *ten* from the following :

- 1 Live feed organisms for fish seed.
- 2 Functioning of biofilter in aquarium tank.
- 3 Traditional prawn Alteration of pokkali fields.
- 4 Viral diseases of shrimps.
- 5 Fish sanctuaries.
- 6 Eyestalk ablation techniques.
- 7 Zeolites in aquaculture.
- 8 Mud bank fishery.
- 9 Antidumping duty and Countervailing duty.
- 10 Seven principles of HACCP and significance of CCP.
- 11 Stock assessment of Oceanic resources.
- 12 Fish spoilage.

(10 × 5 = 50 marks)