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ROLL No.

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TEST BOOKLET No.

091

TEST FOR POST GRADUATE PROGRAMMES

FISHERIES

Time: 2 Hours

Maximum Marks: 450

INSTRUCTIONS TO CANDIDATES

1. You are provided with a Test Booklet and an Optical Mark Reader (OMR) Answer Sheet to mark your responses. Do not soil the Answer Sheet. Read carefully all the instructions given on the Answer Sheet.
 2. Write your Roll Number in the space provided on the top of this page.
 3. Also write your Roll Number, Test Code, and Test Subject in the columns provided for the same on the Answer Sheet. Darken the appropriate bubbles with a Ball Point Pen.
 4. The paper consists of 150 objective type questions. All questions carry equal marks
 5. Each question has four alternative responses marked A, B, C and D and you have to darken the bubble fully by a Ball Point Pen corresponding to the correct response as indicated in the example shown on the Answer Sheet.
 6. Each correct answer carries 3 marks and each wrong answer carries 1 minus mark.
 7. Space for rough work is provided at the end of this Test Booklet.
 8. You should return the Answer Sheet to the Invigilator before you leave the examination hall. However, you can retain the Test Booklet.
 9. Every precaution has been taken to avoid errors in the Test Booklet. In the event of any such unforeseen happenings, the same may be brought to the notice of the Observer/Chief Superintendent in writing. Suitable remedial measures will be taken at the time of evaluation, if necessary.
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**FISHERIES**

1. Production of luminescence by fishes is due to the presence of
 - (A) Luceferin
 - (B) Oxyluceferin
 - (C) Luciferace
 - (D) None of the above

2. Lung fishes belong to the sub-class
 - (A) Brachiopterygii
 - (B) Crossopterygii
 - (C) Actinopterygii
 - (D) Dipneusti

3. CIFT is involved in the research work on
 - (A) designing of new crafts, gears
 - (B) innovative methods of fishing
 - (C) designing of indigenous engines
 - (D) All of the above

4. Sharks, skates, catfishes and perches are
 - (A) Pelagic fishes
 - (B) Demersal fishes
 - (C) Shore fishes
 - (D) Shell fishes

5. "Masmin" is prepared traditionally by the meat of
 - (A) Soles
 - (B) Flat fishes
 - (C) Tunas
 - (D) Cat fishes

6. Pearl oyster used for the production of lustrous pearls is
 - (A) *Pinctada fucata*
 - (B) *Perna viridis*
 - (C) *P margaritifera*
 - (D) *Pteria penguin*

7. Processing of fish by salting, drying, smoking and pickling is known as
 - (A) caring
 - (B) curing
 - (C) cloning
 - (D) cleaning



8. Isinglass is prepared from
- (A) air bladder of fish (B) liver of fish
(C) stomach of fish (D) skin of fish
9. Fish liver contains
- (A) Vitamin E and B (B) Vitamin C
(C) Vitamin A (D) Vitamin A and D
10. Artemia is used as in aquaculture
- (A) dry feed (B) live animal feed
(C) powdered feed (D) granular feed
11. Which fishery is represented by a single species?
- (A) Sole fishery (B) Mackerel fishery
(C) Bombay duck fishery (D) Sardine fishery
12. Androgenic steroids are for
- (A) feminisation (B) masculinisation
(C) bisexual characters (D) monosex
13. Sargassum is used for the extraction of
- (A) agar (B) coir
(C) algin (D) agaroids
14. Which chemical is used for preserving pituitary gland extract?
- (A) Formalin (B) Iodine
(C) Glycerin (D) Alcohol
15. Bheri culture is common in
- (A) Andhra Pradesh (B) Orissa
(C) West Bengal (D) Kerala



16. Gynogenesis means
- (A) chromosomal manipulation
 - (B) parthenogenetic development
 - (C) polyploidy
 - (D) inbreeding
17. In fish, high protein content is present in
- (A) muscle
 - (B) heart
 - (C) liver
 - (D) head
18. Treatment of fish with salt is known as
- (A) brining
 - (B) smoking
 - (C) canning
 - (D) drying
19. Scientific name of Indian oil sardines is
- (A) *Sardinella albella*
 - (B) *S. melamura*
 - (C) *Sardinella dayi*
 - (D) *Sardinella longiceps*
20. *Pangasius* is a
- (A) cat fish
 - (B) murrel
 - (C) carp
 - (D) flying fish
21. Neuromast cells in fishes are associated with
- (A) nervous system
 - (B) skeletal system
 - (C) lateral line system
 - (D) muscular system
22. Chilka Lake is located in State
- (A) Gujarat
 - (B) Maharashtra
 - (C) Andhra Pradesh
 - (D) Orissa



23. Kolleru Lake is a
- (A) Brackish water lake (B) Salt lake
(C) Fresh water Lake (D) None of the above
24. The common name of *Lates calcarifer* is
- (A) sea lion (B) sea bass
(C) milk fish (D) ribbon fish
25. What is the limit of EEZ
- (A) 300 nautical miles (B) 100 nautical miles
(C) 50 nautical miles (D) 200 nautical miles
26. Scale reading in fishes is done to determine their
- (A) growth (B) length
(C) age (D) health
27. Sonar instrument is used to detect
- (A) ships (B) boats
(C) fishes (D) None of the above
28. Which species is being used as a biological weed control agent in USA?
- (A) Common carp (B) Grass carp
(C) Scale carp (D) Mirror carp
29. Hypophysation is used to
- (A) induce spawning artificially
(B) increase natural spawning
(C) induce parthenogenecity
(D) None of the above



36. Ablone farming was initiated in
- (A) China and Japan
 - (B) Thailand and Malaysia
 - (C) Indonesia and New Guinea
 - (D) Australia and New Zealand
37. Fish that live their adult life in the sea but migrate up to fresh water rivers to spawn are
- (A) migrators
 - (B) catadromous
 - (C) aqua-gliders
 - (D) anadromous
38. In the sea, a condition where waters are depleted of oxygen is known as
- (A) paraxia
 - (B) hypoxia
 - (C) decarbonised water
 - (D) carbonised water
39. A systematic gathering of information on fish availability using eco-sounder is
- (A) aerial survey
 - (B) acoustic survey
 - (C) remote sensing
 - (D) benthic survey
40. Aquatic organisms which live on or in the seabed are
- (A) plankters
 - (B) incidental fish
 - (C) benthos
 - (D) shell fish
41. Fish that live their adult life in fresh water rivers but migrate down to spawn in the seas are
- (A) catadromous
 - (B) anadromous
 - (C) oceanodromous
 - (D) None of the above



42. Cephalopods belong to the group
- (A) crustacea (B) echinodermata
(C) mollusca (D) mammals
43. A gill net suspended by floats so that it fishes the stock available on the few metres of the top water column is called
- (A) bottom set net (B) drift net
(C) ghost net (D) stake net
44. Fishing line with hooks held vertically in the water column with weights is known as
- (A) dropline (B) floating line
(C) drift hooks (D) jigs
45. Fish that tolerate wide range of salinity are
- (A) euryhaline (B) stenohaline
(C) migratory (D) deep water
46. An extreme increase in chemical nutrients containing nitrogen and phosphorous in an ecosystem is
- (A) nitrification (B) eutrophication
(C) putrifaction (D) deterioration
47. A sea zone under the law of the sea over which a state has right to explore and use marine resources is
- (A) off shore zone (B) deep water zone
(C) exclusive economic zone (D) fishing zone
48. The potential egg producing capacity of a fish during a reproductive cycle is
- (A) ovulation (B) milking
(C) fecundity (D) productivity



49. Fishing nets lost in the ocean but continue to capture and kill fish are called
- (A) drift nets (B) trawl nets
(C) waste nets (D) ghost nets
50. _____ is a device that uses satellite signals to accurately determine a fishing vessels position in the sea.
- (A) TGS (B) GKS
(C) GPS (D) TED
51. A method of fishing squids with a vertical line attached with multiple hooks is
- (A) jogging (B) jiggling
(C) jukung (D) jamming
52. A shallow salt or brackish water body separated from the deeper sea by a shallow or exposed sand bank or coral reef is
- (A) lagoon (B) backwater
(C) estuary (D) tidal flat
53. Drifting marine organisms whose movements depend on the movement of water currents is
- (A) marine nekton (B) marine benthos
(C) marine plankton (D) marine species
54. Discolouration of surface waters of sea caused by large concentration of harmful algal bloom is
- (A) colour tide (B) black waters
(C) red tide (D) yellow waters
55. The position that a species occupies in a food chain is
- (A) trophic level (B) trophic band
(C) trophic group (D) feeder



56. Anbas has which type of respiratory organ?
- (A) Arborescent (B) Air bladder
(C) Labrinthine (D) Tubular sacs
57. Adipose tissue of fish is formed of
- (A) protein (B) aminoacid
(C) fat (D) carbohydrate
58. Elasmobranchii includes
- (A) bony fishes (B) cartilaginous fishes
(C) jawless fish (D) rays and skates
59. Eye stalk ablation is done to induce the spawning of
- (A) mullet (B) shrimps
(C) *Chanos* (D) *Channa*
60. Fish is the richest source of
- (A) silica (B) protein
(C) magnesium (D) zinc
61. Vitamin A is more in
- (A) cod liver oil (B) sun light
(C) fish flesh (D) seeds
62. Elver is the larva of
- (A) Eel (B) Murrel
(C) Mullet (D) *Channa*
63. Shark fish skin is formed of
- (A) Cycloid scales (B) Ctenoid scales
(C) Placoid scales (D) Ganoid scales

64. Which hormone is involved in the process of osmoregulation?
- (A) Adrenalin (B) Insulin
(C) Thyroxin (D) Oestrogen
65. Which fish can produce electricity?
- (A) Narcine (B) Sardine
(C) *Mugil* (D) Milk fish
66. Monotonous sound is produced by
- (A) Sea horse (B) Sea cucumber
(C) Sea weed (D) Sea anemone
67. Luminous glands are present in
- (A) Cat fish (B) *Monocentrus*
(C) Acropoma (D) Electric ray
68. Melanin gives colour to
- (A) eye (B) skin
(C) liver (D) heart
69. Enzymes are
- (A) fats (B) vitamins
(C) proteins (D) starches
70. Which is the primary cause of spoilage of fish?
- (A) Bacteria (B) Fungus
(C) Protozoa (D) Virus
71. Which is the example of Indian hill trout?
- (A) *Torputitora* (B) Torpedo
(C) Tortoise (D) *Echeneis*



72. 'Pokkali' culture is practiced in
- (A) London (B) America
(C) Kerala (D) Tamil Nadu
73. Which is also called 'pearl spot'?
- (A) *Tilapia* (B) *Clarias*
(C) *Etroplus* (D) *Macropodus*
74. 'Roe' is called
- (A) sperm (B) ovary of fish
(C) lung of fish (D) vas deferens of fish
75. Which one is an ornamental fish?
- (A) Guppy (B) Trout
(C) Tuna (D) Tarpon
76. Crustaceans release excess water through
- (A) kidney (B) chloride cells
(C) gills (D) green glands
77. Who is regarded as the Father of Modern Biology?
- (A) Aristotle (B) Darwin
(C) Robert Hooke (D) Vesalius
78. Bacterial action changes dead leaves into
- (A) algae (B) fungi
(C) humus (D) None of the above
79. Most fish do not sink in water because of the presence of
- (A) air bladder (B) air sacs
(C) vacuoles (D) None of the above

80. The study of fishes is known as
- (A) Ichthyology (B) Ornithology
(C) Nematology (D) Osteology
81. Which one is a flying fish?
- (A) *Eleuthronema* (B) *Exocoetus*
(C) Carangid (D) *Heteropneustus*
82. Male sea-horse carries the eggs
- (A) in its mouth
(B) as a glutinous mass on the back
(C) in its pouch
(D) in its stomach
83. In some fishes, electricity is produced
- (A) to stun smaller creatures for food
(B) to protect them from enemies
(C) to produce light
(D) to aid locomotion
84. Fishes in the culture ponds come to the surface in the morning for want of
- (A) oxygen (B) food
(C) sunlight (D) shade
85. Polyculture means
- (A) culture of more than one variety of fish
(B) culture of fish in a pond
(C) culture of move prawns in a pond
(D) culture of crabs in a pond



86. Sea urchins belong to the class
- (A) Holothuroidea (B) Echinoidea
(C) Helicoplacoidea (D) Ophiocystioidea
87. Large quantities of 'Isinglass' can be obtained from the air-bladders of
- (A) Sturgeons (B) Sharks
(C) Catfishes (D) Snake-heads
88. Which of the following is called as 'Paddle Fish'?
- (A) Polyodon (B) Paiaeoniscus
(C) Pangasius (D) Polypterus
89. The first Ray of Spinous dorsal transformed into 'ILICIUM', in
- (A) Lophiformes (B) Echeiformes
(C) Siluriformes (D) Gadiformes
90. Pectoral fins are exceptionally large for gliding purposes over water, in
- (A) Exocoetus (B) Trygon
(C) Torpedo (D) Belone
91. Vertical Swimming with prehensile tail is the characteristic of
- (A) Top Minnows (B) Pipe Fishes
(C) Cornets (D) Flying Fishes
92. Snout with an elongate, flexible, hook-like process, is diagnostic feature of
- (A) *Callorhynchus* (B) *Chimaera*
(C) *Harriota* (D) *Pristis*



93. The 'Milk Fish' belongs to the family
- (A) Chanidae (B) Mugilidae
(C) Bagridae (D) Cichlidae
94. 'Murrel' or 'Snake Head' is the common name for
- (A) *Mystus* (B) *Mugil*
(C) *Channa* (D) *Chanos*
95. 'Pomfret' is the common name for
- (A) Tuna (B) *Stromateus*
(C) Perch (D) *Harpadon*
96. 'Freshwater Dog Fish' is the name assigned to
- (A) *Polyodon* (B) *Scoliodon*
(C) *Amia* (D) *Wallago*
97. Which of the following family is VIVIPAROUS?
- (A) Percidae (B) Siluridae
(C) Fistulariidae (D) Poeciliidae
98. 'Mulletts' belong to the Genus
- (A) *Murrels* (B) *Channa*
(C) *Nondus* (D) *Mugil*
99. The largest number of species occurs in
- (A) Subtropical region (B) Tropics
(C) Temperate zone (D) Subtemperate region



100. Snout is prolonged into a long blade with teeth on both sides, is the diagnostic feature of
- (A) *Trygon* (B) *Pristis*
(C) *Sphyrna* (D) *Manta*
101. 'Indigenous Larvivorous Fishes of India' is the book written by
- (A) Hora (B) Hora and Mukerji
(C) A.G.K. Menon (D) T.J. Job
102. Which is called as 'Guppy'?
- (A) *Macropodus* (B) *Colisa*
(C) *Mollienisia* (D) *Poecilia*
103. Which of the following is a 'Bacterial Disease'?
- (A) Velvet Disease (B) Costiasis
(C) Fin-Rot (D) Cilodon disease
104. 'Dragonfly Larvae'
- (A) cause Fin-Rot Disease
(B) cause Turbidity in tank
(C) cause damage to fishes
(D) act as food for aquarium fishes
105. CMFRI was established in
- (A) 1947 (B) 1950
(C) 1967 (D) 1945
106. The headquarters of National Institute of Oceanography is at
- (A) Chennai (B) Mumbai
(C) Cochin (D) Panaji



107. The organisms inhabiting the bottom of the sea constitute
- (A) the Abyss (B) the Benthos
(C) the Planktons (D) the Nektons
108. FAO is the full form for
- (A) Fisheries of Arabian Ocean
(B) Fish and Agriculture Organisation
(C) Food and Agriculture Organisation
(D) Fisheries and Agriculture Organisation
109. The 'Fish Wars' are the
- (A) conflicts between fishes
(B) conflicts between sharks
(C) conflicts among fishermen
(D) conflicts among fish and man
110. The First Marine National Park came into existence at
- (A) Gulf of Mannar (B) South Andaman
(C) Gulf of Kutch (D) Lakshadweep Islands
111. Which 'OIL' is used as a preservative for boats against weathering?
- (A) Sharks (B) Rays
(C) Sardines (D) Tunas
112. Both the eyes come to lie on the left side in the adults of
- (A) *Pampus* (B) *Otolithodes*
(C) *Cynoglossus* (D) *Kowala*
113. A system adopted to keep the cages in desired position is called
- (A) Collar (B) Mooring
(C) Free Board (D) Wal-way

114. Where are the Fry raised to Fingerlings?
- (A) Hatcheries (B) Nurseries
(C) Rearing Ponds (D) Stocking Ponds
115. Application of Gypsum in a pond corrects the
- (A) pH (B) alkalinity
(C) hardness (D) turbidity
116. The most common method of correcting the low pH is
- (A) addition of gypsum (B) liming
(C) addition of oil cake (D) putting organic manure
117. The ratio between food consumed for per unit weight gained by the body is expressed by
- (A) food conversion rate (B) food absorption rate
(C) food consumption rate (D) food assimilation rate
118. To calculate 'Condition Factor' which of the following is studied?
- (A) Length-Weight Relationship
(B) Length frequency distribution
(C) Weight of ovary and weight of body relationship
(D) Health of the fish
119. 'The weight of the gonad relative to the body weight' is known as
- (A) Coefficient of Maturity (B) Gonadosomatic Index
(C) Ponderal Index (D) Maturity Index
120. Fecundity of marine fishes is usually
- (A) lower than Freshwater Fishes
(B) higher than Freshwater Fishes
(C) equal to Freshwater Fishes
(D) moderate



121. The Number of Ova per gram body weight, is defined as
- (A) fecundity (B) absolute fecundity
(C) relative fecundity (D) complete fecundity
122. Most of the cultivable carps in India are
- (A) Monsoon Breeders (B) Winter Spawners
(C) Spring Spawners (D) Summer Spawners
123. Pituitary Gland extracts are injected to induce
- (A) ovulation (B) gonadal development
(C) sex play (D) secretion of sex hormones
124. The head quarters of Marine Products Export Development Authority is at
- (A) New Delhi (B) Chennai
(C) Kochi (D) Kolkata
125. Culture-based capture fishery is associated with
- (A) ranching (B) rice-fish
(C) pig-fish (D) aquaculture
126. Heterocercal type of caudal fin is found in
- (A) Scorpion (B) *Scoliodon*
(C) Eel (D) Tilapia
127. The aquatic animal with the most developed intelligence is
- (A) Whale (B) Seal
(C) Dolphin (D) Shrimp

128. Mermaid purse is produced by
- (A) Shark and Rays (B) *Tilapia* and *Clarius*
(C) *Etroplus* and cat fish (D) *Chanos* and Mullet
129. ICAR is
- (A) Indian Council of Agricultural Research
(B) Indian Coastal Aquacultural Research
(C) Indian Council of Aquatic Research
(D) Institute of Coastal Research
130. Fishes release excess water in the body through
- (A) Chloride cells (B) Glomerular kidney
(C) Green Glands (D) None of the above
131. The association between shark and sucker fish is referred to as
- (A) Mutualism (B) Commensalism
(C) Symbiosis (D) Parasitism
132. Indicate the correct hierarchy.
- (A) Family, species, genus (B) Genus, family, species
(C) Species, family, genus (D) Family, genus, species
133. Which of the following is best used as 'Aquarium Cleaner'?
- (A) *Noemacheilus* (B) *Poecilia*
(C) *Gambusia* (D) *Gyrinochellus*
134. Flattened Head is the characteristic of the genus
- (A) *Platysurus* (B) *Platycephalus*
(C) *Platymystus* (D) *Platynemus*

135. Which of the following can be considered as the growth rate expressing structure?
- (A) Deposition of fat (B) Increase in length of ovary
(C) Otolith (D) Budging abdomen
136. 'Ponderal Index' is another term for
- (A) Maturity of Gonads (B) Food Quotient
(C) Growth factor (D) Condition Factor
137. Trout farming in ponds originated in
- (A) Denmark (B) Japan
(C) China (D) USA
138. Troughs and Baskets are used as incubators in
- (A) Catfish culture (B) Tilapia culture
(C) Trout culture (D) Carp culture
139. Pro-, meso- and metapterygia are the skeletal elements of
- (A) Pectoral girdle (B) Pelvic girdle
(C) Dorsal fin (D) Caudal fin
140. 'Layers' and 'broilers' are the terms used in
- (A) Pig-fish farming (B) Poultry-fish farming
(C) Geese-fish farming (D) Cattle-fish farming
141. 'Rigor mortis' is basically characterised by
- (A) stiffening of body (B) softening of body
(C) asphyxiation (D) red cheeks



142. The fishes coming under the class Elasmobranchii will have
- (A) two gill openings (B) three gill openings
(C) four gill openings (D) five gill openings
143. What is the function of petasma?
- (A) Transferring the spermatophores
(B) Protection
(C) Transport of egg
(D) Change its size
144. What is the use of chloride cells in fishes?
- (A) To eliminate blood cells (B) To eliminate chloride ions
(C) To eliminate wastes (D) To eliminate ions
145. Formalin is used in the
- (A) preparation of medicine
(B) preservation of biological specimens
(C) preparation of sleep producing drug
(D) preparation of nutrition for infants
146. Oviparous fish produce
- (A) Eggs (B) Babies
(C) Young ones (D) Adults
147. The mucus or slim covering of a fish
- (A) protects its body from the action of the water
(B) facilitates swimming
(C) protects the fish from its enemies
(D) helps respiration



148. Bye catch means
- (A) targeted fish catch in a trawl net
 - (B) non-targeted catch in a trawl net
 - (C) second-level catch in a trawl net
 - (D) purchase of a trawl catch
149. Which of the following is a larvicidal fish?
- (A) *Puntius ticto*
 - (B) *Aplocheilichthys lineatum*
 - (C) *Labeo rohita*
 - (D) *Catla catla*
150. Which is an Exotic carp species?
- (A) *Cirrinus mrigala*
 - (B) *Labeo rohita*
 - (C) *Cyprinus carpio*
 - (D) *Catla catla*