Sl. No. :

FSDI/19

Register Number

2019

FISHERIES SCIENCE
(Diploma)

Time Allowed : 3 Hours] **[Maximum Marks : 300**

Read the following instructions carefully before you begin to answer the questions.

IMPORTANT INSTRUCTIONS

1. The applicant will be supplied with Question Booklet 15 minutes before commencement of the examination.
2. This Question Booklet contains **200** questions. Prior to attempting to answer, the candidates are requested to check whether all the questions are there in series and ensure there are no blank pages in the question booklet. **In case any defect in the Question Paper is noticed, it shall be reported to the Invigilator within first 10 minutes and get it replaced with a complete Question Booklet. If any defect is noticed in the Question Booklet after the commencement of examination, it will not be replaced.**
3. Answer **all** questions. **All** questions carry equal marks.
4. You must write your Register Number in the space provided on the top right side of this page. Do not write anything else on the Question Booklet.
5. An answer sheet will be supplied to you, separately by the Room Invigilator to mark the answers.
6. You will also encode your Question Booklet Number with Blue or Black ink Ball point pen in the space provided on the side 2 of the Answer Sheet. If you do not encode properly or fail to encode the above information, action will be taken as per Commission's notification.
7. Each question comprises *four* responses (A), (B), (C) and (D). You are to select ONLY ONE correct response and mark in your Answer Sheet. In case you feel that there are more than one correct response, mark the response which you consider the best. In any case, choose ONLY ONE response for each question. Your total marks will depend on the number of correct responses marked by you in the Answer Sheet.
8. In the Answer Sheet there are **four** circles Ⓐ, Ⓑ, Ⓒ and Ⓓ against each question. To answer the questions you are to mark with Blue or Black ink Ball point pen ONLY ONE circle of your choice for each question. Select one response for each question in the Question Booklet and mark in the Answer Sheet. If you mark more than one answer for one question, the answer will be treated as wrong. *e.g.* If for any item, Ⓑ is the correct answer, you have to mark as follows :

Ⓐ ● Ⓒ Ⓓ

9. You should not remove or tear off any sheet from this Question Booklet. You are not allowed to take this Question Booklet and the Answer Sheet out of the Examination Hall during the time of examination. After the examination is concluded, you must hand over your Answer Sheet to the Invigilator. You are allowed to take the Question Booklet with you only after the Examination is over.
10. **Do not make any marking in the question booklet except in the sheet before the last page of the question booklet, which can be used for rough work. This should be strictly adhered.**
11. Applicants have to write and shade the total number of answer fields left blank on the boxes provided at side 2 of OMR Answer Sheet. An extra time of 5 minutes will be given to specify the number of answer fields left blank.
12. Failure to comply with any of the above instructions will render you liable to such action or penalty as the Commission may decide at their discretion.

⇇

SPACE FOR ROUGH WORK

1. Hilsa shows

(A) Catadromous migration

(B) Anadromous migration

(C) Amphidromous migration

(D) Potamodromous migration

2. If the fish follows the cube law, the growth is called

(A) Absolute growth (B) Relative growth

(C) Isometric growth (D) Allometric growth

3. The term used to denote standing water bodies is

(A) Lentic (B) Lotic

(C) Rhithron (D) Potamon

4. Which is called 'Blue Swimming Crab'?

(A) Charybdis natator

(B) Charybdis feriata

(C) Portunus Pelagicus

(D) Portunus Sanguinolentus

5. Fishes which lay eggs among aquatic plants are

(A) Phytophil (B) Lithophil

(C) Psammophil (D) Pelagophil

6. Oesophagus is much longer and distensible in

(A) Herbivorous fishes (B) Omnivorous fishes

(C) Carnivorous fishes (D) Planktivorous fishes

7. 'Asthamudi Lake' is known for the

(A) Black clam resources

(B) Short neck clam resources

(C) Blood clam resources

(D) Pearl oyster resources

8. 'RAMPANI NET' is a kind of

(A) Gill net

(B) Trawl net

(C) Shore seine

(D) Dip net

9. Which is commonly called 'Malabar Sole'?

(A) Cynoglossus bilineatus

(B) Cynoglossus macrostomus

(C) Cynoglossus lingua

(D) Cynoglossus quinquelineatus

10. 'FAO' stands for

(A) Fisheries of Arabian Ocean

(B) Fish and Agriculture Organization

(C) Food and Agriculture Organization

(D) Fisheries and Agriculture Organization

11. 'Migratory Fishing' system is adopted in

(A) Kerala Backwaters

(B) Chilka lake

(C) Pulicat lake

(D) Hooghly-Matlah estuary

12. The fishes that migrate towards the river for breeding are

(A) Catadromous
(B) Anadromous
(C) Resident
(D) Ovo-viviparous

13. The scientific name of Indian squid is

(A) Sepioteuthis lessomiana
(B) Loligo uyii
(C) Loligo duvauceli
(D) Dory teuthis sp.

14. The young ones of lobsters are called

(A) Peurulus
(B) Megalopa
(C) Elvers
(D) Post larva

15. Standing crop refers to the

(A) Total dissolved organic matter in a water body
(B) Total biomass in a water body
(C) Total primary produces in a water body
(D) Total primary consumers in a water body

16. A saucer shaped popular country craft used in reservoirs for fishing and harvesting is called

(A) Canoe
(B) Coracle
(C) Caffamaran
(D) FRP Boat

17. The scientific name of rainbow trout, a cold water fish is

(A) Saluro trutta
(B) Oucorhynchus mykiss
(C) Tor tor
(D) Botia sp

18. Chank resources are most abundant in

(A) Gulf of Kutch
(B) Malabar Coast
(C) Gulf of Mannar
(D) Andaman and Nicobar Island

19. The process of drawing the movement of a vessel on a Navigational chart is called as

(A) Seamanship

(B) Engineering graphics

(C) Chart reading

(D) Piloting

20. The hoisting of victor flag in a vessel indicates

(A) I am altering my course to port

(B) Manover board

(C) I require medical assistance

(D) I require assistance

21. The True Direction Differs From Magnetic Direction By

(A) Variation

(B) Deviation

(C) Compass Error

(D) North

22. An unbroken light placed over fore and aft center line of the vessel over an arc of the horizon of 225° is called

(A) Side light

(B) Stern light

(C) Mart head light

(D) All round light

23. A chart in which parallels of Latitude and Longitudes cut each other at right angle and on which the rhumb line will appear as straight line is called

(A) Consol chart

(B) Gnomonic chart

(C) Mercator chart

(D) Nautical almanac

24. The maximum value of Latitude can be

(A) 90° (B) 180°

(C) 360° (D) 270°

25. Charts that are drawn on a very large scale covering only small area are called

(A) Coastal charts (B) Plan charts

(C) World charts (D) Ocean charts

26. Greatest Barriers of Salt Penetration to the fish flesh

(A) Skin and Gut (B) Gut and Gills

(C) Skin and Scales (D) Skin and Bones

27. During salt curing, salt uptake in fish flesh is not affected by its ————

(A) Fat content (B) Protein Content

(C) Stage of rigor (D) Status of freshness

28. In brine salting method, fish is

(A) Salted using crystal salt and saturated brine

(B) Allowed to remain in self-brine

(C) Applied with crystalline salt

(D) Kept immersed in brine of desired concentration

29. Which method of salting will not allow the fish to be immersed in brine

(A) Kench salting (B) Dry salting

(C) Brine salting (D) Mixed salting

30. Which is the correct sequence of steps involved in canning of fish.

(A) Filling → Precooking → Sealing → Cooling → Exhausting → Retorting

(B) Precooking → Filling → Exhausting → Sealing → Retorting → Cooling

(C) Precooking → Filling → Sealing → Exhausting → Retorting → Cooling

(D) Precooking → Filling → Exhausting → Sealing → Cooling → Retorting

31. The freezer which is not suitable for IQF products.

(A) Liquid nitrogen freezer

(B) Tunnel freezer

(C) Belt freezer

(D) Plate freezer

32. For 'Sashimi' grade Tuna, ———— freezers are used in fishing vessels.

(A) Fluidized bed freezer

(B) Horizontal plate freezer

(C) Tunnel freezer

(D) Immersion freezer

33. Scombroid poisoning is due to the presence of ———— in fish.

(A) Hypoxanthine

(B) Trimethyl amine

(C) Xanthine

(D) Histamine

34. Index of the freshness of fish.

(A) Z value

(B) D value

(C) F value

(D) K value

35. Chitosan is prepared from chitin by a process called deacetylation using ————————

(A) Sodium chloride
(B) Sodium carbonate
(C) Sodium hydroxide
(D) Sodium acetate

36. Fish liver oil is a rich source of vitamin

(A) A and B
(B) A and C
(C) A and D
(D) A and E

37. Textured fish protein concentrate has ————————

(A) improved digestibility
(B) improved protein assimilation
(C) improved sensory properties
(D) improved rehydration ability

38. Moisture content of fish meal should be

(A) 5%
(B) 10%
(C) 15%
(D) 20%

39. Sterilization of the package and packing the commercially sterile food under conditions which prevent reinfection is called ————————

(A) Vacuum packaging
(B) Air packaging
(C) Aseptic packaging
(D) Modified Atmospheric packaging

40. Normal storage of canned foods is at

(A) Room temperature
(B) 5°C
(C) 15°C
(D) 20°C

41. Carp lice, a crustacean parasite affecting cyprinids is

(A) Lernaea Sp
(B) Argulus Sp
(C) Lchthyophthirius Sp
(D) Hemiclepsis Sp

42. Eye disease in catla Sp is associated with the infection caused by

(A) Aeromonas salmonicida
(B) Aeromanas Liquifacieus
(C) Flexibacter Columnaris
(D) Pseudomonas aeruginosa

43. An air breathing predatory fish

(A) Clarias Batrachus
(B) Cyprinus Carpio
(C) Cirrhinus Mrigala
(D) Tilapia morsacubicus

44. A larvicidal fish that is widely used for the control of mosquito in water bodies.

(A) Channa sp.
(B) Catla Catla
(C) Gamburia affinis
(D) Cararsius cararsius

45. The protecting structure of fish ponds that are essential for both drainable and non – drainable ponds are called as

(A) Inlet
(B) Outlet
(C) Bonds
(D) Fencing

46. The presence of a freshwater source in a coastal fish farm should always be ensured during the site selection as

(A) It will control ammonia
(B) It will control alkalinity
(C) It will have control over the salinity
(D) It will control soil characteristic of ponds

47. Parental care in the form of fanning and mouthing to remove dead or weakened eggs is exhibited by this ornamental fish.

(A) Clown fish (B) Gold fish

(C) Tail fin molly (D) Fighting fish

48. As per 5th schedule of MSA (LSA) 1978 rules, the buoyancy of a life jacket after immersion for 24 hrs in Fresh water should not get reduced by

(A) more than 5% (B) more than 10%

(C) more than 15% (D) more than 20%

49. The scientific name of Liaurese fighting fish is

(A) Carassius auratus (B) Davio rerio

(C) Colisa lalia (D) Betta splendens

50. The ornamental fishes that lay eggs are called as

(A) Ovo-viviparous (B) Oviparous

(C) Viviparous (D) Hermophrodites

51. The recommended practice for initial feeding of the stocking material (biomass) of fish in fish ponds is

(A) 0.5 – 1% of the body weight (B) 0.2 – 0.5% of the body weight

(C) 3 – 5% of the body weight (D) 10 – 15% of the body weight

52. The chemical used for the control of high turbidity in fish ponds without low of alkalinity

(A) Zeolite (B) Lime

(C) Gypsum (D) Formalin

53. The optimum dissolved oxygen level for good fish growth is

(A) 5 mg/litre (B) 2 mg / litre

(C) 1 mg /litre (D) 0.5 mg/litre

54. FRP can be used as a boat building material for boats with the OAL upto

(A) 24 metres
(B) 10 metres
(C) 15 metres
(D) 5 metres

55. The length measured from the extreme forward upto extreme point of aft on the deck of a fishing vessel is called

(A) Length between perpendicular
(B) Length overall
(C) Sheer
(D) Beam

56. The traditional beach landing craft ideal for use in surf beaten zone is

(A) Dry out canoe
(B) Thoni
(C) Catamaran
(D) Nava

57. A circular flat-bottomed craft made up of split bamboo and commonly used in South Indian Reservoirs is

(A) Catamaran
(B) Coracle
(C) Machhawa
(D) Dinghi

58. Boat trap is a type of

(A) Basket trap
(B) Aerial trap
(C) Tubular trap
(D) Collapsible trap

59. Templates are fitted on the keel of a wooden boat temporarily in order to make

(A) Deck
(B) Frames
(C) Longitudinals
(D) Transverse joints

60. The light ship weight a steel vessel and a wooden vessel when constructed based on same design

(A) Will vary significantly

(B) Will not vary significantly

(C) are not at all comparable

(D) Will be equal

61. Fibres twised directly to get yarn without spinning are called

(A) Staple fibres

(B) Continious fibres

(C) Split fibres

(D) Monofilaments

62. Nylon gill nets behave like cotton nets and sink in sea water since the specific gravity of nylon is

(A) More than 1.025

(B) More than one

(C) Less than 1.025

(D) Less than one

63. The longitudinal curvature given to the deck of a boat in the fore and aft direction is

(A) Camber

(B) Sheer

(C) Free board

(D) Trim

64. The cover made of brass, that protect the compass from sunlight, dust, rain, dew, frost etc, is called as

(A) Helmet

(B) Gimbal

(C) Binnacle

(D) Flinder bar

65. While drawing profile view of a boat, a horizontal straight line drawn just under the lowest point of keel is

(A) Water line
(B) Keel line
(C) Base line
(D) Sheer

66. Ideal fishing method for capturing deep sea squids is

(A) Trawling
(B) Gill netting
(C) Squid jigging
(D) Log lining

67. The state which possesses the highest (9.80 lakh ha) inland fisheries resource as per 2011 statistics is

(A) Andhra Pradesh
(B) West Bengal
(C) Tamil Nadu
(D) Odisha

68. According to Hand book of fisheries statistics 2011 the state having as many as 813 fishing villages is

(A) West Bengal
(B) Tamil Nadu
(C) Gujarat
(D) Odisha

69. The concept of opportunity cost serves as a useful economic tool in analysing the optimum resource allocation and relative price determination of

(A) demand
(B) products
(C) supply
(D) factors

70. The concept of cross elasticity is important in the case of commodities which are substitute and ————————.

(A) Comparable
(B) Complementary
(C) Costly
(D) Competitive

71. Which of the following are not economic goods.

(A) Fishes

(B) Houses

(C) Cars

(D) garbage

72. If we examine the sum of the behaviour of all firm/business sector then it is called _____

(A) macro economics

(B) micro economics

(C) behavioral economics

(D) farm economics

73. Economics is the study of how people choose to use their scare resources to attempt to satisfy their _____ wants.

(A) general

(B) personal

(C) limited

(D) unlimited

74. If there is enough of an item to satisfy wants even at a zero price, the item is said to be a

(A) economic good

(B) free good

(C) factors of production

(D) Scarcity

75. Any thing with a price on it is called a(n)

(A) economic good

(B) free good

(C) input

(D) output

76. In seasonalized Von Bertalanffy grown equation of fish, the term 'C' denotes.

(A) Summer point

(B) Amplitude of growth Oscillation

(C) Growth Co-efficient

(D) Base of natural logarithm

77. Marine Turtles are endangered species which are protected under schedule I of ———— act.

(A) TED act
(B) BRD act
(C) MFRA
(D) Wild Life Protection act

78. The mesh prescribed for the cod end of shrimp trawls is

(A) Diamond mesh
(B) Square mesh
(C) Hexagonal mesh
(D) Octagonal mesh

79. To control over fishing in the coastal region, the gears often banned from specified inshore areas are

(A) Shore seines and cast nets
(B) Gill nets and dip nets
(C) Purse seines and trawls
(D) Long lines and dip nets

80. Over exploitation fishery resources can be reduced through

(A) Selective fishing
(B) Dynamite fishing
(C) Indiscriminate fishing
(D) Fishing in corals

81. The part of echosounder, which convert the electrical energy in to sound energy and vice versa is

(A) Transmitter
(B) Transducer
(C) Recorder
(D) Receiver

82. The transducer of Net sonde is fitted on the ———————— of trawl net

(A) Cod end
(B) Foot rope
(C) Head rope
(D) Wings

83. _____ is the device that is used to reduce the sound of the engine, which is provided between exhaust manifold and exhaust pipe

(A) Inlet manifold

(B) Silencer

(C) De-compression valve

(D) Air filter

84. The compression ratio of diesel engine values from

(A) 16:1 to 20:1

(B) 20:1 to 25:1

(C) 25:1 to 30:1

(D) 30:1 to 40:1

85. On division of area of the indicator diagram of an IC engine with the length of the stroke, the value obtained is

(A) Pressure developed during power stroke

(B) Total pressure

(C) Mean effective pressure

(D) Volume of the cylinder at BDC

86. The process by which the burnt gases from the cylinder is pushed away by the fresh charge of air of next cycle is called

(A) Suction

(B) Exhaust

(C) Scavenging

(D) Super changing

87. Major overhauling of a marine diesel engine is adviceable after

(A) 100 hrs of running

(B) 250 hrs of running

(C) 3000 hrs of running

(D) 6000 hrs of running

88. A unit in the electrical system, which changes voltages from high to low and from low to high is known as

(A) Alternator
(B) Transformer
(C) Transducer
(D) Cell

89. The brushes of generator are made up of

(A) rubber compound
(B) metal compound
(C) plastic compound
(D) carbon compound

90. Which part of SONAR is fitted in the underwater region of hull of a boat?

(A) transmitter
(B) transducer
(C) recorder
(D) receiver

91. The function of transducer of echo sounder is

(A) to produce electrical pulses
(B) to amplify the weak signals
(C) to display the processed signals
(D) to convert electrical energy in to sound energy and vice versa

92. The velocity of sound wave in water is

(A) 1500 m/min
(B) 1500 m/sec
(C) 1500 Km/min
(D) 1500 Km/sec

93. A cold current flowing southward along the west coast of Greenland and Canada is referred as

(A) current of Greenland
(B) Labrador current
(C) Canadian current
(D) Kuroshio current

94. The length of the fish corresponding to the zero increment is called as

(A) Asymptotic length

(B) Arbitrary origin of growth

(C) Growth coefficient

(D) Initial condition parameter

95. In seawater a combination of high salinity and high density results is

(A) upwelling

(B) high temperature

(C) temperature optima

(D) low temperature

96. The average sea temperature is in the range of ———— excluding the shore and shallow water and extremes of hottest and coldest parts

(A) 30-35°C (B) 35-40°C

(C) 20-30°C (D) 25-30°C

97. Which chemical element constitutes the major portion of seawater?

(A) Sodium (B) Sulphate

(C) Chloride (D) Magnesium

98. In Aquatic systems the depth at which the rate of oxygen production by photosynthesis balances the rate of oxygen consumption by respiration is known as

(A) Depth of super saturation

(B) Oxy minima layer

(C) Thermocline

(D) Compensation depth

99. The term 'eyed-ova' refers to the developing eggs of

(A) Schizothorax Sp
(B) Salmo Sp
(C) Tor Sp
(D) Schizothoraichthy Sp

100. Food Quotient is also known as

(A) Food Absorption Rate
(B) Food Conversion Rate
(C) Food Consumption Rate
(D) Food Assimilation Rate

101. Ponderal Index is another term for

(A) Coefficient of maturity
(B) Food Quotient
(C) Growth Factor
(D) Condition Factor

102. 'Glochidium' is the larva of

(A) Eel
(B) Prawn
(C) Crab
(D) Bivalve

103. Based on the distribution of yolk, eggs of cartilaginous and bony fishes are classified as

(A) Oligolecithal
(B) Isolecithal
(C) Telolecithal
(D) Centrolecithal

104. When the average log-length (L) is plotted against the log weight (W)?

(A) A parabolic curve is obtained
(B) A straight line is obtained
(C) A sigmoid curve is obtained
(D) A polygon is obtained

105. Fish larvae with yolk absorbed are called

(A) Hatchlings
(B) Prolarvae
(C) Fry
(D) Fingerlings

106. Fish which pluck scales from other fishes and ingest them are called

(A) Carcinophagus
(B) Malacophagus
(C) Lepidophagus
(D) Copraphagus

107. The general allometric equation that shows the relationship between length and weight of fish is

(A) $L = aW^b$
(B) $W = aL^b$
(C) $L^{1/3} = aW^b$
(D) $W^{1/3} = aL^b$

108. Modified and fin is

(A) Papilla
(B) Clasper
(C) Gonopodium
(D) Ovipositor

109. Placoid scales are a characteristic feature of

(A) Dipnoi
(B) Agnatha
(C) Elasmobranch
(D) Teleost

110. Maximum landing of Lobster is reported from

(A) North-East coast
(B) North-West coast
(C) South-East coast
(D) South-West coast

111. Which species dominates is the lobster fishery along north-west coast of India?

(A) Panulirus homarus
(B) Panulirus polyphagus
(C) Panulirus ornatus
(D) Panulirus versicolor

112. Which of the following occupies the deltaic area of Sundarbans?

(A) Godavary Estuary

(B) Mahanadi Estuary

(C) Hooghly-Matlah Estuary

(D) Mandovi-Zuari Estuary

113. 'Wular Lake' is situated in

(A) Jammu and Kashmir

(B) Sikkim

(C) Garhwal

(D) Himachal Pradesh

114. Mullets are estuaries fishes of the family

(A) Nemipteridae

(B) Panuliridae

(C) Penaeidae

(D) Mugilidae

115. Longlines are the gears used in

(A) Tuna Fishery

(B) Prawn Fishery

(C) Sardine Fishery

(D) Sole Fishery

116. About 98% of the landings of mackerels is supported by the

(A) West coast – Marine fishery

(B) Riverine fishery

(C) Lake fishery

(D) East coast – Marine fishery

117. The use of plants that accumulate the pollutants for bioremediation in aquaculture systems is

(A) Biodegradation

(B) Phytoremediation

(C) Probiotics

(D) Bioconversion

118. The signal flag to be hoisted during manover board at sea is

(A) OSCAR
(B) ALFA
(C) TANGO
(D) INDIA

119. Which of the following log works with the principle of changing the frequency of reflected sound signal?

(A) Impeller log
(B) Doppler log
(C) Electro magnetic log
(D) Patent log

120. Which of the following equipments works independent of earth's magnetism?

(A) Gyrocompass
(B) Echo sounder
(C) Speed and distance log
(D) Magnetic compass

121. The safe water marks are used to indicate

(A) Safe Navigable water south and north to the mark
(B) Safe Navigable water all around the mark
(C) Safe Navigable water all around the danger
(D) Safe Navigable water in the channel

122. The Electronic equipment used on board a vessel to steer the vessel without handling of steering continuous wheel manually is called

(A) Gyrocompass
(B) Radar
(C) Autopilot
(D) Global positioning system

123. The single letter flag hoisted to express affirmative response in a vessel is

(A) Alfa flag
(B) Bravo flag
(C) Charlie flag
(D) Delta flag

124. The dry chemical fire extinguishing agent affective on fire due to fats and vegetable oils is

(A) Carbon dioxide
(B) Water
(C) Sodium bicarbonate
(D) Foam

125. Fire on the objects that produce ash when burned is classified under

(A) Class 'A' fire
(B) Class 'B' fire
(C) Class 'C' fire
(D) Class 'D' fire

126. The fire caused due to combustible metals such as Magnesium, Titanium and sodium is called

(A) Class 'D' Fire
(B) Class 'C' Fire
(C) Class 'B' Fire
(D) Class 'A' Fire

127. The allowable drinking water limit per person in Life raft is

(A) 5 Litres
(B) 3 Litres
(C) 2 Litres
(D) 0.5 Litres

128. The Rocket Parachute flame used for distress signalling at sea should have the luminous intensity of

(A) 300 Candles
(B) 3000 Candles
(C) 30,000 Candles
(D) 3,00,000 Candles

129. A compass without variation and deviation error is called

(A) Magnetic Compass
(B) Gyro Compass
(C) Wet Card Compass
(D) Dry Card Compass

130. Insect infestation of dried fish can occur during ————————.

(A) Drying alone
(B) Storage alone
(C) Drying and storage
(D) Packing and storage

131. Moulds can grow on the dried fish if the relative humidity is above ———————— in the storage area.

(A) 60%
(B) 65%
(C) 70%
(D) 75%

132. Machine used for sealing retort pouch.

(A) Double seamer
(B) Heat band sealing machine
(C) Vacuum packing machine
(D) Polythene bag sealing machine

133. Retort pouch consists of following layers from outer to inner side.

(A) PE/aluminium foil/PP
(B) PP/PE/aluminium foil
(C) Aluminium foil/PP/PE
(D) PE/PP/aluminium foil

134. Cans for packing fish are coated inside with ————————.

(A) Vinyl lacquers
(B) Acid resistant lacquers
(C) Sulphur resistant lacquers
(D) Phenolic enamels

135. Which is the second major component in fish muscle

(A) Ash
(B) Fat
(C) Protein
(D) Water

136. Which fish has more water content in their flesh?

(A) Sardine
(B) Mackeral
(C) Tuna
(D) Bombay duck

137. Freezer burn is a condition of frozen fish which indicates

(A) discolouration
(B) protein denaturation
(C) fat oxidation
(D) dessication

138. Match the following abbreviations that are used for coding different types of frozen shrimp.

(a)	Whole	1.	FSHL
(b)	Headless	2.	FSWL
(c)	Peeled and deveined	3.	FSPUD
(d)	Peeled undeveined	4.	FSPD

	(a)	(b)	(c)	(d)
(A)	2	1	4	3
(B)	3	2	1	4
(C)	1	3	4	2
(D)	4	3	1	2

139. Agar agar is prepared from ————

(A) brown seaweeds
(B) red seaweeds
(C) green seaweeds
(D) none of the above

140. The average temperature of cooling of cans after thermal processing is

(A) 30°C
(B) 35°C
(C) 40°C
(D) 50°C

141. The process of removal of air from the contents and the head space of a filled can is called as

(A) Sucking
(B) Cooling
(C) Exhausting
(D) Heating

142. During heating, the fish releases around ————% of the water from their body

(A) 5 – 10
(B) 10 – 15
(C) 15 – 30
(D) 30 – 45

143. In dry pack canned shrimp ———— is used to prevent discolouration of meat

(A) Parchment paper
(B) Poly film
(C) Aluminium foil
(D) Paper board

144. As per Indian standards the concentration of filling brine on opening the can is

(A) 3% NaCl
(B) 5% NaCl
(C) 6% NaCl
(D) 10% NaCl

145. In fishes, whirling disease is caused by

(A) Hexamita Sp
(B) Myxoma cerebralis
(C) Mycobacterium Sp
(D) Flavobacterium Columnaris

146. Filamentous fungus that causes gill not is

(A) Saprolegnia Sp
(B) Branchio myces Sp
(C) Lagenidium Sp
(D) Fusarium Sp

147. Labeo calbasu is introduced in composite fish culture as

(A) Brottan dwelling fish

(B) Column feeders

(C) Surface feeder

(D) Larvironous fish that feed on insect

148. The recommended dosage of urea and single superphosphate in fish pond preparation at fortnight interval application is

(A) 10 and 15 kg/ha

(B) 1 and 5 kg/ha

(C) 20 and 25 kg/ha

(D) 40 and 55 kg/ha

149. Dropsy disease causes this specific clinical sign in fish

(A) White spots on the body

(B) Swollen abdomen and erect scale

(C) Erratic swimming

(D) Disintegration of fins

150. The fish that is considered an egg scatterer laying adhesive egg is

(A) Angel fish

(B) Gold fish

(C) Killi fish

(D) Molly fish

151. The phenomenon of sex reversal is commonly noticed in

(A) Sword tail

(B) Zebra fish

(C) Guppy fish

(D) Gold fish

152. The scientific name of Rosy barb which originated in India is

(A) Rashora damiconius

(B) Puntius Jasciatus

(C) Puntius arulis

(D) Puntius covchonius

153. The most widely used organic fertilizer for fish culture septeum is

(A) Poultry manure
(B) Pig dung
(C) Cow dung
(D) Goat manure

154. At the start of the reason, lime should be applied to the pond to improve the health of fishes because

(A) Kills all the parasites present in the pond
(B) Acts as a fertilizer
(C) Reduces feed requirement
(D) decreases the FCR

155. The primary producers that utilises carbon compounds for the synthesis of food are called

(A) phototroples
(B) chemotrople
(C) gross primary producers
(D) net primary producers

156. The plankton with chlorophyll is called

(A) Algae
(B) Zoo benthos
(C) Zoo Plankton
(D) Phytoplankton

157. The definition, "Maintaining a group of aquatic animals is isolation with no direct or indirect contact with other animals for a specified length of time, and if appropriate testing and treatment". pertains to

(A) Treatment
(B) Specific pathogen free (SPF)
(C) Quarantine
(D) Biosecurity

158. The ideal material of construction of Fishing boat exceeding 50 m length is

(A) Wood
(B) Steel
(C) FRP
(D) Ferrocement

159. When bigger FRP boats are built, they require

(A) Top weight
(B) Ballast
(C) No additional weight
(D) Weight removal

160. In the gill net selectivity equation $lc = Km$, 'lc' denotes

(A) Stretched mesh size of the gill net
(B) Proportionality co-efficient
(C) Mean selection length
(D) Maximum length of fish caught in the gill net

161. Trawl eye or net sonde is fixed on the

(A) Head rope of trawl
(B) Foot rope of trawl
(C) Cod end of trawl
(D) Belly of the trawl

162. The centre of the wire rope used in fishing has

(A) Lay
(B) Steel
(C) Strand
(D) Core

163. Ferrocement boat could be heavier than wooden equivalent by

(A) 15%
(B) 25%
(C) 35%
(D) 50%

164. A structure commonly used in trawlers, which replaces gallows, mast derrick and stays is called as

(A) Net harler
(B) Fair leads
(C) Rollers
(D) Gantries

165. Owing to knotting process, the breaking strength of netting yarns will

(A) increase
(B) remains unaltered
(C) decrease
(D) increase too much

166. Power block is found in

(A) Trawler
(B) Purse seiner
(C) Gill neter
(D) Long liner

167. The breaking force per unit linear density is called

(A) Tensile strength
(B) Tenacity
(C) Breaking load
(D) Load at rupture

168. The false bait with barbless hook used for capturing squids is called

(A) Squid jig
(B) Trolling jig
(C) Rod line jig
(D) Branch line jig

169. Kuralon is the trade name for

(A) Poly Vinyl Alcohol
(B) Poly Vinyl-dine Chloride
(C) Poly Vinyl Chloride
(D) Poly Ester

170. The ———— of responsiveness of demand to a given change is price in referred to as elasticity of demand.

(A) proportion
(B) percentage
(C) degree
(D) segment

171. Calculate the price elasticity of demand when the price of tilapia rose from ₹ 90 to 110/kg and the quantity demanded falls from 240 to 160.

(A) 2
(B) 0.5
(C) 1
(D) 1.5

172. For which kind of fishes the price elasticity will be more than one.

(A) Commercial fishes
(B) Less preferred fishes
(C) Exportable fishes
(D) High value fishes

173. Scarcity and efficiency are the twin themes of

(A) education
(B) economics
(C) ecology
(D) environment

174. Which shows the maximum quantity of goods that can be efficiently produced by an economy, given to technological knowledge and the quantity of available inputs?

(A) The production possibility frontier
(B) The demand curve
(C) The supply curve
(D) The indifference curve

175. The exploitation rate of a Fish (U) is in the natural environment is estimated using the formula.

(A) $U = \frac{F}{Z}(1 - e^{-z})$ (B) $U = \frac{F}{Z}$

(C) $U = (1 - e^{-z})$ (D) $U = \frac{Z}{F}$

176. The relationship between length and weight is derived by the equation ————.

(A) $K = \frac{W}{\hat{W}}$ (B) $W = (L^b)^{ab}$

(C) $W = abL$ (D) $W = aL^b$

177. The difference in length between the Fishes that have the retention probability of 25% to 75% in the trawl cod end is known as

(A) Selection factor (B) Selection range

(C) Optimum range (D) Probability range

178. The area of Indian Economic Exclusive Zone is

(A) 3.9 Million Km^2 (B) 2.7 Million Km^2

(C) 2.20 Million Km^2 (D) 2.02 Million Km^2

179. Limitation on the number of Fishing units permitted for operation will help to reduce

(A) growth over fishing

(B) recruitment over fishing

(C) economic over fishing

(D) growth, recruitment and economic over fishing

180. An electronic equipment used to give the position of fishing vessel by receiving the signals from satellites

(A) SONAR
(B) GPS
(C) RADAR
(D) SART

181. The thermal efficiency of 2 stroke diesel engine in relation to that of 4 stroke diesel engines of corresponding size is less because of

(A) Poor scavenging efficiency
(B) Greater noise
(C) Low mechanical efficiency
(D) Involvement of valves

182. For small and high speed internal combustion engine, the ideal method of lubrication is

(A) Centrifugal oiling
(B) Solid lubrication
(C) Splash lubrication
(D) Mist lubrication

183. In the valve mechanism of four stroke diesel engine, the upper end of the push rod is in contact with

(A) Cam follower
(B) Rocker arm
(C) Cub cam
(D) Adjusting screw

184. The type of cooling used in out board motor is

(A) indirect cooling
(B) direct cooling
(C) air cooling
(D) keel cooling

185. In a four stoke diesel engine both the inlet and outlet valves enter remain closed during

(A) Suction stroke

(B) Compression and power strokes

(C) Exhaust stroke

(D) Upward strokes

186. The spiral shaped caring which surrounds the impeller of a centrifugal pump is called

(A) semi open impeller

(B) volute

(C) open impeller

(D) vortex

187. One Horse power is equal to

(A) 746 watts

(B) 464 watts

(C) 467 watts

(D) 764 watts

188. The power transmitted to the crank shaft of an engine and is available at the crank shaft to carry out useful external work is termed as

(A) Indicated horse power

(B) Brake horse power

(C) Thermal horse power

(D) Effective horse power

189. Shaft Horse Power (SHP) of a boat engine will be

(A) Lower than BHP

(B) Higher than IHP

(C) Equal to IHP

(D) Equal to BHP

190. In CI engine the fresh charge compressed during compression stroke consists of

(A) Diesel and air

(B) Air

(C) Petrol and air

(D) LPG

191. The oceanic current phenomenon which leads to unusual cooling of the water off the Peruvian coast associated with the weather phenomenon opposite to EL Nino is

(A) Somali current

(B) La Nina

(C) Agulhas current

(D) Cold Californian current

192. The process of surface water being forced downward due to enhanced density at the point of convergence is known as

(A) upwelling

(B) caballing

(C) vacuum dip

(D) downward current

193. Cyclonically rotating, low pressure weather systems that form over the tropical oceans with an intense wind speed range of 60–120 km/hr are generally termed as

(A) Hurricanes

(B) Typhoons

(C) Tropical cyclones

(D) Depression

194. The average sea-level atmospheric pressure is

(A) 760 mm of Hg

(B) 76 mm of Hg

(C) 7600 mm of Hg

(D) 7.6 mm of Hg

195. The following pre condition is not an essential pre requisite for the formation of tropical cyclone

(A) Sea surface temperature higher than 27°C

(B) Presence of coriolis force enough to create a cyclonic vortex

(C) A pre existing weak low pressure area

(D) Rainfall in nearby regions, of land

196. The addition of salt to freshwater

(A) elevates its freezing point

(B) lowers its freezing point

(C) does not alters freezing point

(D) decrease density

197. The regular pattern of one high tide and one low tide each day in coastal areas is referred to as

(A) semi diurnal tide

(B) diurnal tide

(C) semi diurnal mixed type

(D) flood tide

198. In oceans, the region where water density increases relatively rapidly with depth are termed as

(A) thermo cline

(B) baro cline

(C) pycnocline

(D) gyre

199. The seismic waves are caused in oceans by

(A) wind blow over ocean

(B) upwelling

(C) volcanic eruptions

(D) fish shoal movements

200. Longitudinal waves transmit energy

(A) only through solids

(B) only through liquid

(C) through solid, liquid and gas

(D) only through gas

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