1. Which of the following does not come under the sampling design?

(A) Variables
(B) Information dissemination
(C) Population
(D) Resources
(E) Answer not known

2. Assertion [A] : Sampling error occurs because researcher studies only the sample instead of the entire population.

Reason [R] : Sampling error is influenced by factors such as sample size, sampling fraction and variability within the population.

(A) Both [A] and [R] are true, but [R] is not the correct explanation of [A]
(B) Both [A] and [R] are true, and [R] is the correct explanation of [A]
(C) [A] is true, but [R] is false
(D) [A] is false, but [R] is true
(E) Answer not known

3. What does the quantity of landings per trip not sold, but used by the fishers for their own consumption represents?

(A) Total fish catch
(B) Self-consumption
(C) Catch reserved for processing
(D) Discarded fish catch
(E) Answer not known

4. In which state, the first fishermen's society by name 'Karla Machhimar (Fishermen) Co-operative society was established?

(A) West Bengal
(B) Maharashtra
(C) Tamil Nadu
(D) Bihar
(E) Answer not known

5. Which of the following statements are true about marketing?

(i) Economic process
(ii) Exchange of goods and services
(iii) Non-determination of value
(iv) Non-existence of buyers and sellers

(A) (i) only
(B) (i) & (ii)
(C) (ii) & (iii)
(D) (iii) & (iv)
(E) Answer not known

6. PMMKSSY is a sub-scheme of which of the following schemes?

(A) PMMSY
(B) GAIS
(C) FIDF
(D) KCC
(E) Answer not known

7. Which of the following factors lead to greater bargaining power of fishermen?

(i) Increased size of capital requirements for fishing activities

(ii) Entry of outside investors into fisheries

(iii) Decreased scale of operation

(iv) Inadequate market infrastructure

(A) (i) and (ii)
(B) (ii) and (iii)
(C) (iii) and (iv)
(D) (i) and (iv)
(E) Answer not known

8. Which of the following is not typically controlled by a franchiser?

(A) Quality of products and services
(B) Use of the brand and logo
(C) Supply of products
(D) Customer personal decisions
(E) Answer not known

9. Match the following.

(a)	Fixed cost curve	1.	'U' shape
(b)	Variable cost curve	2.	Hyperbola
(c)	Average variable cost curve	3.	Inverse 'S' shape
(d)	Average fixed cost curve	4.	Horizontal straight line parallel to 'X' axis

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

(E) Answer not known

10. Second-largest freshwater fish producer in the world _____.

(A) China
(B) India
(C) Indonesia
(D) Bangladesh
(E) Answer not known

11. Which of the following is not a strategy for marine fish conservation?

(A) Ban/closed season
(B) Restriction on numbers of boats
(C) Individual fishing quotas
(D) Subsidies
(E) Answer not known

12. When there is no reasonable doubt that its last individual has died, a taxon is considered as

(A) Extinct
(B) Endangered
(C) Critically endangered
(D) Vulnerable
(E) Answer not known

13. Which of the following is incorrect about CCRF?

(A) Voluntary guide
(B) Framework to ensure sustainable exploitation
(C) Establishes standards for responsible fishing
(D) Given by BOBP
(E) Answer not known

14. The area demarcated for fishing by artisanal fishing crafts in Tamil Nadu is

(A) 10-20 m depth
(B) within 5 km
(C) within 6 km
(D) within 10 km
(E) Answer not known

15. The oldest Regulation/Act concerning Indian Marine fisheries is

(A) Indian Fisheries Act
(B) The Coast Guard Act
(C) Marine Fishing Regulation Act
(D) Maritime zones of India Act
(E) Answer not known

16. The technologies adapted for energy conservation in fishing are _____

(i) GPS, Echo sounder & SONAR

(ii) GIS

(iii) FADs/ARs

(A) (i) and (iii) only
(B) (i) and (ii) only
(C) (i), (ii) and (iii)
(D) (i) only
(E) Answer not known

17. Which amendment of the Wildlife Protection Act included fish in the definition of animals and provided for settlement of rights while declaring a sanctuary?

(A) 1993
(B) 2000
(C) 2002
(D) 1983
(E) Answer not known

18. Which of the following state have recently implemented fisheries acts regulating traditional, mechanised and deep sea fishing?

(A) Kerala
(B) Tamil Nadu
(C) Lakshadweep
(D) Gujarat
(E) Answer not known

19. The exploratory surveys on species inventory and commonness of deep-sea fishes in different regions of Indian EEZ are conducted by _____.

(A) CMFRI
(B) NIOT
(C) FSI
(D) CIFNET
(E) Answer not known

20. Conducting exploratory surveys and assessing the marine fishery potential of the Indian EEZ is by _____.

(A) CMFRI
(B) CIFT
(C) FSI
(D) NIOT
(E) Answer not known

21. Fish wars are the

(A) Conflicts between fishes
(B) Conflicts between sharks
(C) Conflicts among fishermen
(D) Conflicts between fish and man
(E) Answer not known

22. It is a powerful tool for income/employment generation, since it stimulates number of ancillary industries, besides being a source of cheap, affordable, proteinous food and foreign exchange called

(A) Span of control
(B) Administration
(C) SWOT analysis
(D) Coordination
(E) Answer not known

23. Match the 'term' correctly related to overfishing.

(a)	Growth overfishing	1.	Ecosystem balance alteration
(b)	Recruit overfishing	2.	Harvest of excessive all age classes of stocks
(c)	Ecosystem overfishing	3.	Harvest of excessive small fishes
(d)	Biological overfishing	4.	Harvest of excessive spawning biomass

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

(E) Answer not known

24. Impacts of over fishing includes the _____

(i) Reduction of spawning biomass

(ii) Reduction of water quality

(iii) Reduction of recruits

(iv) Increase of old age fishes

(A) (i) and (ii) only
(B) (i) and (iii) only
(C) (ii) and (iii) only
(D) (ii) and (iv) only
(E) Answer not known

25. Which of the following parameters can fisheries managers directly control to prevent over fishing?

(A) Natural mortality
(B) Fishing mortality
(C) Total instantaneous mortality
(D) Ocean temperature
(E) Answer not known

26. The fishing system which leads to over-exploitation is _____

(A) Fishing quota system
(B) Communally regulated access
(C) Open access system
(D) State-regulated access
(E) Answer not known

27. Which one is the best physical yield criteria for fisheries management?

(A) Maximum Economic Yield (MEY)
(B) Maximum Sustainable Yield (MSY)
(C) Optimum Sustainable Yield (OSY)
(D) Maximum Yield per recruit
(E) Answer not known

28. Which of the following is incorrectly paired?

1. MSY — Maximum Sustainable Yield
2. EEZ — Exclusive Ecological Zone
3. MEY — Maximum Ecological Yield
4. OSY — Optimum Sustainable Yield

(A) 1 and 2 (B) 2 and 3
(C) 3 and 4 (D) 1 and 4
(E) Answer not known

29. Assertion [A] : The optimum mesh size depends upon the predominant commercial size group of fish available in the water body.

Reason [R] : It is important for conservation of the species and its better catchability.

(A) [A] is true, but [R] is false
(B) Both [A] and [R] are true, but [R] is not the correct explanation of [A] is correct
(C) [A] is false, [R] is true
(D) Both [A] and [R] are true, but [R] is the correct explanation of [A]
(E) Answer not known

30. The yield of fishery based on the principal of cost economics is

(A) MSY (B) MEY
(C) OSY (D) Optimum production
(E) Answer not known

31. Arrange the events in chronological order for many fishes, the growth curve's nature in the following steps happened.

1. Rise up slowly with an increasing slope
2. Rise up with a decreasing slope
3. Growth reaches its maximum
4. Point of inflection

(A) 1, 2, 4, 3 (B) 1, 2, 3, 4
(C) 4, 3, 2, 1 (D) 3, 2, 4, 1
(E) Answer not known

32. Match the following Von Bertalanffy growth function.

(a)	K	1.	Arbitrary origin of growth
(b)	L_α	2.	Curvature parameter
(c)	t_0	3.	Length of the largest fish
(d)	L_{max}	4.	Length infinity

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

(E) Answer not known

33. Which of the following statements are true about weight and growth rate in fish?

1. $W\alpha$ = Asymptotic weight
2. e = Base of natural logarithm
3. $\frac{\Delta L}{\Delta t}$ = Growth
4. "b" = Intercept

(A) 4 & 1 are correct
(B) 2 & 3 are correct
(C) 1 & 2 are correct
(D) 4 & 3 are correct
(E) Answer not known

34. In the developmental stage of fish egg the space between the blastoderm and the periblast is known as

(A) Yolk
(B) Blastocoel
(C) Embryo
(D) Epiboly
(E) Answer not known

35. The function(s) of Weberian ossicles is/are

(i) Olfactory
(ii) Auditory
(iii) Hydrostatic
(iv) Gustatory

(A) (i) and (ii) only
(B) (ii) and (iii) only
(C) (ii) only
(D) (i) only
(E) Answer not known

36. Match correctly the respiratory organ with their corresponding fishes :

(a)	Skin as respiratory organ	1.	Periophthalmus
(b)	Buccopharyngeal epithelium	2.	Channa sps
(c)	Pharyngeal diverticulum	3.	Anguilla sps
(d)	Opercular chamber	4.	Amphinomus

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

(E) Answer not known

37. The hectocotylized arm in octopus is used for _____

(A) Attach to the substratum
(B) Defence
(C) Catching prey
(D) Copulation
(E) Answer not known

38. The fishes classified as agastric or the fishes without stomach are

(A) Cat fish
(B) Eel
(C) Carps
(D) Groupers
(E) Answer not known

39. In fish liver is generally fused with pancreas to form _____

(A) Intestine
(B) Hepato-pancreas
(C) Pyloric caecae
(D) Stomach
(E) Answer not known

40. Which among the following is a true hermaphrodites?

(A) Anabantidae
(B) Cyprinidae
(C) Sparidae
(D) Carangidae
(E) Answer not known

41. Choose the right matches among type.

1. Ichthys — a fish
2. Fishes — Invertebrates
3. Fish — Jelly fish
4. Logos — Study

(A) 2 and 3 are correct
(B) 1 and 3 are correct
(C) 1 and 4 are correct
(D) 3 and 4 are correct
(E) Answer not known

42. A fish body measurement as a straight vertical distance from the belly to the dorsum just in front of the dorsal fish is termed as _____

(A) Cleft of mouth
(B) Width of head
(C) Height of body
(D) Gape of mouth
(E) Answer not known

43. Assertion [A] : Total length of a fish measurement from the tip of the snout to the tip of the caudal fin.

Reason [R] : Caudal lobes differs in length, it is measured upto the tip of the longer lobes including filamentous prolongation if any.

(A) Both [A] and [R] are true, and [R] is the correct explanation of [A]

(B) [A] is true, [R] is false

(C) [A] is false, [R] is true

(D) Both [A] and [R] are false

(E) Answer not known

44. Meristic characters can be greatly modified by the environment experienced during _____ stage.

(A) Developmental

(B) Early developmental

(C) Post developmental

(D) Late developmental

(E) Answer not known

45. In general, a fish body form is _____.

(A) Sub cylindrical

(B) Round

(C) Parabola

(D) Curvature

(E) Answer not known

46. What is the primary factor considered in defining the Maximum Design Load (MDL) capacity of a shiplift drydock?

(A) The colour and shape of the vessel

(B) The lifting capacity of hoists and their spacing along the platform

(C) The speed of the vessel entering the dock

(D) The number of workers operating the shiplift

(E) Answer not known

47. What is the function of railed or wheeled cradles in boatyards?

(A) Increase vessel buoyancy

(B) Move vessel using wheels or rails

(C) Pump water out of dock

(D) Repair vessel engines

(E) Answer not known

48. Rotting is natural phenomenon is _____.

(A) Steel

(B) FRP

(C) Wood

(D) Aluminium

(E) Answer not known

49. Choose the right answer among type.
Which of the following statements are true about dry docking?

(i) All major and minor repairs of engine attended.

(ii) Bottom foulers are not removed.

(iii) The dock is checked for leaks.

(A) (i) only
(B) (i) and (iii) only
(C) (i) and (ii) only
(D) (ii) and (iii) only
(E) Answer not known

50. Which of the following alloy is resistant to corrosion?

(A) Aluminium base alloys
(B) Stainless steel alloys
(C) Copper
(D) Cast iron
(E) Answer not known

51. What is the role of a naval architect in the dry docking procedures?

(A) Operate the dry dock machinery
(B) Manage boatyards workers
(C) Assist in docking plans and structural calculations
(D) Paint and repair the vessel
(E) Answer not known

52. Choose the wrong matches type :

Which of the following is incorrectly paired?

1.	Traveler	–	Travel net
2.	Purse seiner	–	Gill net
3.	Gill netter	–	Squid jig
4.	Long liner	–	Long line

(A) 1 and 3 (B) 1 and 2
(C) 2 and 3 (D) 3 and 4
(E) Answer not known

53. Which one is comes under the non-fishing vessel?

(A) Trawler (B) Purse seiner
(C) Fish carrier (D) Long liner
(E) Answer not known

54. Which type of boat is consists of three logs?

(A) Boat catamaram (B) Kolamaram
(C) Periyamaram (D) Irukumaram
(E) Answer not known

55. Match the following type.

Match correctly the standard abbreviation of Fishing Vessels :

(a)	Trawlers	1.	Do
(b)	Other liners	2.	To
(c)	Dredgers	3.	Fx
(d)	Other fishing vessels	4.	Lox

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

(E) Answer not known

56. The dredge is used for collection of

(A) Pelagic fishes (B) Demersal fishes

(C) Reef fishes (D) Molluscs

(E) Answer not known

57. What is the optimal percentage of moisture in timber for wood boat _____?

(A) 12% (B) 20%

(C) 30% (D) 40%

(E) Answer not known

58. The Super structure of the forward end is called _____.

(A) Bridge
(B) Poop
(C) Forecastle
(D) Sheer strakes
(E) Answer not known

59. The amount of water displaced by a ship expressed in tons weight is called _____.

(A) Dead weight tonnage
(B) Displacement tonnage
(C) Light weight tonnage
(D) Freight tonnage
(E) Answer not known

60. Which vessels operate by deploying a number of lines with multipronged lures _____.

(A) Long liners
(B) Poleand liners
(C) Hand liners
(D) Squid Jigger
(E) Answer not known

61. The first steel ship was built in the year _____.

(A) 1845
(B) 1892
(C) 1878
(D) 1847
(E) Answer not known

62. The two pieces of timber are joined end to end is called _____.

(A) Scarf joint
(B) Lap joint
(C) Butt joint
(D) Carvel joint
(E) Answer not known

63. Armors and lint are components of

(A) Trammel nets
(B) Framed gill nets
(C) Seines
(D) Bull trawls
(E) Answer not known

64. Identify the incorrectly matched in yarn numbering :

1. Denier system – Direct system
2. Tex system – Indirect system
3. Metric system – Direct system
4. British system – Indirect system

(A) 2 and 3 are incorrect
(B) 1 and 2 are incorrect
(C) 1 and 4 are incorrect
(D) 2 and 4 are incorrect
(E) Answer not known

65. Coir is a type of which fibre

(A) Seed fibre
(B) Leaf fibre
(C) Fruit fibre
(D) Bast fibre
(E) Answer not known

66. When one vessel tows more than one trawl at a time, it is called?

(A) Beam trawling
(B) Bull trawling
(C) Multirig trawling
(D) Pair trawling
(E) Answer not known

67. Cast nets thrown over water is a type of

(A) Gill net
(B) Clap net
(C) Seine net
(D) Falling gear
(E) Answer not known

68. Identify the five pronged stockless anchor from the following

(A) Grapnel
(B) Patent
(C) CQR
(D) Admirality
(E) Answer not known

69. Which of the following gear type is aimed to capture shoal of fishes by surrounding?

(A) Trawl net
(B) Gill net
(C) Seines
(D) Traps
(E) Answer not known

70. The floating mark used for marking channels and locating fishing gear is

(A) Buoys
(B) Sinkers
(C) Anchor
(D) Thimble
(E) Answer not known

71. If an air mass is fully lifted above the land surface, is called as

(A) Warm front
(B) Cold front
(C) Occluded front
(D) Stationary front
(E) Answer not known

72. Match the following Anti-Cyclone type and its characteristics :

(a)	Subtropical highs	1.	Clear weather
(b)	Polar continental highs	2.	Low pressure over the continent
(c)	Highs embedded between cyclones	3.	Attracted by depression in the middle latitude
(d)	Polar-outbreak highs	4.	Shallow layer of cold air

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

(E) Answer not known

73. The weakest recognizable stage of tropical cyclone is

(A) Tropical depression
(B) Tropical storm
(C) Hurricane
(D) Tropical disturbance
(E) Answer not known

74. Choose the correct climatic region and its rainfall range.

1. Arid – Less than 500 mm
2. Sub-Arid – 500-750 mm
3. Semi-Arid – 750-1000 mm
4. Humid – More than 1000 mm

(A) 1 & 3 are correct
(B) 1 & 2 are correct
(C) 2 & 3 are correct
(D) 1 & 4 are correct
(E) Answer not known

75. The ice forms at sea and moves with currents and winds is known as

(A) Fast ice
(B) Pack ice
(C) Icebergs
(D) Pancake ice
(E) Answer not known

76. Which of the following statement is not true about La Nina?

(i) La Nina exists when unusually cold sea-surface temperature dominate the Eastern and Central Pacific

(ii) La Nina causes heavy rain flood in the Caribbean, Mexico and South Eastern United States

(iii) During La Nina, temperature world wide tend to be normal or cooler than normal

(A) (ii) only
(B) (ii) and (iii) only
(C) (i) and (iii) only
(D) (iii) only
(E) Answer not known

77. The actual mass of water vapour present in a given volume of moist air is known as

(A) Specific humidity
(B) Relative humidity
(C) Mixed Ratio
(D) Absolute humidity
(E) Answer not known

78. Which of the following is true about internal waves

(i) They have much longer periods and wavelengths, greater wave height

(ii) They have higher wave speeds than wind-generated surface waves.

(iii) Internal waves travel along the pycnoclines in the water column

(A) (i) and (iii) only
(B) (ii) and (iii) only
(C) (ii) only
(D) (i) and (ii) only
(E) Answer not known

79. The current results from the balance between gravitational force and the Coriolis effect

(A) Equatorial currents
(B) Geostrophic currents
(C) Tidal currents
(D) Density currents
(E) Answer not known

80. Type of currents which transfer the water towards the coast is called as

(A) Flood currents
(B) Ebb current
(C) Tidal bore
(D) Hydraulic current
(E) Answer not known

81. A Life raft is mainly used in :

(A) Emergency abandonment of ship
(B) Normal sailing conditions
(C) Cargo loading
(D) Engine repair
(E) Answer not known

82. Which of the following is not a requirement for a lifebuoy?

(A) Buoyancy support
(B) Easy throwing arrangement
(C) Quick release from ship
(D) Engine power
(E) Answer not known

83. What is the full form of EPIRB used on board ships?

(A) Emergency Position Indicating Radio Beacon
(B) Emergency Portable Radio Beacon
(C) Electronic Position Indicating Rescue Beacon
(D) Emergency Position Informing Radar Beacon
(E) Answer not known

84. What is the maximum outer diameter of a lifebuoy?

(A) 600 mm
(B) 760 mm
(C) 850 mm
(D) 900 mm
(E) Answer not known

85. Life Jackets are marked as

(A) Small/Medium/Large
(B) Adult/Child
(C) Light/Heavy
(D) Fast/Slow
(E) Answer not known

86. Match function with life jacket property.

(a) Retro reflective tape	1. Rotates unconscious person safely
(b) Turning ability	2. Emergency Second Signal
(c) Buoyancy	3. Improves rescue visibility
(d) Whistle	4. Keeps person afloat

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

(E) Answer not known

87. Which of the following is not an Internationally recognized distress signal?

(A) Flames on vessel

(B) Gun or explosive signal fired at intervals

(C) Slow and repeated waving of arms

(D) Black ball hoisted

(E) Answer not known

88. What is the night signal for port warning that severe cyclone to cross over/near to the port?

(A) Two white lights in a vertical line

(B) Three lights in a vertical line top/bottom being red middle white light

(C) Two red light in a vertical line

(D) One red light

(E) Answer not known

89. How is a fire triangle formed?

(A) By combining oxygen, water and fuel

(B) By combining oxygen, heat and fuel

(C) By combining heat, carbon dioxide and fuel

(D) By combining oxygen, nitrogen and water

(E) Answer not known

90. How can a fishing vessel engaged in fishing (other than trawling) be identified at night?

(A) Green over white all-round lights
(B) Red over green all-round lights
(C) Red over white all-round lights
(D) White over green all-round lights
(E) Answer not known

91. The meaning of flag O and G is

(A) I require a pilot and I am about to sail from harbour
(B) Man over board and I am operating astern trawlnet
(C) Pilot on board and I hauling the net
(D) Man over board and I require a pilot
(E) Answer not known

92. The storage temperature of the CO_2 in the CO_2 fire extinguisher cylinder, in insulated pressure vessels is

(A) 0°C
(B) –33.3°C
(C) –18°C
(D) –50°C
(E) Answer not known

93. The flag to be hoisted during man over board is

(A) Oscar
(B) November
(C) Lima
(D) Charlie
(E) Answer not known

94. What is the colour pattern of a safe water mark?

(A) Red and green vertical stripes
(B) Black and yellow horizontal bands
(C) Red and white vertical stripes
(D) Yellow with black bands
(E) Answer not known

95. To reduce distortion on a mercator chart what adjustment is made?

(A) Correction of longitude values
(B) Correction of compass error
(C) No correction applied
(D) Increase in scale with latitude (meridional expansion)
(E) Answer not known

96. How navigation charts are kept updated?

(A) By replacing them only once every 10 years
(B) By ship captains manually drawing notes
(C) By satellite images only
(D) By notices to mariners, new editions and navigational warning
(E) Answer not known

97. Which among the following describes variation error in compass?

(A) The angle between true and magnetic north
(B) The difference between true and compass course
(C) The deviation caused by ship's own magnetism
(D) The error in gyrocompass reading
(E) Answer not known

98. The special printing provision on the chart showing the 360° of the compass along with details of the earth's magnetic variation.

(A) Chart title block
(B) Direction of chart
(C) Scale of chart
(D) Compass rose
(E) Answer not known

99. The largest circle which can be inscribed on the surface of a sphere

(A) Prime meridian
(B) Rhumb line
(C) Great circle
(D) Small circle
(E) Answer not known

100. Which of the following statement is true about a fishing vessel in a narrow channel encounters a large tanker restricted to channel the fishing vessel should

(1) Take action to avoid impeding the tanker's passage

(2) Expect the tanker to alter course

(3) Sound one prolonged blast and continue fishing

(4) Maintain course and speed because fishing vessels have priority

(A) (1) only

(B) (2) and (3) only

(C) (1) and (4) only

(D) (4) only

(E) Answer not known

101. How should other vessels act when a fishing vessel is engaged in fishing operations ahead?

(A) Alter course early to avoid risk of collision

(B) Cross closely in front

(C) Maintain course and speed without change

(D) Stop engine immediately

(E) Answer not known

102. How is the length of anchor cable paid out measured?

(A) By checking the weight on the cable

(B) By measuring the speed of the ship

(C) By counting the number of shackles joined in the cable

(D) By observing the water depth only

(E) Answer not known

103. While doing lookout duties, how would you report a target located at 45° on your starboard bow?

(A) Target sighted 4 points on the starboard bow

(B) Target sighted broad on the starboard quarter

(C) Target sighted 45° on the starboard bow

(D) Target sighted 1 point on the starboard bow

(E) Answer not known

104. Which among the following term used for a moment anchor is broken out of the ground and clear of the sea bed?

(A) Brought up

(B) Foul anchor

(C) Anchor dragging

(D) Anchor aweigh

(E) Answer not known

105. The knot which is used to make temporary eye at the end of the rope is

(A) Sheep shank knot

(B) Over hand knot

(C) Clove hitch

(D) Bow line

(E) Answer not known

106. The penaeid shrimp characterized by two flagella in antennules, 1 to 3 chelate walking legs and the pleurae of second abdominal segment overlap those of first segment

(A) *Penaeus monodon*

(B) *Penaeus semisulcatus*

(C) *Penaeus canaliculatus*

(D) *Penaeus merguiensis*

(E) Answer not known

107. In homarus spp. the female lobster carries the eggs before hatching for a period of

(A) 10-12 months

(B) 8-10 months

(C) 6-8 months

(D) 4-6 months

(E) Answer not known

108. Production of large pearls can be attempted in pearl oyster and fresh water oyster by

(A) Induction of diploidy

(B) Induction of mitosis

(C) Induction of Triploidy

(D) Induction of meiosis

(E) Answer not known

109. Which of the following is incorrectly paired?

(i) Oscar – *Astronotus ocellatus*

(ii) Discus – *Betta splendens*

(iii) Guppy – *Poecilia reticulata*

(iv) Platy – *Xiphophorus helleri*

(A) (ii) only (B) (iii) only

(C) (iv) only (D) (ii) and (iv) only

(E) Answer not known

110. In prawn and crabs, the "X" organ sinus gland" of the eye stalks inhibits egg production through its

(A) GIH

(B) GSH

(C) GH

(D) FSH

(E) Answer not known

111. The pH of the soil for fish farming should be

(A) 5 – 6

(B) 7 – 8

(C) 6 – 7

(D) 8 – 9

(E) Answer not known

112. Which among the following is/are the source(s) of dissolved oxygen in pond water?

1. Atmosphere gas diffusion
2. Photosynthesis
3. Respiration
4. Decomposition

(A) 1 only
(B) 1 and 2 only
(C) 3 and 4 only
(D) 2, 3 and 4 only
(E) Answer not known

113. Match the following.

(a)	Anchor worm	1.	*Argulus*
(b)	Fish louse	2.	*Diplozoon*
(c)	Fish leech	3.	*Lernaeo*
(d)	Twin worm	4.	*Piscicola*

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

(E) Answer not known

114. Dropsy disease in fish is treated with

(A) Terramycin
(B) Tincture iodine
(C) Copper sulphate
(D) Potassium permanganate
(E) Answer not known

115. Which of the following statement(s) is/are incorrect regarding measures to control ammonia toxicity?

1. Water exchange can reduce ammonia concentration
2. Zeolite can absorb ammonium ions
3. Yucca extract can reduce ammonia
4. Alum can reduce ammonia

(A) 3 only
(B) 4 only
(C) 3 and 4 only
(D) 1 and 2 only
(E) Answer not known

116. Which among the following contribute turbidity in the culture pond?

1. Phytoplankton
2. Zooplankton
3. Clay particle
4. Bicarbonate

(A) 1 and 2 only
(B) 1 and 3 only
(C) 2 and 3 only
(D) 1 and 4 only
(E) Answer not known

117. The amendment used in aquaculture to increase the total hardness of water without affecting alkalinity is

(A) Agricultural lime
(B) Dolomite
(C) Agricultural gypsum
(D) Copper sulphate
(E) Answer not known

118. In 1970s composite fish culture system technology developed in India by _____.

(A) Indian council of agriculture research
(B) Food and agriculture organisation
(C) Central marine fisheries research
(D) Central institute of fisheries technology
(E) Answer not known

119. The Zooplankton found in Indian freshwater which is commonly known as wheel animalcules

(A) Copepods
(B) Daphnia
(C) Rotifers
(D) Moina
(E) Answer not known

120. Feeding efficiency is calculated by

(a.) Weight of the feed fed (g)
(b.) Weight of the fish growth (g)

(A) a/b
(B) $a \times b$
(C) b/a
(D) $a - b$
(E) Answer not known

121. Among the Asian carps big head carp is scientifically known as

(A) *Ctenopharyngodon idella*
(B) *Hypophthalmichys harmandi*
(C) *Hypophthalmichys nobilis*
(D) *Mylopharyngodon piceus*
(E) Answer not known

122. Which of the following statement(s) is/are incorrect about application of liquid ammonia in aquaculture pond?

(i) It is used to kill unwanted predators during prestocking management.

(ii) It is used as fertilizer during prestocking management.

(iii) It is used as fertilizer during poststocking management.

(A) (i) only
(B) (ii) only
(C) (iii) only
(D) (ii) and (iii) only
(E) Answer not known

123. Recommended moisture content in the dry feed for extended shelf life is

(A) 5-8%
(B) 8-10%
(C) 11-13%
(D) 14-15%
(E) Answer not known

124. Which of the following statements are incorrect about application of organic manure in fish pond?

(i) It improves soil texture

(ii) It improves soil structure

(iii) It improves water holding capacity of soil

(iv) It improves soil erosion

(A) (i) & (iv)
(B) (ii) & (iv)
(C) (i) & (ii)
(D) (iii) & (iv)
(E) Answer not known

125. The pump which use both centrifugal force and the lifting action of propeller pump to impart energy to the fluid

(A) Rotary pumps

(B) Propeller pumps

(C) Mixed flow pumps

(D) Regenerative Turbine pumps

(E) Answer not known

126. A monk in a pond is constructed to _____

(A) To control water inflow to the pond

(B) It is an outlet structure constructed for water exchange and pond harvesting

(C) To minimise flooding

(D) To avoid sludge accumulation

(E) Answer not known

127. Which of the following statements are true about site selection for construction of fish pond?

(i) Availability of sufficient water.

(ii) Soil should be rocky, sandy, gravelled and lime stone.

(iii) The site should be free from flooding.

(A) (i) only

(B) (i) and (iii) only

(C) (i) and (ii) only

(D) (ii) and (iii) only

(E) Answer not known

128. Assertion [A] : Short creeping grass is recommended to be grown in the top and sides of the Dyke.

Reason [R] : Short herbs and shrubs controls soil erosion and can be used as green manure.

(A) [A] is true but [R] is false

(B) Both [A] and [R] are true and [R] is the correct explanation of [A]

(C) [A] is false, [R] is true

(D) Both [A] and [R] are true, but [R] is not the correct explanation [A]

(E) Answer not known

129. Assertion [A] : Aquaculture enterprise often needs movement of fluid from lower to a higher point against a gravitational gradient.

Reason [R] : Poor pump selection can double or triple pumping cost thereby, increases the operation cost.

(A) [A] is true but [R] is false

(B) [A] is false, [R] is true

(C) Both [A] and [R] are true and [R] is the correct explanation of [A]

(D) Both [A] and [R] are true, but [R] is not the correct explanation [A]

(E) Answer not known

130. Which of the following statement is true in general consideration for site selection in farm establishment?

(i) Tall trees make clearing more difficult and expensive

(ii) Tall vegetations serve as an effective wind breaker

(iii) Land with grass and shrubs are not-suitable for farm construction

(A) (i) only
(B) (i) and (iii) only
(C) (i) and (ii) only
(D) (ii) and (iii) only
(E) Answer not known

131. Echo signal on a CRT are displayed as _____

(A) Sound waves
(B) Magnetic lines
(C) Luminous glow
(D) Heat pattern
(E) Answer not known

132. In an echo sounder, the clock pulse rate must be

(A) Independent of depth
(B) Inversely related to depth
(C) Directly related to depth
(D) Constant at all depth
(E) Answer not known

133. Acronym for SONAR is _____

(A) Sound Navigation and Receiver

(B) Sound Navigation and Radar

(C) Sound Navigation and Recorder

(D) Sound Navigation and Ranging

(E) Answer not known

134. The VHF radio telephone is mainly used for

(A) Very long distance communication over 500 NM

(B) Long distance communication 100-500 NM

(C) Medium distance communication 50-100 NM

(D) Short distance communication 30-40 NM

(E) Answer not known

135. Assertion [A] : During fishing operations, echo returns are used to estimate under water conditions.

Reason [R] : Echo returns are produced by the reflection of sound waves from under water objects.

(A) Both [A] and [R] are true and [R] is the correct explanation of [A]

(B) Both [A] and [R] are true, but [R] is not the correct explanation [A]

(C) [A] is true but [R] is false

(D) [A] is false, but [R] is true

(E) Answer not known

136. Flat sour spoilage in canned foods is caused by

(A) *Clostridium botulinum*
(B) *Bacillus stearothermophilus*
(C) *Listeria monocytogenes*
(D) *Clostridium perfringes*
(E) Answer not known

137. The sublimation pressure of fresh water ice at 0°C is _____

(A) 0.004 bar
(B) 0.06 bar
(C) 0.04 bar
(D) 0.006 bar
(E) Answer not known

138. The quantity of heat required to convert 1000 Kg of water at 0°C into ice in 24 hours is defined as

(A) Coefficient of performance
(B) Refrigeration Load
(C) Rate of refrigeration
(D) Ton of refrigeration
(E) Answer not known

139. A speed of the air circulation in air blast freezer is _____

(A) 6 m/s
(B) 4 m/s
(C) 3 m/s
(D) 5 m/s
(E) Answer not known

140. The working temperature and freezing duration in horizontal flate freezer is

(A) –40°C and 6 hours
(B) –18°C and 3 hours
(C) –40°C and 3 hours
(D) –18°C and 6 hours
(E) Answer not known

141. After the heat processing, the cans are cooled as rapidly as possible to about

(A) 0°C
(B) 40°C
(C) 30°C
(D) 20°C
(E) Answer not known

142. The expected range for a low frequency is

(A) 1000-1500 km
(B) 500-1000 km
(C) 1500-2000 km
(D) 2000-2500 km
(E) Answer not known

143. Expand the LCD is _____.

(A) Light Cathode Display
(B) Liquid Crystal Display
(C) Light Coded Display
(D) Liquid Card Display
(E) Answer not known

144. Which type of charging continuously provides a constant voltage to safely maintain a battery at full charge when it is idle?

(A) Normal charge
(B) Equalizing charge
(C) Floating charge
(D) Quick charge
(E) Answer not known

145. What is the gel components that make up the electrolyte in a gel cell battery?

(A) Thixotropic gel
(B) H_2SO_4
(C) Glycerin gel
(D) Silicon gel
(E) Answer not known

146. The lead acid battery plates are immersed in _____.

(A) HCl
(B) CH_3 COOH
(C) H_2SO_4
(D) H_2CO_3
(E) Answer not known

147. A lead acid battery consists of

(A) Two similar electrodes
(B) Two dissimilar electrodes in electrolyte
(C) Only one electrode
(D) No electrolyte
(E) Answer not known

148. Radar use high frequency radio waves is called

(A) Ultra sound
(B) Micro waves
(C) Infrared waves
(D) Gamma rays
(E) Answer not known

149. Electrical starting system can be adopted to start the engine with the horse power of

(A) 200 HP
(B) 100 HP
(C) 300 HP
(D) 400 HP
(E) Answer not known

150. Match the parts of the diesel engine and material used for manufacturing.

(a)	Piston	1.	Cast iron
(b)	Crank shaft	2.	Heat resistant steel
(c)	Cylinder block	3.	Forged steel
(d)	Valves	4.	Aluminium alloy

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

(E) Answer not known

151. Match the percentage of heat energy conversion in the four stroke diesel engine.

(a)	Indicated power	1.	30%
(b)	Cooling water	2.	28%
(c)	Exhaust gas	3.	2%
(d)	Radiation loss	4.	40%

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

(E) Answer not known

152. The trade name of net having winch especially for purse seiner in

(A) Net drum
(B) Triplex
(C) Windlass
(D) Gallow winch
(E) Answer not known

153. The main function of the compression ring in piston?

(A) Igniting fuel
(B) Sealing the combustion chamber
(C) Cooling the engine
(D) Operating the valves
(E) Answer not known

154. The bottom most part of the diesel engine is called as

(A) Fly wheel
(B) Crank shaft
(C) Connecting rod
(D) Crank case
(E) Answer not known

155. A component of engine, takes the power developed in the engine through connecting rod and transmits the torque for useful work

(A) Piston
(B) Crank shaft
(C) Fly wheel
(D) Cylinder block
(E) Answer not known

156. The different groups (or) communities colonize the same area over a period of time is known as

(A) Succession
(B) Community ecology
(C) Biomass
(D) Standing crop
(E) Answer not known

157. As per the FAO, 2020, India's position in seaweed cultivation is

(A) 10
(B) 12
(C) 13
(D) 20
(E) Answer not known

158. Select the filter feeders among the following.

(A) Sharks
(B) Seals
(C) Mussels
(D) Octopus
(E) Answer not known

159. Which one of the following statement is true about osmoregulation by marine fish?

(i) Body fluids less salty than water

(ii) High urine production by kidneys

(iii) Salt absorption by cells

(A) (i) and (ii) only
(B) (ii) and (iii) only
(C) (i) only
(D) (i) and (iii) only
(E) Answer not known

160. The single celled photosynthetic algae live within the animal tissues is

(A) Navicula
(B) Zooxanthellae
(C) Noctilua
(D) Protista
(E) Answer not known

161. Match the following :

(a)	Surf grass	1.	*Metridium sp*
(b)	Coralline algae	2.	*Echinometra sp*
(c)	Sea urchin	3.	*Lithothamnion sp*
(d)	Sea anemone	4.	*Phyllospadix sp*

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

(E) Answer not known

162. In seaweeds the leaf-like blades grow from the stipes is

(A) Hold fast
(B) Stem
(C) Root
(D) Fronds
(E) Answer not known

163. The clams and cockles primarily inhabit in _____ ecosystem.

(A) Sandy shore and muddy shore
(B) Estuaries and back-waters
(C) Estuaries and Brackish waters
(D) Sandy shore
(E) Answer not known

164. The management of short neck clam fishery in Ashtamudi lake is mainly carried out by

(A) Industrial fishing companies
(B) Fishermen cooperative societies
(C) Government fishing vessels
(D) Foreign fishing vessels
(E) Answer not known

165. Choose the right matches about the main bivalve fishery in different maritime states.

(1) Kerala – *Villorita cyprinoides*
(2) Gujarat – *Anadara granosa*
(3) Andhra Pradesh – *Pinctada fucata*
(4) Lakshadweep – *Tridacna maxima*

(A) (1) and (3) are correct
(B) (2) and (4) are correct
(C) (2) and (3) are correct
(D) (1) and (4) are correct
(E) Answer not known

166. Which of the following is incorrectly paired?

(1) *Tibia curta* – Moon snail
(2) *Phalium glaucum* – Ton shell
(3) *Trochus niloticus* – Top shell
(4) *Lambis truncata* – Money cowry

(A) (1) and (3) (B) (1) and (4)
(C) (2) and (4) (D) (2) and (3)
(E) Answer not known

167. Assertion [A] : In lobsters Minimum Legal Size (MLS) should be above the size at first maturity.

Reason [R] : So that the lobsters get an opportunity to breed atleast once.

(A) [A] is true, [R] is false

(B) [A] is false, [R] is true

(C) Both [A] and [R] are true, and [R] is the correct explanation of [A]

(D) Both [A] and [R] are true, but [R] is not the correct explanation of [A] is correct

(E) Answer not known

168. Which of the following special types of fishing craft is used to exploit bivalves in Kakinada Bay, where the entire family lives during a fishing trip extending for 3 to 4 consecutive days?

(A) Canoes

(B) Shoe dhonie

(C) Catamaran

(D) Masula boat

(E) Answer not known

169. The peak spawning season for sepia pharaonis occurs during the month of _____.

(A) October-November

(B) January-October

(C) October-April

(D) September-December

(E) Answer not known

170. Atoms of the same chemical element may vary in the number of neutrons they have and are known as _____.

(A) Isobars
(B) Isotones
(C) Isotopes
(D) Isomers
(E) Answer not known

171. Which is the primary source of biosolids?

(A) Industrial chemical runoff
(B) Residue from wastewater treatment
(C) Untreated salt water
(D) Natural forest compost
(E) Answer not known

172. Assertion [A] : In the desalination plants, the effluent is warmer that the normal temperature and also is higher in salinity.

Reason [R] : This high salinity decrease the density of the water and will float to the surface.

(A) [A] is false, [R] is true
(B) [A] is true but [R] is false
(C) Both [A] and [R] are true and [R] is the correct explanation of [A]
(D) Both [A] and [R] are true, but [R] is not the correct explanation of [A] is correct
(E) Answer not known

173. Assertion [A] : Anaerobic bacteria can oxidize organic molecules without the use of oxygen.

Reason [R] : But the end-products include compounds such as H_2S (hydrogen sulphide), NH_4 (ammonia) and CH_4 (methane). Which are toxic to many organisms.

(A) [A] is true but [R] is false

(B) Both [A] and [R] are true and [R] is the correct explanation of [A]

(C) [A] is false, [R] is true

(D) Both [A] and [R] are true, but [R] is not the correct explanation of [A]

(E) Answer not known

174. Which of the following statement are true about Tributyl tin (TBT)?

(i) The pollutant TBT is an immune suppresser.

(ii) It impairs the functions of T and B cells in the immune system.

(iii) It can harm the environment by causing eutrophication in the habitats.

(A) (i) only

(B) (i) and (iii) only

(C) (ii) and (iii) only

(D) (i) and (ii) only

(E) Answer not known

175. Rihand reservoir is also known as

(A) Govindsagar reservoir
(B) Kangsabati reservoir
(C) Govind Ballabh Pant Sagar reservoir
(D) Getalsud reservoir
(E) Answer not known

176. Name the state which is at the top is total area as well as in the area of medium reservoirs.

(A) Rajasthan
(B) Gujarat
(C) Madhya Pradesh
(D) Uttar Pradesh
(E) Answer not known

177. The estimated potential production level of Beels is _____.

(A) 800-1,000 kg/ha/yr
(B) 1,000-1,500 kg/ha/yr
(C) 1,500-1,700 kg/ha/yr
(D) 1,700-2,200 kg/ha/yr
(E) Answer not known

178. The first attempt to transplant trout in India was made at

(A) Nilgiris
(B) Travancore
(C) Kashmir
(D) Himachal Pradesh
(E) Answer not known

179. Match correctly the minimum legal size for export of lobsters in live/chilled frozen condition from India with their corresponding species.

(a)	*Panulirus polyphagus*	1.	200 g
(b)	*Panulirus homarus*	2.	500 g
(c)	*Panulirus ornatus*	3.	150 g
(d)	*Thenus unimaculatus*	4.	300 g

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

(E) Answer not known

180. Choose the right matches among type.

1.	Fishes of India	–	Dr. A.G.K. Menon
2.	Oceanography	–	Dr. R. Raghu Prasad
3.	Marine Fisheries	–	R. Jayaraman
4.	Inland Fisheries	–	Mr. S.M. Banerjea

(A) 1 and 2 are correct (B) 1 and 3 are correct

(C) 2 and 3 are correct (D) 1 and 4 are correct

(E) Answer not known

181. Minced fish muscle is heated with stirring at 160 to 175°F for one hour in an aqueous solution containing 0.5% acetic acid. The protein get partially hydrolyzed and connective tissues are extracted

(A) Fish Albumin
(B) Proteolysed liver preparation
(C) Fish protein concentrates
(D) Bacto-Peptones
(E) Answer not known

182. During the production of high grade fish meal using the wet rendering process, what is the correct sequence of operations?

(A) Grinding → Cooking → Pressing → Drying
(B) Cooking → Pressing → Drying → Grinding
(C) Pressing → Cooking → Drying → Grinding
(D) Drying → Cooking → Pressing → Grinding
(E) Answer not known

183. Airbladder present inside the fish is used to prepare fish maw. Fish maw on further refining is known as

(A) Refined maw
(B) Ice glass
(C) Isinglass
(D) Gelatin
(E) Answer not known

184. If a fish processing unit experiences fluctuating storage temperatures, what is the most likely phenomenon that will occur

(A) Reduction in ice crystal size

(B) Recrystallization

(C) Thaw rigor

(D) Desiccation

(E) Answer not known

185. Match the following.

(a)	Brining/Salting	1.	Creation of partial vacuum
(b)	Pre cooking	2.	Firming texture, removing excess moisture & shrink
(c)	Exhausting	3.	Stabilizing flavour & denaturation
(d)	Retorting	4.	Commercial sterilization

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

(E) Answer not known

186. Reason and Assertion type.

Assertion (A) : Plate freezers can be used on boats.

Reason (R) : Vertical plate freezers suitable for bulk freezing and extensively used for freezing whole fish.

(A) Both [A] and [R] are true and [R] is the correct explanation of [A]

(B) Both [A] and [R] are true and [R] is not the correct explanation of [A]

(C) [A] is true, but [R] is false

(D) [A] is false, but [R] is true

(E) Answer not known

187. The F_0 value is calculated based on a reference temperature of

(A) 100 °C

(B) 110 °C

(C) 121.1 °C

(D) 110.1 °C

(E) Answer not known

188. Seawater ice has the following disadvantages choose the incorrect statement

(A) Lower temperatures are required

(B) Fish may takeup some salt from ice

(C) It will be more expensive

(D) It produce off odours and off flavours

(E) Answer not known

189. Fish marinades and pickles are categorised under which category of foods

(A) Low acid food
(B) Alkaline food
(C) High acid food
(D) Medium acid food
(E) Answer not known

190. The most commonly used mechanical fish drier

(A) Cabinet drier
(B) Tunnel Drier
(C) Kiln Drier
(D) Spray Drier
(E) Answer not known

191. How much percentage of salt in the fish flesh is known to prevent the action of most spoilage bacteria as well as autolytic decomposition?

(A) 2-5%
(B) 4-10%
(C) 6-15%
(D) 8-20%
(E) Answer not known

192. If the temperature of the drying air is high and its relative humidity in low, this will form a dry impervious layer on the surface preventing further diffusion of water. This condition is called

(A) Solar burn
(B) Salt burn
(C) Case hardening
(D) Fish hardening
(E) Answer not known

193. Match the minimum water activity required for the growth of micro-organism.

(a)	Pathogenic bacteria	1.	0.85
(b)	Yeasts	2.	0.75
(c)	Moulds	3.	0.91
(d)	Halophilic bacteria	4.	0.80

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

(E) Answer not known

194. Match the following :

	List I		List II
(a)	Solar Salt	1.	Mined from natural deposits
(b)	Rock Salt	2.	Bitterness & brittleness
(c)	Calcium & Magnesium	3.	95% NaCl
(d)	Copper & Iron	4.	Evaporating seawater
(e)	Fish curing salt	5.	Brown or yellow discolouration

	(a)	(b)	(c)	(d)	(e)
(A)	4	1	2	5	3
(B)	4	2	5	3	1
(C)	4	5	3	1	2
(D)	1	4	2	5	3

(E) Answer not known

195. Which of the following statements are true?

(i) Anaerobic bacteria can grow in presence of free oxygen

(ii) Facultative anaerobic bacteria can grow in presence or absence of free oxygen

(iii) Micro aerophilic bacteria, grow better in the presence of very little free oxygen

(A) (ii) alone is true
(B) (i) and (ii) are true
(C) (iii) alone is true
(D) (ii) and (iii) are true
(E) Answer not known

196. The term freezer burn in fish is associated with white patches on frozen fish is mainly due to

(A) Burning due to high freezing temperatures
(B) Chemical oxidation of lipids
(C) Dessication caused during cold storage
(D) Bacterial spoilage inside the freezer
(E) Answer not known

197. Belly bursting is a common post harvest problem in which of the following?

(A) Shrimp
(B) Tuna
(C) Sardine
(D) Grouper
(E) Answer not known

198. The degradation of which of the following is measured as K value

(A) Biogenic amines
(B) Nucleotides
(C) Non protein nitrogen compounds
(D) Triglycerides
(E) Answer not known

199. Lean fishes store fat in

(A) Muscle
(B) Skin
(C) Liver
(D) Gonad
(E) Answer not known

200. A non soluble polymer in shrimp shell is

(A) Calcium
(B) Cellulose
(C) Chitin
(D) Carrangeenan
(E) Answer not known