

Sl. No. :

FAMBY

Register
Number

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2018

MARINE BIOLOGY
(Degree Standard)

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 (A), (B), (C) and (D) 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, (B) is the correct answer, you have to mark as follows :

(A) ● (C) (D)
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. The sheet before the last page of the Question Booklet can be used for Rough Work.
11. Do not tick-mark or mark the answers in the Question Booklet.
12. 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.
13. 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.

SEAL

1. The quantity of heat required to raise the temperature of 1 g of a substance 1°C (cal/g/°C) is called
- (A) Heat capacity (B) Latent heat of fusion
 (C) Latent heat of vaporization (D) Conduction of heat
2. A typical example of an anoxic basin is
- (A) Dead sea (B) Red sea
 (C) Mediterranean sea (D) Black sea
3. Minor constituents make up about _____ per cent of the dissolved salt in the oceans.
- (A) 2.6 per cent (B) 0.9 per cent
 (C) 0.1 per cent (D) 0.7 per cent
4. Water is almost a _____ solvent, with the ability of dissolve more substances than any other liquid.
- (A) Selective (B) Partial selective
 (C) Universal (D) None of them
5. The UNCLOS (1982) stipulated that within 200 nautical mile zone is called
- (A) Marine Economic Zone (B) Coastal Regulation Zone
 (C) Exclusive Economic Zone (D) Biodiversity Convention Zone
6. Match the following
- | | | |
|--------------|--|---------------|
| (a) Snail | | 1. Zoea |
| (b) Crab | | 2. Veliger |
| (c) Starfish | | 3. Cypris |
| (d) Barnacle | | 4. Bipinnaria |
-
- | | | | | |
|---|-----|-----|-----|-----|
| | (a) | (b) | (c) | (d) |
| (A) | 3 | 2 | 1 | 4 |
| <input checked="" type="checkbox"/> (B) | 2 | 1 | 4 | 3 |
| (C) | 1 | 2 | 4 | 3 |
| (D) | 4 | 3 | 1 | 2 |

7. The International Whaling Commission (IWC) was established in _____ to manage the subsistence and commercial hunting of large whales.
- (A) 1716 (B) 1816
 (C) 1946 (D) 2016
8. The Green algae belong to the phylum
- (A) Rhodophyta (B) Chlorophyta
(C) Phaeophyta (D) Chrysophyta
9. Some animals are able to control the concentration of their internal fluids within limits, independently of salinity changes in water. This process is known as
- (A) Steno thermal (B) Eurythermal
 (C) Osmo regulation (D) Poikilothermic
10. _____ includes all animals capable of moving independently, of the ocean currents by swimming or other means of propulsion.
- (A) Phytoplankton (B) Diatoms
(C) Coscinodiscus (D) Nekton
11. _____ is an example for heterotrophies.
- (A) Phytoplankton (B) Zooplankton
(C) Gymnodinium (D) Plants
12. The Coral reefs remove about _____ of carbon every year.
- (A) 7 billion kilograms (B) 70 billion kilograms
 (C) 700 billion kilograms (D) 7000 billion kilograms

13. Oxygen is toxic to
- (A) Aerobic bacteria
 - (B) Anaerobic bacteria and facultative bacteria
 - (C) Facultative bacteria
 - (D) Anaerobic bacteria
14. Differential media
- (A) Used to grow two different kinds of bacteria
 - (B) Used to enhance the growth of particular type of bacteria
 - (C) Used to grow all types of bacteria
 - (D) Used to grow only pathogenic bacteria
15. Largest number of fish species occurs in
- (A) Temperate zone
 - (B) Sub temperate region
 - (C) Tropics
 - (D) Sub tropics
16. In whales, the limbs are modified into
- (A) Neck
 - (B) Fins
 - (C) Flippers
 - (D) None of these
17. The following pollutants severely affects the sea turtle population
- (A) Marine debris
 - (B) Fishing nets
 - (C) Plastics
 - (D) All the above

18. Cages for mariculture can be
- (A) Hanging in the water body and immovable
 - (B) Fixed into the bottom
 - (C) Immovable
 - (D) Movable
19. Recirculating aquaculture requires less space when compare to
- (A) pond aquaculture
 - (B) reservoir aquaculture
 - (C) composite carp grow-out culture
 - (D) cage culture
20. Piscicides for used to kill
- (A) insects
 - (B) fishes
 - (C) bacteria
 - (D) fungi
21. The bay clam is
- (A) Katelysia opima
 - (B) Meretrix meretrix
 - (C) Meretrix casta
 - (D) Mytilus viridis
22. Pearl is produced by Pearl osyter as a _____ mechanism.
- (A) Reproductive
 - (B) Circulatory
 - (C) Respiratory
 - (D) Defense

23. Ammonia oxidized to nitrite and then nitrate, these oxidation processes which are termed
- (A) Ammonification (B) Denitrification
 (C) Nitrification (D) Reduction of nitrate to nitrite
24. In addition to inorganic micro nutrients, many species of phytoplankton find minute amounts of certain organic compounds such as _____ necessary for their growth.
- (A) amino acids (B) vitamins
(C) fatty acids (D) minerals
25. _____ is the greatest challenge of mangroves to climate change.
- (A) Lake level (B) Sea level
(C) River level (D) Pond level
26. Dissolved organic matter in the sea can be removed by three mechanisms (a) physico – chemical removal (b) chemical removal and biological removal. Among them which one is predominates others
- (A) Biological mechanism predominates over others
(B) Chemical mechanism predominates over others
(C) Physico – chemical processes predominates over others
(D) Physical processes predominates others
27. The organic particulate matter in the sea comprises living organisms mainly
- (A) phytoplankton (B) detritus
(C) zooplankton (D) none of them
28. Average concentration of the borate ions in the sea water is
- (A) 0.026‰ by weight (B) 0.001‰ by weight
(C) 0.380‰ by weight (D) 0.013‰ by weight

29. Nutrient rich coastal water sometimes responsible for the new human pathogens like vibrio cholerae, which cause
- (A) Malaria (B) Typhoid
(C) Dengue fever ~~(D) Cholera~~
30. Bleaching of _____ occurs in marine environment.
- (A) Sponges (B) Star Fishes
(C) Whales ~~(D) Corals~~
31. Attached marine animals can be called as _____ animals.
- (A) Migratory ~~(B) Sessile~~
(C) Parasitic (D) Benthic
32. _____ fishing in all the ocean is divastating the world's fisheries.
- (A) Sustainable ~~(B) Over~~
(C) Under fishing (D) Banned fishing
33. DDT is a _____ used to control the vectors of human parasites/pathogens.
- (A) Fungicide ~~(B) Pesticide~~
(C) Homicide (D) Bactericide
34. Diarrhetic shell fish poisoning is due to _____
- (A) Harmless Algal bloom ~~(B) Harmfull Algal bloom~~
(C) Harmfull Viruses (D) Heavy Algal bloom

35. Approximate abundance of heterotrophic bacteria found in per ml of surface seawater

(A) 10^{-6} /ml

(B) 10^{-7} /ml

(C) 10^{-2} /ml

(D) 10^{-1} /ml

36. The thickness of the sea-surface microlayer is

(A) 250 – 500 μ m

(B) 250 – 500 mm

(C) 10 – 250 μ m

(D) 10 – 250 mm

37. Oxidation of ammonium to nitrate (NO_2) is the process called

(A) Ammonification

(B) Nitrification

(C) De nitrification

(D) Nitrate reduction

38. Microorganisms that live at low pH are called

(A) Barophiles

(B) Thermophiles

(C) Alkalophiles

(D) Acidophiles

39. The early studies of marine bacteria, started in

(A) 16th century

(B) 19th century

(C) 20th century

(D) 15th century

40. Sleeping sickness is a disease produced by

(A) Fungi

(B) Bacteria

(C) Virus

(D) Protozoa

41. In female lobsters the pleopods have
- (A) both exo and endopodite
 - (B) only exopodite
 - (C) only endopodite
 - (D) both exo and endopodite absent
42. In crab which portion of the body is heavily tissue/fleshed
- (A) abdomen
 - (B) cephalothorax
 - (C) tail
 - (D) swimming leg
43. In aquatic crabs the last pair of the walking leg is
- (A) diamond shaped
 - (B) oar shaped
 - (C) circular shaped
 - (D) rectangular shaped
44. Gastropods are also called as _____ molluscs.
- (A) Univalve
 - (B) Bivalve
 - (C) Cephalopod
 - (D) Pearl
45. Which one is scientific name of edible oyster?
- (A) Meretrix casta
 - (B) Perna viridis
 - (C) Anadara rhombea
 - (D) Crossostrea madrasensis

46. Which one is the world busiest trade route?
 (A) Pacific Ocean (B) Indian Ocean
~~(C)~~ Atlantic Ocean (D) Antarctic Ocean
47. Which two features together control the density of sea water?
 (A) Salinity and plankton concentration ~~(B)~~ Temperature and salinity
 (C) Salinity and depth (D) Temperature and sea depth
48. Surface currents is formed by
 (A) Increased water density ~~(B)~~ Global winds
 (C) The moon's gravity (D) The sun's gravity
49. Ekman spiral is
~~(A)~~ Current (B) Waves
 (C) Tide (D) Low Tide
50. _____ is the angle between the local vertical and the educational plane.
~~(A)~~ Latitude (B) Longitude
 (C) Meridian (D) O-Latitude
51. The vertical distance separating the crest from the trough known as
~~(A)~~ Wave height (B) Wave length
 (C) Wave period (D) Wave cycle
52. Sun warms and evaporate huge amount of water from
~~(A)~~ Tropical Pacific and Indian Ocean (B) North Atlantic Ocean
 (C) North Pacific Ocean (D) Arctic
53. The Antarctic circumpolar current is an important features of the
~~(A)~~ Ocean's deep water circulation
 (B) Sea surface circulation
 (C) North Atlantic deep water circulation
 (D) Antarctic intermediate water circulation

54. Eukaryotes first appeared in the fossil record _____ million years ago.
(A) ~ 1500 (B) ~ 1200
 (C) ~ 1800 (D) ~ 1700
55. The meroplanktonic auricularia larva belongs to _____ phylum.
(A) Coelenterata (B) Annelida
(C) Arthropoda (D) Echinodermata
56. What is the size range of femto plankton?
(A) 0.2 – 2.0 μm (B) 0.02 – 0.2 μm
(C) 2.0 – 2.0 μm (D) 20 – 200 μm
57. Radiolarians appeared during _____ eras.
(A) Mesozoic (B) Paleozoic
 (C) Precambrian (D) Cenozoic
58. The “arrow-worm” sagitta belongs to the _____ phylum.
(A) Annelida (B) Chaetognatha
(C) Ctenophora (D) Arthropoda
59. Macrocyttis belongs to _____ algae.
 (A) Brown (B) Red
(C) Green (D) Blue green
60. Which of the following fish shows bioluminescence in deep-sea?
 (A) Angler fish (B) Sardine
(C) Gulper (D) Bluefin tuna

61. The functional relationships within and among the communities and their environment are frequently complex, but they are the mechanisms of major ecological processes such as water cycle, soil formation, nutrient cycling and energy flow. This can be called as
- (A) Species richness (B) Species evenness
 (C) Ecosystem diversity (D) Similarity index
62. A group of organisms genetically similar and they can interbreed to produce
- (A) Babies (B) Kids
 (D) Fertile Offsprings (C) Nursery
63. The coral reefs are the _____ of marine biodiversity.
- (A) Green spots (B) Hot spots
(C) White spots (D) Cool spots
64. The dimly lit zone of marine environment is called as
- (A) Benthic zone (B) Abiotic environment
 (C) Disphotic zone (D) Archipelago
65. The global rate of biodiversity loss documented among the birds is more than doubled in the years between _____.
- (A) 1980 and 1990 (B) 1970 and 1980
 (D) 1990 and 2000 (C) 1960 and 1970
66. United Nations Conference on Environment and Development (UNCED) is also known as
- (A) The Sea summit (B) The Earth submit
 (C) The Earth summit (D) The Sky summit

67. Balanoglossus belongs to the class

(A) Pterobranchia

(B) Enteropneusta

(C) Planctosphaeroidea

(D) Graptlita

68. What is the main characteristic feature of phylum Echinodermata?

(A) Haemal system

(B) Water vascular system

(C) None

(D) Both (A) and (B)

69. Nauplius is the larvae of

(A) Insecta

(B) Crustacea

(C) Echinodermata

(D) Mollusca

70. What is the primary characteristic feature for phylum Annelida?

(A) Body covered by ciliated epidermis

(B) Excretion by flam cells

(C) Metameric segmentation

(D) Trochopore larvae

71. Pearl is produced by one of the following molluscan

(A) Oyster

(B) Nautilus

(C) Chiton

(D) Doris

72. Purchase of feed is coming under _____ costs in aquaculture enterprise.
- (A) fixed (B) salvage
(C) capital (D) variable
73. Hermaphrodite refers to
- (A) only male (B) male and female
(C) only female (D) sterile
74. _____ minimize the disease out break in cages.
- (A) Exotic fish stocking
(B) Wild seeds
 (C) Quarentine
(D) Disinfection of facilities
75. _____ are mechanical floating devices and their rotating blades agitate the water helping in dissolution of atmospheric oxygen in water.
- (A) Generator (B) Do meter
 (C) Aerators (D) pH meter
76. SPF shrimp seed stands for
- (A) Special Protein Feed Shrimp Seed
(B) Specific Potential Fry Shrimp Seed
 (C) Specific Pathogen Free Shrimp Seed
(D) Specially Produced Fry Shrimp Seed

77. The vertical distribution of total dissolved carbon in ocean is similar to
(A) Distribution of pH (B) Distribution of salinity
(C) Distribution of dissolved oxygen (D) Distribution of nutrients
78. Vertical and horizontal distribution of dissolved oxygen in the ocean results from the interplay of
(A) biological processes (B) physical processes
 (C) physical and biochemical processes (D) none of the above
79. Radio active decay leads to the introduction of _____ in to the sea.
(A) hydrogen and oxygen (B) nitrogen and CO₂
 (C) helium, radon and argon (D) none of the above
80. The solubility of gases in sea water increases with
 (A) decrease of temperature and salinity and increase of pressure
(B) increase of temperature and decrease of pressure and salinity
(C) increase of temperature, pressure and salinity
(D) increase of temperature and salinity and decrease of pressure
81. Shell fish have long been known to concentrate
(A) heavy metals (B) trace metals
(C) transition metals (D) light metals
82. The relative amounts of dissolved constituents within the oceans are controlled by
(A) physical processes (B) biological processes
 (C) biogeochemical processes (D) chemical processes

83. Non-native species where they lack predator (or) other natural control, they can affect the entire ecosystem is called
- (A) Endemic (B) Indigenous species
 (C) Invasive species (D) Local species
84. The organism attach themselves to the ship hull is called as
- (A) Bio compound (B) Biodegradation
 (C) Antifouling (D) Biofouling
85. Eutrophication in coastal and sea water happen due to
- (A) Over fishing (B) Lack of nutrients
 (C) Influx of nutrients (D) Under fishing
86. Biodegradable pollutants is
- (A) Waste oil (B) Cooking waste
(C) Radiation waste (D) Plastic waste
87. Marine filter feeders are
- (A) Shark (B) Clam
(C) Sea bars (D) Dolphin
88. _____ is an example for organism lives in supratidal/spray zone of rocky shore.
- (A) Shrimp (B) Acorn barnacles
(C) Fin fish (D) Small sharks

89. Fluorescent antibody technique
- (A) The bacterial cell visible under the fluorescence microscope
 - (B) The internal part of the bacterial visible under the microscope
 - (C) The bacterial antigen visible under the fluorescence microscope
 - (D) The bacterial cells that have combined with the labeled antibody will be visible under fluorescence microscope
90. Bacteriophages are
- (A) Bacteria
 - (B) Viruses
 - (C) Protozoans
 - (D) Fungus
91. Pseudopodia are used for
- (A) Capturing of food substances
 - (B) Used for the protection
 - (C) Used for the reproduction
 - (D) Used for digestion
92. The name protozoa was given by
- (A) Gold Fuss (1817)
 - (B) Gold Berg (1867)
 - (C) Leeuwenhoek (1681)
 - (D) Dobell (1950)
93. Taq polymerase is an enzyme used for DNA polymerase chain reaction is isolated from bacteria living in
- (A) Higher temperature region of the ocean
 - (B) Lower temperature region of the ocean
 - (C) Medium temperature region of the ocean
 - (D) Acidic environmental region

94. Nitrogen and phosphorous from mariculture facilities leads to _____ of phytoplankton.
- (A) Mass mortality of microbes
 - (B) Fish-kills
 - (C) Die-offs
 - (D) Bloom
95. Central Institute of Fisheries Education (CIFE) is located in
- (A) Cochin
 - (B) Mumbai
 - (C) Chennai
 - (D) Bhubaneswar
96. Culture of more than one fish species is called
- (A) Mono-sex culture
 - (B) All male culture
 - (C) Mono-culture
 - (D) Poly-culture
97. Euryhaline fishes tolerate wide variation in
- (A) pH
 - (B) Temperature
 - (C) Alkalinity
 - (D) Salinity
98. Central Institute of Brackish Water Aquaculture (CIBA) is located in
- (A) Bhubaneswar
 - (B) Chennai
 - (C) Cochin
 - (D) Mumbai

99. The boundary zone between surface and deep water is
- (A) Thermocline (B) ~~✓~~ Pycnocline
(C) Thermohaline (D) Halocline
100. The flattest area found in the ocean named as
- (A) Abyssal hill (B) Sea mount
(C) Deep sea (D) Abyssal plain
101. The periodic rise and fall of the sea level is
- (A) Astronomical tide (B) Ocean tide
(C) Solar tide (D) Neap tide
102. Shore is divided into the _____ and the _____.
- (A) Near shore and Off shore (B) Back shore and Fore shore
(C) Shore line and Coastal line (D) Coast and Shore
103. Worldwide sea-air fluxes for the gas CH_4 is
- (A) 3.2×10^{12} g/year (B) 1.5×10^{14} g/year
(C) 1.4×10^{12} g/year (D) 2.7×10^{11} g/year
104. Several plants like diatoms and some chlorophyta and animals like radiolarians, pteropods and sponges present in the sea have silicified structure. Among them which one is most important organisms in the sea
- (A) Radiolarians (B) Pteropods
(C) Sponges (D) Diatoms

105. 1 calorie (cal) is _____ joules (J)
- (A) 4.184 (B) 32.420
(C) 0.841 (D) 10.932
106. What is the light intensity (MW cm^{-2}) in euphotic zone?
- (A) 10^5 (B) 10^{-3}
(C) 10^{-7} (D) 10^1
107. Which of the following is not required for microalgal culture?
- (A) Nitrogen (B) Copper
 (C) Mercury (D) Zinc
108. Which chemical is used for Narcotisation of zooplankton?
- (A) Eosin (B) Ethanol
(C) Sodium citrate (D) Zinc sulphate
109. Sea snakes are
- (A) Extremely poisonous (B) Mammals
(C) Non-poisonous (D) Does not have fangs
110. Marine animals, that burrows and living buried in the sediment is called _____ communities.
- (A) Aerobic (B) Anarobic
(C) Epifaunal (D) Infaunal

111. What is meant by GMBT, which involves in biodiversity conservation?
- (A) Gulf of Mannar Birds Trust
 - (B) Gulf of Mannar Biosphere Trust
 - (C) Gulf of Mannar Biota Trust
 - (D) Gulf of Mannar Bivalves Trust
112. A growing threat to global mangrove ecosystem is the climate change, which is pertaining to the changes in temperature, carbon dioxide, precipitation, hurricanes, storms and
- (A) Sea level
 - (B) Estuary level
 - (C) Lake level
 - (D) Pond level
113. The expansion of IHDP is
- (A) International Human Dimensions Programme on Global Environmental Change
 - (B) International Human Development Programme on Global Environmental Climate
 - (C) International Human Development Programme on Glorious Environmental Climate
 - (D) International Human Development Programme on Global Environmental Change
114. Microorganism inhabitants of the bottom of the oceanic region are referred to as
- (A) Pelagic organism
 - (B) Coastal water organism
 - (C) Benthic Microorganism
 - (D) Pelagic Microorganism
115. The Microorganism they do not have any role in the biogeochemical cycle are
- (A) Algae
 - (B) Bacteria
 - (C) Virus
 - (D) Yeast

129. The resting egg "Ehippia" is produced by
(A) Artemia (B) Copepod
 (C) Daphnia (D) Rotifer
130. Reduction of _____ to produce high energy organic substances is called autotrophic production.
(A) Oxygen (B) Nitrogen
 (C) Carbondioxide (D) Carbon monoxide
131. Which is called as sand dollar?
 (A) Mellita (B) Donax
(C) Ensis (D) Murex
132. Which is wrongly matched?
(A) Nanoplankton - Flagellates
(B) Micro zooplankton - Protozoa
(C) Macro zooplankton - Copepods
 (D) Mega zooplankton - Mysis
133. The naked pteropods is otherwise known as
(A) Thecosomes (B) Gymnosomes
(C) Cyclopid copepod (D) Calanoid copepod
134. The holoplanktonic zooplankton noctiluca belongs to
(A) Ciliate (B) Dinoflagellate
(C) Copepod (D) Salp

140. Scorpion fishes belongs to the genus

(A) Amphiprourus

(B) Pteropus

(C) Syngnathus

(D) Xiphophorus

141. Which one of the following is the "Smallest shark"?

(A) Squaliolus

(B) Mistichthys

(C) Pandaka

(D) Carcharodon

142. The Mackerel belongs to the genus

(A) Caranx

(B) Scomberomorus

(C) Rastrelliger

(D) Kowata

143. Shales and rays are

(A) Classic Benthic fishes

(B) Classic Hadal fishes

(C) Classic pelagic fishes

(D) None of these

144. Mural or snake head is the common name for

(A) Mugil cephalus

(B) Channa Striatus

(C) Chanos Chanos

(D) Mystus Gulio

145. Which is the fossil lamprey?

(A) Caspiomyzon

(B) Ichthyomyzon

(C) Myomyzon

(D) Eudontomyzon

146. The first marine finfish to be successfully cultured was

- (A) milk fish
- (B) sea bass
- (C) sparus aurata
- (D) seriola quinqueradiata

147. Scientific name of blood clam is

- (A) Anadara granosa
- (B) Paphia gallus
- (C) Tresus nuttallii
- (D) Solen spp.

148. Recreational fishing means

- (A) Catch and kill fish
- (B) Catch and release fish
- (C) Catch and cook fish
- (D) Catch and sale fish

149. OIE refers to

- (A) Fish disease related organization
- (B) Marine mammal related agency
- (C) Fishermen welfare organization
- (D) Import export regulating body

150. Toxic substances secreted by many dinoflagellates such as Gymnodium breve. Which give rise to?
- (A) red tide blooms (B) plankton blooms
(C) algal blooms (D) none of them
151. In heterotrophy, the organism depends
- (A) Partially on dissolved and particulate organic matter
 (B) Entirely on dissolved and particulate organic matter
(C) Partially on particulate organic matter
(D) None of them
152. Marine animals make a highly significant indirect contribution to the budget of dissolved organic material through the bacterial decay of their
- (A) faecal pellets (B) particulate matter
(C) dead animals (D) none of them
153. Decay of the dead organism by the mechanism of autolysis, the decomposition reaction are brought about by ————— present in the dead cell.
- (A) DNA (B) RNA
 (C) Enzymes (D) Lipids
154. The total soluble organic-carbon content of ocean waters usually present in the range of
- (A) 0.5 – 5.5 mg c/l (B) 0.3 – 3 mg c/l
(C) 1.3 – 2.9 mg c/l (D) 0.2 – 0.6 mg c/l
155. The organic matter in the sea having a diameter less than $0.5 \mu m$ is called
- (A) particulate organic matter (B) dissolved organic nitrogen
 (C) dissolved organic matter (D) particulate organic silicate

156. Large organisms that inhabit sediment covered shores are called
- (A) Inflora (B) Epiflora
 (C) In fauna (D) Out fauna
157. Bacteria play a major role in the _____ of organic materials.
- (A) Assimilation (B) Decomposition
(C) Deposition (D) Accumulation
158. Animal plankton in the sea is called
- (A) Phytoplankton (B) Zooplankton
(C) Neckton (D) Benthos
159. The marine environment sub-divided into two, one is benthic and the other is
- (A) Deep sea (B) Surface
(C) Hydrothermal vents (D) Pelagic
160. Dissimilar organism living together in close association is called
- (A) Parasitic (B) Symbiosis
(C) Fouling (D) Bleaching
161. Portuguese man-of-war is a
- (A) Fish (B) Jelly fish
(C) Dolphin (D) Crab

162. The vegetative reproduction of fungi is also called as
- (A) Sexual reproduction (B) Fruiting bodies
 (C) Somatic (D) Asomatic

163. Escherichia coli is a
- (A) Harmful bacteria
(B) Benifical bacteria
(C) Both harmful and benifical bacteria
(D) Benifical only for animals

164. Stock-culture collection referred to
- (A) Maintenance of Gram-Positive bacteria
(B) Maintenance of Gram-Negative bacteria
 (C) Maintenance and preservation of pure culture
(D) Maintenance of contaminated culture

165. Psychrophilic microorganisms can grow at
- (A) Very lower temperature
(B) Very high temperature
(C) Normal temperature
(D) Both normal and high temperature

166. Bacteria can sensed the chemicals by means of
- (A) Chemoreceptors (B) Chelating agent
(C) Chemotherapeutic agent (D) Cytotoxin

167. Fish family sciaenidae is known as

(A) Seabass

(B) Jew fish

(C) Milk fish

(D) Seer fish

168. In 2016 which fishery is highest in contribution to the total marine landings in India?

(A) Pelagic

(B) Demersal

(C) Crustaceans

(D) Molluscs

169. The total marine fishery landings in 2016 in Tamilnadu state was

(A) 10 lakh tonnes

(B) 5 lakh tonnes

(C) 7.07 lakh tonnes

(D) 9 lakh tonnes

170. What is the scientific name for thread fin bream fishes?

(A) Nemipterus vandalli

(B) Stolephorus commersonii

(C) Lutjanus lutjanus

(D) Chanos chanos

171. Which gastropod is fished for its opercular trade in market?

(A) Olivia gibbosa

(B) Umbonium vestiarium

(C) Turbinella pyrum

(D) Trochus Niloticus

178. Which of the following is responsible for ocean acidification?

- (A) CO₂ (B) CO
(C) He (D) Ar

179. Coccolithophores are formed during _____ period.

- (A) Triassic (B) Neogene
 (C) Jurassic (D) Cambrian

180. Who coined the word coccolith?

- (A) Huxley (B) Milliman
(C) Harper (D) Bown

181. The process of autoinhibition is exhibited in

- (A) Dunaliella Sp. (B) Tetraselmis Sp.
 (C) Chlorella Sp. (D) Chaetoceros Sp.

182. Which is called as "sea gooseberry"?

- (A) Pleurobractia (B) Sagitta
(C) Tomopteris (D) Beroe

183. What is the percentage of silica is present in the skeleton of a diatom?

- (A) 40-50% (B) 4-50%
(C) 10-20% (D) 20-40%

184. How many species are there in the order calanoida?

- (A) 1800 (B) 1875
(C) 1740 (D) 1850

185. Arrange these islands of Gulf of Mannar from North to South

1. Velanguchalli Island
2. Karaiyachalli Island
3. Koswari Island
4. Van Island

(A) 1 - 2 - 3 - 4

(B) 2 - 1 - 3 - 4

(C) 4 - 3 - 2 - 1

(D) 3 - 4 - 2 - 1

186. A part from sea birds, the oyster reefs are one of the most affected

(A) Estuarine habitats on earth

(B) Riverine habitats on earth

(C) Terrestrial habitats on earth

(D) Marine habitats on earth

187. SCOR (Scientific Committee on Oceanic Research) was the first interdisciplinary body formed by the International council for science (ICSU) in

(A) 1947

(B) 1967

(C) 1957

(D) 1977

188. Omnivore, an animal that feeds on

(A) Both plants and animals

(B) Plants alone

(C) Animals alone

(D) Detritus material

189. _____ is normally considered at the species level, species diversity of an area. It is a measure of both the number of species present and their relative abundance.

(A) Combination

(B) Associated organisms

(C) Diversity

(D) Biodiversity

190. The Brackish Water Fish Chanos Chanos is in English Commonly Called As

- (A) Grey Mullet (B) Milk Fish
(C) Sea Bass (D) Pearl spot

191. The commercially important cobia fish belongs to _____ family.

- (A) Halpodontidae (B) Clupeidae
 (C) Rachycentridae (D) Exocoetidae

192. Which of the following is incorrectly paired?

- (A) P. monodon – Giant tiger shrimp
(B) P. indicus – Indian white shrimp
(C) P. semisulcatus – Green tiger shrimp
 (D) P. penicillatus – Banana shrimp

193. Which species of gastropod is called as staircase shells?

- (A) Architectonia perspectiva
(B) Murex bacillus
(C) Oliva gibbosa
(D) Conus glans

194. The disease carrier which does not exhibiting signs and symptoms are called

- (A) symptomatic (B) asymptomatic
(C) desymptomatic (D) symphathetic

195. Which one of the following is the word boring mollusc?
 (A) Teredo (B) Pecten
(C) Solen (D) Sepia
196. Brachionus rubens belongs to the phylum
(A) Entoprocta (B) Lotifera
(C) Acanthocephala (D) Ectoprocta
197. Which one is commonly known as mushroom coral?
(A) Aurelia (B) Madrepora
(C) Gorgonia (D) Fungia
198. Where the gonads are develops in Aurelia?
 (A) Endothermal (B) Mesothermal
(C) Ectothermal (D) None of these
199. Name the cell which maintain the water current in sponge?
 (A) Choanocytes (B) Myocyte
(C) Chromocyte (D) Porocyte
200. The canal system of Sycon is known as
(A) Leucon type (B) Ascon type
(C) Rhagon type (D) Syconoid type