Post of Forest Apprentice in Tamil Nadu Forest Subordinate Service (Group-VI Services)

1. The techniques used to count the live microbes in the seawater is called
   (A) Phase contrast microscope technique
   (B) Epifluorescence microscope technique
   (C) Binocular microscope technique
   (D) Compound microscopic technique
   (E) Answer not known

2. Colloids and viruses can be effectively separated by using
   (A) 1 – 50 kDa molecular cut-off membrane
   (B) 30 – 40 kDa molecular cut-off membrane
   (C) 1 – 30 kDa molecular cut-off membrane
   (D) 30 – 300 kDa molecular cut-off membrane
   (E) Answer not known

3. The microbial loop concept was established in
   (A) 1980s
   (B) 1950s
   (C) 1920s
   (D) 1940s
   (E) Answer not known

4. Bacterial carbon demand is also called
   (A) Total amount of carbon required for multiplication
   (B) The amount of carbon required for respiration
   (C) The amount of carbon required to support respiration and synthesis of new biomass
   (D) The amount of carbon required for synthesis of new biomass
   (E) Answer not known

5. The red tides phenomena are due to the explosive growth of

(A) Zooplankton
(B) Bacteria
(C) Yeast
(D) Marine phytoplankton
(E) Answer not known

6. Halophilism refers

(A) Fresh water condition
(B) Hyper saline condition
(C) Ground water condition
(D) River water condition
(E) Answer not known

7. Cyanobacteria contains

(A) Bacterio chlorophyll
(B) No pigments
(C) Chlorophyll-a rather than bacteriochlorophyll
(D) Only chlorophyll-a
(E) Answer not known

8. The biogas production is achieved by

(A) Aerobic digestion
(B) Anaerobic digestion
(C) Both aerobic and anaerobic digestion
(D) Other chemical process
(E) Answer not known

9. Endosphores contain large amounts of

(A) DNA (Deoxyribo nucleic acid)
(B) DAP (Diamino pimelic acid)
(C) RNA (Ribonucleic acid)
(D) DPA (Dipicolinic acid)
(E) Answer not known

10. The diatomes coming under the group of

(A) Bacillariophycophyta (B) Chryophycophyta

(C) Phaeophycophyta (D) Chlolophycophyta

(E) Answer not known

11. The microbial components of pelagic food webs is termed as

(A) Microbial loop (B) Microbial disc

(C) Microbial toxicity (D) Pelagic loop

(E) Answer not known

12. Phylogenetic tree are attempts to represent evolutionary relationships among

(A) Closely related geneva (B) Closely related families

(C) Closely related species (D) Closely related orders

(E) Answer not known

13. The blue colour pigments of the algae is due to

(A) Chlorophylla (B) Phycocyanin

(C) Lignin (D) Papain

(E) Answer not known

14. The major users of dissolved organic matter (DOM) in the ocean are

(A) Autotrophs (B) Heterotrophic bacteria

(C) Saprophytes (D) Yeasts

(E) Answer not known

15. The size of the nanaflagellates are varied from

(A) 30-40 μm
(B) 20-200 μm
(C) 2-20 μm
(D) 40-50 μm
(E) Answer not known

16. Taq polymerase enzyme is derived from the extremophilic bacteria namely

(A) Thermous theromophilus
(B) Thermotoga maritima
(C) Thermous Parahaemolytics
(D) Thermous aquaticus
(E) Answer not known

17. Heterotrophic bacteria obtain energy via

(A) Photosynthesis
(B) Oxidation of dissolved organic matter
(C) Chemosynthesis
(D) Both Photosynthesis and Chemosynthesis
(E) Answer not known

18. The benthic nitrogen cycle is dominated by a diverse set of

(A) Dissimilatory microbial process
(B) Chemical process
(C) Physical process
(D) Bio-chemical process
(E) Answer not known

19. One species adversely affects the growth of another species is referred as

(A) Symbiosis
(B) Syntrophism
(C) Commensolism
(D) Antagonism
(E) Answer not known

20. Gram staining procedures used to identify
(A) Gram positive bacteria only
(B) Gram-negative bacteria only
(C) Both Gram-positive and negative bacteria
(D) Other than Gram-positive and Gram-negative bacteria
(E) Answer not known

21. The whales are belongs to
(A) Warm-blooded
(B) Cold-blooded
(C) Both (A) and (B)
(D) None of these
(E) Answer not known

22. Where the sea turtles are generally found in Sea?
(A) Continental slopes
(B) Abyssal plain
(C) Continental shelves
(D) Pelagic region
(E) Answer not known

23. Air bladder and caudal pedunele are absent in one of the following fish
(A) Puffer fish
(B) Butterfly fish
(C) Scorpion fish
(D) Sun fish
(E) Answer not known

24. Sucker fishes belongs to one of the following genus
(A) Echeneis
(B) Datnioids
(C) Carnax
(D) Scomberoides
(E) Answer not known

25. The 'ancillary gill-covers' and a long series of intermediate spines were present in

(A) Acanthodes
(B) Ischnacanthus
(C) Parexus
(D) Climatius
(E) Answer not known

26. The "Fish war" are the

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

27. Which one of the following is called as "Guppy"?

(A) Colisa
(B) Poecilia
(C) Macropodus
(D) Mollienisia
(E) Answer not known

28. Choose the following one which is Mouth Breeding cat fish?

(A) Tilapia
(B) Chassis
(C) Tachysurus
(D) Plotosus
(E) Answer not known

29. The exoskeleton of fishes are

(A) Epidermal
(B) Dermal
(C) Ectothermal
(D) Bony
(E) Answer not known

30. Choose the following one which is invertebrate chordate

(A) Otracoderm
(B) Hemichordata
(C) Placoderm
(D) Ascidia
(E) Answer not known

31. The coelom of Hemichordata is

(A) Schizocoelous
(B) Haemocoelous
(C) Enterocoelous
(D) All these above
(E) Answer not known

32. The water vascular system of Asterias contains

(A) Stone canal
(B) Radial canal
(C) Ring canal
(D) All the above
(E) Answer not known

33. Name the larvae of star fish

(A) Zoea
(B) Nauplius
(C) Miracidium
(D) Bipinnaria
(E) Answer not known

34. ———— segments are present in cephalothoracic of prawn.

(A) 19
(B) 13
(C) 11
(D) 15
(E) Answer not known

35. The respiration in Nereis happened through

(A) Gills
(B) Body surface
(C) Lungs
(D) Trachea
(E) Answer not known

36. Torsion is the characteristic feature for one of the following group

(A) Seaphopoda
(B) Aplacophora
(C) Pelecypoda
(D) Gastropoda
(E) Answer not known

37. The following one is the larva of phoronis

(A) Actinotrocha
(B) Zoea
(C) Pilidium
(D) Miracidium
(E) Answer not known

38. Mitre jelly fish is commonly known as

(A) Beroe
(B) Coeloplana
(C) Cestum
(D) Ctenoplana
(E) Answer not known

39. "Portuguese man of war" is known as

(A) Aurelia
(B) Physalia
(C) Metridium
(D) Obelia
(E) Answer not known

40. Demospongiae skeleton is made by

(A) Calcareous
(B) Siliceous
(C) Spongin fibres
(D) None
(E) Answer not known

41. Gill net is a simple gears operated from

(A) Ship
(B) Canoes
(C) Trawler
(D) Mechanised boat
(E) Answer not known

42. Pomfret fish, Pampus argenteus is a ———— feeder.

(A) Carnivore
(B) Microplankton
(C) Detritus
(D) Omnivore
(E) Answer not known

43. Flat fishes are also called as

(A) Milk fish
(B) Cat fish
(C) Seer fish
(D) Tongue soles
(E) Answer not known

44. Find out the scientific name for Indian Sand whiting fish

(A) Sillago sihama
(B) Chanos chanos
(C) Mugil cephalus
(D) Etropius Suratensis
(E) Answer not known

45. In prawn which family is very important in fishery

(A) Pandalidae
(B) Sergestidae
(C) Penaeidae
(D) Hippolytidae
(E) Answer not known

46. Prawn macrobrachium rosenbergii is distributed in

(A) Sea
(B) Freshwater and brackish water
(C) Lagoon
(D) Coral Reef
(E) Answer not known

47. In lobsters, abdominal segment with pleopods are used for

(A) Walking
(B) Swimming
(C) Lying
(D) Feeding
(E) Answer not known

48. In crabs the first pair of legs is

(A) Walking
(B) Swimming
(C) Chelate
(D) Absent
(E) Answer not known

49. Sexual dimorphism in male crab is revealed by presence of two pairs of ———— appendages at abdomen.

(A) Biramous
(B) Uniramous
(C) Triramous
(D) Tetramous
(E) Answer not known

50. Find out the cephalopod in the list

(A) Mussel
(B) Oyster
(C) Squid
(D) Abalone
(E) Answer not known

51. The colour of blood is Anadara rhombea is

(A) Blue
(B) Red
(C) White
(D) Green
(E) Answer not known

52. What is the name for croakers in Tamil?

(A) Kathali
(B) Madavai
(C) Oora
(D) Oluvai
(E) Answer not known

53. Which fish is called as pelagic fishery?

(A) Sharks
(B) Eels
(C) Cat fish
(D) Oil sardine
(E) Answer not known

54. Find out the nonpenaeid prawn name

(A) Penaeus monodon
(B) Acetes indicus
(C) Penaeus indicus
(D) Penaeus semisulcatus
(E) Answer not known

55. In which group squilla shell fish comes under

(A) Fin fish
(B) Stomatopods
(C) Elasmobranchs
(D) Molluscs
(E) Answer not known

56. In fish which species is called white pomfret

(A) Pampus argenteus
(B) Apolectis niger
(C) Leiognathus splenders
(D) Pampus Chinensis
(E) Answer not known

57. Which fish species is called ten pounder?

(A) Mugil cephalus
(B) Chanos chanos
(C) Etroplus suratensis
(D) Elops machnata
(E) Answer not known

58. Select the scientific name for Flying Fish of Tamil Nadu

(A) Sphyraena jello

(B) Hirundichthys coramandelensis

(C) Hilsa ilisha

(D) Liza palsia

(E) Answer not known

59. Choose the following which is incorrectly paired

(A) Metapenaeus dobsoni – Kadal shrimp

(B) Chanos chanos – Milk fish

(C) Panulirus omatus – Spiny lobster

(D) Anadara Granosa – Pearl oyster

(E) Answer not known

60. Name the species of gastropod is called as begger's bowl

(A) Babylonia spirata (B) Melo indica

(C) Cyprea moneta (D) Murex trapa

(E) Answer not known

61. Aquaculture cage size normally between ———— and ———— m^3.

(A) 90,000 – 95,000 m^2 (B) 40,000 – 50,000 m^2

(C) 10,000 – 20,000 m^3 (D) 500 – 1000 m^3

(E) Answer not known

62. When Tamil nadu enacted the Marine Fisheries Act

(A) 1947 (B) 2017

(C) 1983 (D) 1927

(E) Answer not known

63. Introduction of exotic candidate species for aquaculture with lead to
(A) only it compete for food, nothing else
(B) compete or replace the native organism
(C) never affect the native organism
(D) enhance the native biodiversity
(E) Answer not known

64. Genetically modified organisms
(A) Mutation in fishes
(B) Inbreeding in fishes
(C) Hybrid fishes
(D) Transgenic fishes
(E) Answer not known

65. Induced breeding of fishes can be done by ———— extracts.
(A) Liver
(B) Brain
(C) Testis
(D) Pituitary
(E) Answer not known

66. Gracilaria is a
(A) Sea grass
(B) Sea horse
(C) Sea fan
(D) Sea weed
(E) Answer not known

67. Fish kill phenomena due to
(A) low tide
(B) high tide
(C) toxic algal bloom
(D) beneficial zooplankton bloom
(E) Answer not known

68. Anoxia condition is cultivable shrimp ponds lead to

(A) No mortality of shrimp (B) Mass mortality of shrimp

(C) High level of dissolved oxygen (D) No influence in culture system

(E) Answer not known

69. The scientific name of Asian seabass is

(A) Mugil cephalus (B) Catla Catla

(C) Sardinella longiceps (D) Lates calcarifer

(E) Answer not known

70. Anchor worm disease in fishes caused by ———— parasite.

(A) Isopod (B) Nematode

(C) Lernaea (D) Cephalopod

(E) Answer not known

71. Motile trochophore is related with

(A) Fin fish (B) Sharks

(C) Shrimps (D) Oyster

(E) Answer not known

72. ———— sucks the blood of the host fishes in marine cages.

(A) Isopod (B) Argulus

(C) Nematode (D) Trematode

(E) Answer not known

73. Water pH affects the metabolism and physiological process of fish. The pH value of ———— assumed as 'Alkaline death points'.

(A) 11^+ (B) 4

(C) 7 (D) 4-6

(E) Answer not known

74. Total concentration of all ions in the water is called as

(A) Turbidity
(B) Dissolved oxygen
(C) Temperature
(D) Salinity
(E) Answer not known

75. India has ———— million km^2 of continental shelf.

(A) 0.13
(B) 0.33
(C) 0.53
(D) 1.96
(E) Answer not known

76. The code of conduct for responsible fisheries (CCRF) evolved by

(A) CMFRI
(B) CIFA
(C) WHO
(D) FAO
(E) Answer not known

77. Beche-de-mer is related with

(A) Sea weed
(B) Pearl production
(C) Fin fish
(D) Sea cucumber
(E) Answer not known

78. The process of removing Byssus threads remnants is called

(A) Mooring
(B) Depuration
(C) Shucking
(D) De-bearding
(E) Answer not known

79. ———— state has well established commercial Oyster farms.

(A) Orissa
(B) Goa
(C) Tamil Nadu
(D) Kerala
(E) Answer not known

80. Artemia is a ———— organisms being used in aquaculture hatcheries.

(A) Pellet feed
(B) Floating feed
(C) Algal feed
(D) Live feed
(E) Answer not known

81. Mangroves are ———— plant in the coastal wet lands of east and west coast of India.

(A) pH tollerent
(B) Drought tollerent
(C) Salt tollerent
(D) Acid tollerent
(E) Answer not known

82. Kyoto protocol is to limit or reduce the ———— gases.

(A) Green house
(B) White house
(C) Black house
(D) Oxygen
(E) Answer not known

83. Marine wood borers are ———— to the structures including wooden fishing boats.

(A) Destructive
(B) Beneficial
(C) No effect on structure
(D) Not a problematic organism
(E) Answer not known

84. Two types of coral reefs are generally present, one is fringing reef another is ———— reefs.

(A) Hanging reef
(B) Swimming reefs
(C) Floating reefs
(D) Barrier reefs
(E) Answer not known

85. Photophores in deep-water fishes produce

(A) Current
(B) Wave
(C) Chemicals
(D) Light
(E) Answer not known

86. Non-target fish caught is nets are called

(A) Target catch
(B) Incidental catch
(C) Simultaneous catch
(D) Opportunistic catch
(E) Answer not known

87. The Zooplankton which span their entire lives in the plankton are called

(A) Holoplankton
(B) Phytoplankton
(C) Nano-plankton
(D) Pico-plankton
(E) Answer not known

88. Paralytic shell fish poisoning is due to

(A) Harmful algae blooms
(B) Harmless algae blooms
(C) Harmfull Zooplankton growth
(D) Harmfull virus bloom
(E) Answer not known

89. Mud with high quantity of organic matter produces large quantity of _____

(A) Bacteria
(B) Dolphin
(C) Carnivorus fishes
(D) Sea birds
(E) Answer not known

90. Anomalous climatic condition centred in the tropical pacific is known as ———— event

(A) Upwelling
(B) High tide
(C) Low tide
(D) El nino
(E) Answer not known

91. The animals which eat the plants directly are known as

(A) Detritivores
(B) Predator
(C) Carnivores
(D) Herbivores
(E) Answer not known

92. A relationship where one animal gets food, shelter and damaging the host is called

(A) Host
(B) Partnership
(C) Parasitism
(D) Guest
(E) Answer not known

93. Certain marine organisms concentrate many substances with in their tissues, found in minute concentration in sea water in a process called

(A) Reproduction
(B) Bio synthesis
(C) Bio accumulation
(D) Bio fouling
(E) Answer not known

94. Sea otters are

(A) Reptiles
(B) Mammals
(C) Birds
(D) Fishes
(E) Answer not known

95. Native/local organism are called as

(A) Invasive species
(B) Endemic species
(C) Alien species
(D) Exotic species
(E) Answer not known

96. Incineration of garbage produce ———— which will add to global warming.

(A) Oxygen
(B) Ozone
(C) Carbon-di-oxide
(D) Water vapour
(E) Answer not known

97. ———— is an example for point source pollution.

(A) Mixed sewage run off from urban
(B) Sea wage pipe from a company
(C) Flood run off
(D) Agricultural common channel run off
(E) Answer not known

98. ———— is that a certain chemical compound is present in a certain habitat at a concentration high then a normal.

(A) Optimization
(B) Contamination
(C) Evaporation
(D) Sublimation
(E) Answer not known

99. Corals are colonial animal and individual coral animals are called as

(A) Byssus thread
(B) Hold fast
(C) Polyps
(D) Stipe
(E) Answer not known

100. The bioluminescence related with

(A) Salinity
(B) Photophores
(C) Swimbladder
(D) Caudal fin
(E) Answer not known

101. In some fish, a pneumatic duct connects the swim bladder to ———— to maintain the gas volume in swim bladder.

(A) Eye
(B) Kidney
(C) Fins
(D) Esophagus
(E) Answer not known

102. The ———— zone extends from the surface to a depth where enough light still exists to support photo synthesis.

(A) Abyssal
(B) Euphotic
(C) Hadal zone
(D) Aphotic
(E) Answer not known

103. Those organisms whose salinity of cellular fluid are less saline than the surrounding seawater are

(A) Isotonic
(B) Hypertonic
(C) Thermophilic
(D) Hypotonic
(E) Answer not known

104. ———— is the smallest plankton in classification based on size.

(A) Macro plankton
(B) Picoplankton
(C) Adult fish
(D) Adult shrimp
(E) Answer not known

105. ———— is an example for autotrophic.

(A) Fish
(B) Land animals
(C) Phytoplankton
(D) Sharks
(E) Answer not known

106. Clown fish Amphiprion Sebae and Sea anemone is the example of

(A) Commensalism
(B) Mutualism
(C) Endoecism
(D) Parasitism
(E) Answer not known

107. Diatoms occupies ———— trophic level in food chain.

(A) Fourth
(B) Third
(C) Second
(D) First
(E) Answer not known

108. The hydrocoral Millepora are often called as

(A) Water coral
(B) Soil coral
(C) Fire coral
(D) Air coral
(E) Answer not known

109. Wildlife Protection Act,

(A) 1980
(B) 1990
(C) 2000
(D) 1972
(E) Answer not known

110. IUCN (International Union for the Conservation of Nature) is an International Organization dedicated to natural resource

(A) Conversation
(B) Conservation
(C) Communication
(D) Complication
(E) Answer not known

111. Choose the following which is correctly paired

(A) Hermatypic coral – Polyp with Zooxanthellae
(B) Hermatypic coral – Polyp without Zooxanthellae
(C) Hermatypic coral – Polyp with particles
(D) Hermatypic coral – Polyp without particles
(E) Answer not known

112. The global warming increases the melting of the ———— ice caps.

(A) Forest
(B) Desert
(C) River
(D) Polar
(E) Answer not known

113. In the biodiversity areas of marine regions, dredging can affect marine benthic communities and their habitats leading to the loss of

(A) Feeding and breeding grounds
(B) Pelagic areas
(C) Demersal areas
(D) Fouling organisms
(E) Answer not known

114. Fucoxanthin, a reddish-brown pigment normally found in

(A) Algae
(B) Coral
(C) Fish
(D) Crab
(E) Answer not known

115. ———— required due to erosion of living resources with increasing human pressure in the coastal areas.

(A) Shrimp farm conservation
(B) Fish farm conservation
(C) Biodiversity conservation
(D) Pearl Oyster conservation
(E) Answer not known

116. Mangroves are present in a variety of Tropical coastal settings such as the deltas, estuaries ———— and coastal fringes.

(A) Sand
(B) Silt
(C) Clay
(D) Lagoons
(E) Answer not known

117. The Red tide phenomenon is caused by

(A) Blooming of Zoo plankton
(B) Blooming of Sea weeds
(C) Blooming of dinoflagellates
(D) Tidal magnitude
(E) Answer not known

118. ———— is the variability of life at its genetic, species and ecosystem levels of organization.

(A) Biorhythm
(B) Biological clock
(C) Biodiversity (Biological diversity)
(D) Bipedal
(E) Answer not known

119. A ———— is a natural group of inter-breeding individuals.

(A) Species
(B) Genus
(C) Plant
(D) Animals
(E) Answer not known

120. SCAR (Scientific Committee on Antarctic Research) is an inter-disciplinary committee of the

(A) International Council for Science
(B) International Council for Students
(C) International Council for Researchers
(D) International Council for Childrens
(E) Answer not known

121. Choose the following which is correctly paired?

(A) Ocean Management – Regulatory approach and Participatory approach
(B) Ocean Management – Irregular approach and Particular approach
(C) Ocean Management – Rational approach and Personal approach
(D) Ocean Management – Discontinuous approach and Primary approach
(E) Answer not known

122. The biodiversity of coral reefs is the highest in the Indo-Pacific region that includes the Philippines, Indonesia, New Guinea and

(A) Northern Australia
(B) England
(C) Japan
(D) Germany
(E) Answer not known

123. Gorgonian is a

(A) Estuary fan
(B) Ocean fan
(C) Sea fan
(D) River fan
(E) Answer not known

124. Consider the following pairs and which of the pair is correct?

(A) 4 oceans – 59 seas
(B) 3 oceans – 60 seas
(C) 5 oceans – 54 seas
(D) 6 oceans – 30 seas
(E) Answer not known

125. The fish that spawns in fresh water and then migrates into ocean to grow maturity is called as

(A) Behavioural pattern
(B) Catadromus
(C) Oceanodromus
(D) Anadromus
(E) Answer not known

126. The changes in ———— and ———— can increase or decrease the density of water at the surface, which can lead to convection.

(A) Temperature and salinity
(B) Temperature and depth
(C) Salinity and pH
(D) pH and depth
(E) Answer not known

127. The range of neap tide is

(A) more than 2 m
(B) more than 3 m
(C) less than 2 m
(D) more than 4 m
(E) Answer not known

128. The wave height divided by wave length is known as

(A) Wave amplitude
(B) Wave crest
(C) Wave sleepness
(D) Wave trough
(E) Answer not known

129. The most of ocean salinity is

(A) 35 psu
(B) 30 psu
(C) 28 psu
(D) 25 psu
(E) Answer not known

130. The slowdown of Gulf stream bringing a cooler and more extreme climate to

(A) North Atlantic
(B) Pacific
(C) North America
(D) North Europe
(E) Answer not known

131. The apparent colour of the water is affected by the combination of scattering and absorption of the

(A) Sunlight
(B) Moon light
(C) Infrared light
(D) UV-rays
(E) Answer not known

132. The intensity of incoming solar radiation is greatest in the ———— of the hemisphere during summer.

(A) Low latitude
(B) Mid- latitude
(C) High latitude
(D) Equator
(E) Answer not known

133. A ———— is a table top underwater mountain.

(A) Guot
(B) Abyssal plain
(C) Sea mount
(D) Ocean ridge
(E) Answer not known

134. Which one is the most productive area?

(A) Open ocean
(B) Coastal upwelling regions
(C) Estuaries
(D) Coastal down welling regions
(E) Answer not known

135. Geostrophic flow is not a

(A) Deep western boundary current
(B) Sverdrup transport
(C) Leeuwin current
(D) Langmuir circulation
(E) Answer not known

136. The difference between the sea level at high tide and low tide is called as

(A) Tidal frequency
(B) Tidal period
(C) Tidal range
(D) Tidal wavelength
(E) Answer not known

137. The amplitude of the tidal bulge varies directly with the

(A) Distance from the earth's center
(B) Mass of the attracting body
(C) Intermediate angle
(D) Rotating speed
(E) Answer not known

138. The divergence of the Ekman flow causes ———— on the equator.
(A) Down welling
(B) Upwelling
(C) Surface current motion
(D) Deep water current
(E) Answer not known

139. Subsurface current is caused by
(A) Thermohaline circulation
(B) Antarctic bottom water current
(C) North Atlantic current
(D) South Pacific Gyre
(E) Answer not known

140. The deepest basin in the World Ocean is
(A) Indian
(B) Atlantic
(C) Arctic
(D) Pacific
(E) Answer not known

141. The major reservoir of dissolved CO_2 in the ocean is
(A) Hot surface water
(B) Cool surface water
(C) Cold deep water
(D) Mid water
(E) Answer not known

142. The shape of the sea surface is dominated by local variation of
(A) Hydrology
(B) Pressure
(C) Gravity
(D) Waves
(E) Answer not known

143. Wind-driven circulation in the upper ocean forced by the wind. This circulation can be caused by

(A) Global wind

(B) Trade wind

(C) Periodic winds

(D) Local winds or winds in other regions

(E) Answer not known

144. The changes in gravity due to the motion of sun and moon relative to earth produces

(A) Wind

(B) Current

(C) Tide

(D) Circulations

(E) Answer not known

145. Salinity is directly proportional to the amount of ———— in the sea water.

(A) Chlorine

(B) Magnesium

(C) Calcium

(D) Potassium

(E) Answer not known

146. The depth of the ocean is usually measured by

(A) Echo sounder

(B) Acoustic doppler

(C) Pressure gauges

(D) Tsunameter

(E) Answer not known

147. Water covers more than ———— percent of the Earth's surface in the Northern hemisphere and over ———— percent in Southern hemisphere.

(A) 80 and 60
(B) 30 and 70
(C) 60 and 80
(D) 40 and 60
(E) Answer not known

148. Find out the common name for Savalai fish in Tamil

(A) Ribbon fish
(B) Seabass fish
(C) Mullet fish
(D) Milk fish
(E) Answer not known

149. Joides resolution designed and built to serve as a

(A) Fishing vessel
(B) Drilling vessel
(C) Cruise vessel
(D) Remotely operated vessel
(E) Answer not known

150. "The Physical Geography of the Sea" book written by

(A Sir John Ross
(B) Matthew Fontaine Maury
(C) Sir Edward Forbes
(D) Benjamin Franklin
(E) Answer not known

151. The nutrient cycling occurs mostly in the sea at

(A) Intermediate layer
(B) Surface layer
(C) Bottom layer
(D) In the sediments
(E) Answer not known

152. Phytoplankton normally satisfy their requirement of the element by direct assimilation of

(A) Ortho-phosphate (B) Particulate phosphorus

(C) Dissolved organic phosphorus (D) None of them

(E) Answer not known

153. Deposition of organic nitrogen compounds in sediments annually removes ———— tons of nitrogen from the sea.

(A) ca 9×10^6 tons (B) ca 8×10^7 tons

(C) ca 5×10^8 tons (D) ca 6×10^7 tons

(E) Answer not known

154. The vertical profile of particulate organic carbon indicates

(A) An increases with depth (B) Decreases with depth

(C) No change with depth (D) None of them

(E) Answer not known

155. Average concentration of total fatty acids in the sea is

(A) 0.9 $\mu g.C.1^{-1}$ (B) 5.0 $\mu g.C.1^{-1}$

(C) 8.0 $\mu g.C.1^{-1}$ (D) 6.2 $\mu g.C.1^{-1}$

(E) Answer not known

156. Dissolved organic carbon in the ocean usually lies in the range of

(A) 20 – 200 μg C 1^{-1} (B) 0.5 – 2 mg C 1^{-1}

(C) 0.5 – 2 μg C 1^{-1} (D) 10 – 20 mg C 1^{-1}

(E) Answer not known

157. The concentration of detritus, phytoplankton, zooplankton and fish corresponded to about

(A) 125, 20, 2 and 0.02 µg C/l

(B) 110, 30, 5 and 0.06 µg C/l

(C) 102, 36, 6 and 0.04 µg C/l

(D) 111, 23, 4 and 0.07 µg C/l

(E) Answer not known

158. Seasonal variations in the dissolved organic carbon content are usually restricted to the upper ———— and correlate with productivity.

(A) 50 m

(B) 100 m

(C) 150 m

(D) 200 m

(E) Answer not known

159. Majority of algal auxotrophs needed the most important dissolved organic substances is

(A) Thiamine

(B) Biotin

(C) Vitamin B_{12}

(D) None of the above

(E) Answer not known

160. The considerable amount of Gelbstoff liberated into the sea by the brown algae and its average concentration level in the oceans is

(A) Ca 3.5 mg/l

(B) Ca 1 mg/l

(C) Ca 0.5 mg/l

(D) Ca 1.6 mg/l

(E) Answer not known

161. The extracellular products production by algae are important sources of energy for other organisms and may also exert some

(A) Biological control

(B) Ecological control

(C) Bacterial control

(D) None of the above

(E) Answer not known

162. The organic materials from the land are transported to the sea by

(A) Wind and river
(B) Precipitation
(C) Volcanic activity
(D) None of them
(E) Answer not known

163. The organic materials play a vital role in

(A) Marine ecology
(B) Marine chemistry
(C) Physical part of the ocean
(D) None of the above
(E) Answer not known

164. Minor gases like N_2O, CO and CH_4 are produced by ———— in surface sea water.

(A) Organisms
(B) Air-sea interface
(C) Chemical processes
(D) None of the above
(E) Answer not known

165. The CO_2 carbonate equilibria is a capacity to act as buffer and control the

(A) pH and alkalinity of the sea water
(B) Density of the sea water
(C) Viscosity of the sea water
(D) Heat capacity of the sea water
(E) Answer not known

166. Denitrification process which appears to take place only in

(A) Anoxic water
(B) Oxic water
(C) Saturated water
(D) None of the above
(E) Answer not known

167. In Marine chemistry it is customary to define dissolved matter as those which will pass a

(A) 0.25 μm filter
(B) 0.65 μm filter
(C) 0.50 μm filter
(D) 0.45 μm filter
(E) Answer not known

168. Average bicarbonate HCO_3^- concentration in the sea water is

(A) 0.140 % by weight
(B) 0.026 % by weight
(C) 1.276 % by weight
(D) 0.003 % by weight
(E) Answer not known

169. Anoxic basins, the bacterial breakdown of organic matter in the bottom water leads to

(A) Increase of dissolved oxygen concentration
(B) Increase of CO_2 concentration
(C) Depletion of dissolved oxygen concentration
(D) Increase of N_2O concentration
(E) Answer not known

170. Average concentration of the calcium (Ca^{2+}) ions in sea water is

(A) 0.400 % by weight
(B) 0.023 % by weight
(C) 1.272 % by weight
(D) 0.560 % by weight
(E) Answer not known

171. The conductivity of sea water depends upon

(A) Pressure
(B) Temperature
(C) Temperature and pressure
(D) None of them
(E) Answer not known

172. Minor elements have residence times, in general ———— than the major elements in sea water.

(A) Higher
(B) Similar
(C) Lower
(D) None of them
(E) Answer not known

173. Higher values of salinity occur in subtropical oceans are due to

(A) High precipitation rate
(B) High evaporation rate
(C) Low precipitation rate
(D) Low evaporation rate
(E) Answer not known

174. The surface water salinity of oceans is maximum at latitudes of about ————, where evaporation exceeds precipitation.

(A) 19°
(B) 17°
(C) 20°
(D) 16°
(E) Answer not known

175. Sea water is a complex mixture consisting of

(A) An average 92.3% water and 7.7% salts
(B) An average 96.5% water and 3.5% salts
(C) An average 94.6% water and 5.4% salts
(D) An average 91.1% water and 8.9% salts
(E) Answer not known

176. Which among the following is not a primary producer?

(A) Phytoplankton
(B) Benthic algae
(C) Coral
(D) Zooxanthellae
(E) Answer not known

177. Microalgae helps in balancing the pH of aquatic systems by removing excess

(A) Nitrogen
(B) Oxygen
(C) Carbondioxide
(D) Hydrogen
(E) Answer not known

178. The Sargasso sea is located in

(A) Cyclonic gyres
(B) Anticyclonic gyres
(C) Arctic ocean
(D) Convergent gyres
(E) Answer not known

179. The most popular method of measuring productivity in the sea is ———— method.

(A) ^{235}U
(B) ^{12}C
(C) ^{14}C
(D) ^{10}C
(E) Answer not known

180. The Institute for Marine Environmental Research is located in

(A) Russia
(B) India
(C) England
(D) Mexico
(E) Answer not known

181. The marine Zooplankton salps belongs to

(A) Mollusca (B) Chordate

(C) Arthropod (D) Echinodermata

(E) Answer not known

182. Chaetognaths (or) arrow worms belongs to ———— Planktonic group.

(A) Herbivorous (B) Carnivorous

(C) Detritivorous (D) Omnivorous

(E) Answer not known

183. The concentration (g kg^{-1}) of strontium in seawater with a salinity of 35 ppt is

(A) 0.001 g kg^{-1} (B) 0.01 g kg^{-1}

(C) 0.03 g kg^{-1} (D) 0.07 g kg^{-1}

(E) Answer not known

184. Brown tides are caused by

(A) Diatom (B) Dinoflagellates

(C) Protozoan (D) Mollusc

(E) Answer not known

185. The Marine Biological Association of the United Kingdom was started in the year

(A) 1850 (B) 1888

(C) 1870 (D) 1860

(E) Answer not known

186. Brachionus plicatilis is a

(A) Copepod
(B) Diatom
(C) Rotifer
(D) Dinoflagellate
(E) Answer not known

187. The standing stock of Phytoplankton in the surface layer of the sea is

(A) < 1 mg chlorophyll a m^{-3}
(B) > 20 mg chlorophyll a m^{-3}
(C) > 1 mg chlorophyll b m^{-3}
(D) < 20 mg chlorophyll b m^{-3}
(E) Answer not known

188. The average net primary productivity of the open ocean is

(A) 125 gc/m^2/yr
(B) 1800 gc/m^2/yr
(C) 500 gc/m^2/yr
(D) 1300 gc/m^2/yr
(E) Answer not known

189. The Redfield ratio of C : N : P in the tissues of algae is

(A) 106 : 16 : 1
(B) 1 : 16 : 106
(C) 106 : 1 : 16
(D) 16 : 1 : 106
(E) Answer not known

190. One of the following is not a Zooplankton

(A) Fish egg
(B) Copepod
(C) Tintinnid
(D) Ceratium
(E) Answer not known

191. Heterococcoliths are found in ———— million-year-old sediments.

(A) ~ 200
(B) ~ 220
(C) ~ 250
(D) ~ 100
(E) Answer not known

192. Total number of structural groups present in coccoliths

(A) 2 (B) 4

(C) 10 (D) 8

(E) Answer not known

193. The algal group which contributed maximum primary production in Paleozoic era

(A) Brown algae (B) Green algae

(C) Red algae (D) Blue green algae

(E) Answer not known

194. Name the chelating agent used in microalgal culture

(A) Molybdenum (B) Vanadium

(C) EDTA (D) Calcium

(E) Answer not known

195. The minimum lethal dose of saxitoxin for human is

(A) 6 to 10 mg kg^{-1} (B) 7 to 16 mg kg^{-1}

(C) 10 to 50 mg kg^{-1} (D) 100 mg kg^{-1}

(E) Answer not known

196. The total primary production of benthic plants in sea the is

(A) less than 10% (B) less than 20%

(C) less than 50% (D) greater than 20%

(E) Answer not known

197. The wavelength which is quickly absorbed scattered and in near-surface water

(A) Red
(B) Blue
(C) Green
(D) Brown
(E) Answer not known

198. The salinity range of an estuary is

(A) 32 – 38
(B) 27 – 30
(C) 0 – 30
(D) 30 – 40
(E) Answer not known

199. The father of Oceanography

(A) John Murray
(B) Henry Moseley
(C) Edward Forbes
(D) Charles Wyville Thomson
(E) Answer not known

200. One of the following is the example of Meroplankton

(A) Sagitta
(B) Porpita
(C) Lucifer
(D) Nanplins
(E) Answer not known