

FISHES

1. *Which one of the following is applicable to fishes?*
 - a) Jawed vertebrates
 - b) Ectothermic
 - c) Paired fins
 - d) All
2. *Fishes originated during the:*
 - a) Ordovician period of the Palaeozoic era
 - b) Devonian period of the Palaeozoic era
 - c) Carboniferous period of the Palaeozoic era
 - d) Jurassic period of the Mesozoic era
3. *Which one of the following is known as a living fossil?*
 - a) *Latimeria*
 - b) Dipnoi
 - c) *Ostracoderm*
 - d) *Remora*
4. *The common name of Scoliodon is:*
 - a) Flying fish
 - b) Cuttlefish
 - c) Dogfish
 - d) Devil fish
5. *Which one of the following is correct about catfish?*
 - a) Placoid scales are present
 - b) Cycloid scales are present
 - c) Ctenoid scales are present
 - d) Scales are absent



6. *Pharyngeal gill slits are present in:*
- a) Dogfish
 - b) Devil fish
 - c) Jellyfish
 - d) Silverfish
7. *Which one of the following is a true fish?*
- a) Silverfish
 - b) Crayfish
 - c) Flying fish
 - d) Devil fish
8. *Dogfish is:*
- a) A freshwater bony fish
 - b) A marine cartilaginous fish
 - c) A marine bony fish
 - d) An extinct fish
9. *Ampulla of Lorenzini is a:*
- a) Thermoreceptor
 - b) Mechanoreceptor
 - c) Chemoreceptor
 - d) Photoreceptor
10. *Dipnoans are:*
- a) Marine lobed finned fish
 - b) Freshwater lobed finned fish
 - c) Freshwater cartilaginous lobed finned fish
 - d) Freshwater primitive fish



11. Which one of the following is different?
- a) *Protopterus*
 - b) *Neoceratodus*
 - c) *Lepidosiren*
 - d) *Latimeria*
12. Which one of the following is absent in a cartilaginous fish?
- a) Operculum
 - b) Pelvic fin
 - c) Pectoral fin
 - d) Placoid scale
13. Consider the following statements about *Hexanchus*:
- A) Most primitive living shark B) Inhabits warm water
- C) Jaw suspension is amphistylic D) Viviparous and placenta present
- The incorrect statements are:
- a) A and D
 - b) Band C
 - c) Band D
 - d) D
14. All tissues of elasmobranches can synthesize urea, except:
- a) Brain
 - b) Kidney and liver
 - c) Brain and blood
 - d) Blood and Kidney
15. Bull shark (*Carcharhinus leucas*) is found in:
- a) Seawater
 - b) Freshwater
 - c) Deltas
 - d) All



16. Which one of the following fishes can extract oxygen from water as well as from air?
- a) Lungfish
 - b) Bombay duck
 - c) Clownfish
 - d) Flute fish
17. Lungfish lack:
- a) Symmetrical diphyccercal tail
 - b) Separate dorsal fin
 - c) Renal portal system
 - d) Spiral valve in the intestine
18. Which one of the following is an incorrect match?
- a) *Amia* - Amphicoelous centra
 - b) *Polypterus* - Ganoid rhombic scales
 - c) *Polyodon* - Bony scutes and barbles
 - d) *Lophius* - Phosphorescent organs
19. Stomach is lacking in:
- a) *Gambusia*
 - b) *Fundulus*
 - c) *Labrus*
 - d) All
20. Fishes are cold-blooded, except:
- a) Tuna
 - b) Swordfish
 - c) Both a and b
 - d) None
21. Which one of the following is applicable to teleosts?
- a) Sucking jaw action
 - b) Air bladder



- c) Clasper
 - d) Heterocercal tail
22. *Holocephali* lacks:
- a) Spiracle opening
 - b) Cloaca
 - c) Ribs
 - d) All
23. The fish known to have evolved first was:
- a) *Ostracoderm*
 - b) *Latimeria*
 - c) *Gambusia*
 - d) *Polypterus*
24. Air bladder is a:
- a) Hydrostatic organ of a cartilaginous fish
 - b) Hydrostatic organ of a bony fish
 - c) Hydrostatic organ of a lamprey
 - d) Hydrostatic organ of a whale
25. In which one of the following is the spiral valve lacking in the conus arteriosus?
- a) *Protopterus*
 - b) *Neoceratodus*
 - c) *Lepidosiren*
 - d) All
26. *Catadromous* fish migrates from:
- a) River to sea
 - b) Sea to river
 - c) River to estuary
 - d) Estuary to sea



27. *Anadromous fish migrates from:*
- a) Estuary to river
 - b) Sea to estuary
 - c) River to sea
 - d) Sea to river
28. *Heart of a fish is:*
- a) One chambered
 - b) Two chambered
 - c) Three chambered
 - d) Four chambered
29. *Which one of the following is a correct statement?*
- a) The skeleton of *Scoliodon* is bony.
 - b) Clasper is present in bony fishes.
 - c) The heart of a fish is venous type.
 - d) In sharks, the scales are cycloid.
30. *An incorrect statement regarding *Scoliodon* is:*
- a) It is a marine cartilaginous fish
 - b) It has clasper
 - c) Operculum is present in it
 - d) Scroll valve is present in its intestine
31. *Fishes without scales and having sensory barbels around the mouth are called:*
- a) Dogfish
 - b) Catfish
 - c) Dipnoi
 - d) Flying fish
32. *Teleosts are characterised by the presence of:*
- a) Operculum



- b) Air bladder
- c) Both a and b
- d) Clasper

33. *Air bladder is not associated with:*

- a) Respiration
- b) Excretion
- c) Both a and b
- d) Clasper

34. *Electric fish is the common name of:*

- a) *Labeo*
- b) *Pristis*
- c) *Torpedo*
- d) *Scoliodon*

35. *Which one of the following is found both in elasmobranchs and holocephali?*

- a) Conus arteriosus
- b) Rectal glands
- c) Separate urinary and spermatid ducts
- d) All

36. *Match column I with column II and select the correct answer using answer codes:*

Column I

Column II

(A) Scale-less fish

1. Salmon

(B) Lobed fins

2. Hippocampus

(C) Prehensile tail

3. Latimeria

(D) Migratory fish

4. Catfish

Answer codes:

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



(c) 2 4 1 2

(d) 4 3 2 1

37. *What is incorrect about Latimeria?*

- a) Single representative of the coelacanthus
- b) Living fossil
- c) Rostral sense organ present
- d) The rostral sense organ is connected with olfactory organ

38. *Scoliodon lacks:*

- a) Ampulla of Lorenzini
- b) Mermaid's purse
- c) Maltase cross
- d) Homocercal caudal fin

39. *Match column I with column II and select the correct answer using answer codes:*

Column I

(A) Shagreen

(B) Tongue is lacking

(C) Adhesive disc

(D) Air bladder is lacking in adults

Column II

1. Pleuronectes

2. Echeneis

3. Rohu

4. Scoliodon

Answer codes

A B C D

a) 4 1 2 3

b) 3 4 1 2

c) 2 3 1 4

d) 4 3 2 1

40. *Consider the following statements:*

(A) Fishes are the first jawed vertebrates as the golden age of fishes

(B) Devonian is regarded

(C) Fishes are anamniotes

(D) Fishes lack urinary bladder

The incorrect statements are:

- a) A and C



- b) Band C
 - c) A, C and D
 - d) None
41. *Electric organ of Torpedo is modified:*
- a) Muscle cells
 - b) Nerve cells
 - c) Scales
 - d) Neuromast cells
42. *Which one of the following fishes contains high levels of mercury?*
- a) Swordfish
 - b) Tuna
 - c) Salmon
 - d) Catfish
43. *Brood pouch is the characteristic of:*
- a) *Scoliodon*
 - b) *Hippocampus*
 - c) *Gambusia*
 - d) *Anabas*
44. *Elasmobranchs include:*
- a) Sharks, rays and skates
 - b) Sharks, Polypterus and Gadus
 - c) Sharks, rays, skates and Chimaera
 - d) Sharks, skates and Latimeria
45. *Parental care is shown by:*
- a) Male *Hippocampus*
 - b) Female *Hippocampus*
 - c) Male *Scoliodon*
 - d) Male *Mugil*
46. *Which one of the following is a true fish?*



- a) Sea cow
- b) Sea pen
- c) Sea horse
- d) Sea cucumber

47. *Liver oil is a rich source of:*

- a) Vitamin A
- b) Vitamin D
- c) Vitamin B12
- d) Calcium

48. *A fish found in deep sea:*

- a) *Pleuronectes*
- b) *Protopterus*
- c) *Pristis*
- d) *Syngnathus*

49. *The unique feature of a fish's heart is that it has:*

- a) Only venous blood
- b) Only arterial blood
- c) No blood at all
- d) Mixed blood

50. *The important features of fishes are:*

- a) Presence of paired fins with fin rays
- b) Presence of gills borne on gill arches
- c) Venous heart
- d) All

51. *Which one of the following is viviparous?*

- a) *Anguilla*
- b) *Syngnathus*
- c) *Hippocampus*
- d) *Scoliodon*

52. *The nitrogenous waste product of fishes are:*

- a) Ammonia
- b) Urea
- c) Both ammonia and urea
- d) Uric acid

53. *Anguilla migrates from:*

- a) River to sea
- b) Sea to river
- c) Estuary to sea
- d) Sea to estuary

54. *Leptocephalus is the larval form of:*

- a) *Anguilla*
- b) *Polypterus*
- c) *Salmon*
- d) *Pristis*

55. *Consider the following statements about Lepisosteus:*

- (A) Presence of long jaws (B) Presence of spiral valve in the intestine
(C) Swim bladder is lacking (D) Spiracle is lacking

The correct statements are:

- a) All
- b) A, B and C
- c) A and B
- d) A, B and D

56. *Fertilisation is internal and occurs through copulatory organs in:*

- a) Elasmobranchs
- b) Holocephali
- c) A few teleosts
- d) All

57. *The scales become modified into protective spines in:*

- a) *Hippocampus*

- b) *Tetradon*
- c) *Syngnathus*
- d) *Acanthurus*

58. Which one of the following is lacking in elasmobranchs?

- a) Operculum
- b) Pectoral fin
- c) Scales
- d) Neuromast organ

59. Fishes lack:

- a) Neck
- b) Tympanum
- c) Eyelids
- d) All

60. Match the column I with column II and select the correct answer using answer codes:

Column I

Column II

(A) *Scoliodon*

1. Found only in cold and deep water

(B) *Carcharodon*
claspers

2. In males pelvic fins are modified into

(C) *Pristiophorus*

3. Man-eating shark

(D) *Rhinobatis*

4. Enlarged pectoral fin

Answer codes:

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

61. *Chondrichthyes* lack:

- a) Air bladder
- b) Ampulla of Lorenzini



- c) Rectal gland
- d) Conus arteriosus

62. Which one of the following statements is incorrect?

- a) The teeth of sharks are modified large placoid scales.
- b) The teeth of sawfish are formed by placoid scales.
- c) The sting of stingray is a modified placoid scale.
- d) None

63. Which one of the following is found in India?

- a) *Protopterus*
- b) *Neoceratodus*
- c) *Lepidosiren*
- d) None

64. What is incorrect about *Amphipnous*?

- a) Eel-like body
- b) Paired fins are lacking
- c) Swim bladder and pyloric caeca are absent
- d) None

65. Which one of the following undergoes aestivation during unfavourable condition?

- a) *Protopterus*
- b) *Anguilla*
- c) *Scoliodon*
- d) *Hippocampus*

66. The sucker of *Remora* is a modified:

- a) Pectoral fin
- b) Pelvic fin
- c) Dorsal fin
- d) Caudal fin



67. *Mermaid's purse is found in:*
- a) Sharks
 - b) Skates
 - c) Both sharks and skates
 - d) Dipnoi
68. *Gambusia is popularly known as:*
- a) Ratfish
 - b) Pipefish
 - c) Mosquitofish
 - d) Porcupinefish
69. *Lungfish includes:*
- a) *Protopterus, Neoceratodus and Lepidosiren*
 - b) *Protopterus and Latimeria*
 - c) *Neoceratodus and Pristis*
 - d) *Protopterus, Neoceratodus, Lepidosiren and Sphyma.*
70. *Caviar is obtained from:*
- a) *Acipenser*
 - b) *Amia*
 - c) *Polypterus*
 - d) *Birgeria*
71. *The correct match is:*
- a) Operculum - Bony fish
 - b) Clasper- Rohu
 - c) Electric organ - Sawfish
 - d) Brood pouch- Dipnoi
72. *Dipnoans are:*



- a) Not found in India
- b) Represented by three genera
- c) Devoid of operculum
- d) All

73. Which one of the following is popularly known as a climbing perch?

- a) *Anabas*
- b) *Clarius*
- c) *Heteropneustes*
- d) *Amia*

74. Accessory respiratory organ is found in:

- a) *Anabas*
- b) *Clarius*
- c) *Heteropneustes*
- d) All

75. Brood pouch is found in:

- a) Male sea horse
- b) Female sea horse
- c) Female *Scoliodon*
- d) Suckerfish

76. Pisces are:

- a) Largest class of vertebrates
- b) Smallest class of vertebrates
- c) First group of vertebrates
- d) First group of amniotes

77. Match column I with column II and select the correct answer using answer codes:

Column I

Column II

(A) Agglomerular kidneys

1. *Heptranchus*

(B) Predator of mosquito larvae

2. *Chimaera*

(C) Viviparous

3. *Gambusia*

Answer codes:

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

78. *In which one of the following is the blood colourless?*
- a) *Champscephalus*
 - b) *Chanocephalus*
 - c) *Pseudochanichthys*
 - d) All
79. *Among sharks, the longest gestation period is found in:*
- a) Dogfish
 - b) Bull shark
 - c) Horn shark
 - d) Whale shark
80. *Lophius piscatorius is commonly known as:*
- a) Frogfish
 - b) Devil fish
 - c) Angler fish
 - d) All
81. *In which one of the following fishes is the swim bladder neither a hydrostatic, nor a respiratory organ?*
- a) *Latimeria*
 - b) *Neoceratodus*
 - c) *Polypterus*

d) None

82. Which one is a freshwater aglomerular fish?

a) *Microphis boaja* (Pipefish)

b) *Labeo kalbasu* (Kalbosh fish)

c) *Notopterus chitala* (Chital fish)

d) *Channa striatus* (Shole fish)

83. Weberian apparatus is lacking in:

a) Goldfish

b) Scorpionfish

c) Pipefish

d) Flying fish

84. Which one of the following fishes bear an admixture of primitive and specialised characters?

a) *Polypterus*

b) *Anabas*

c) *Amia*

d) *Rhizodus*

85. There is a single dorsal fin in:

a) *Hexanchus*

b) *Chlamydoselanchus*

c) *Heptranchias*

d) All

86. In fishes, fins help in:

a) Swimming

b) Stabilising the body during stationary condition

c) Stabilising the body in water during swimming

d) All

87. Neotenus condition is shown by:

a) *Gadusia chapra*

b) *Mugil parsia*

c) *Clariababes*

d) *Polynemus*



88. Which one of the following is known as Indian carp?

- a) *Torpedo*
- b) Salmon
- c) *Labeo*
- d) *Sphyrna*

89. Commensalism is shown by:

- a) *Remora*
- b) Dipnoi
- c) *Syngnathus*
- d) *Exocoetus*

90. Lateral line system is present in:

- a) Marine fishes
- b) Freshwater fishes
- c) Larvae of fishes
- d) All

91. Tail is prehensile in:

- a) *Hippocampus*
- b) *Exocoetus*
- c) *Syngnathus*
- d) *Sphyrna*

92. Parental care is highly developed in:

- a) Dipnoi
- b) *Tilapia*
- c) Cartilaginous fishes
- d) *Harpodon*

93. The age of a fish can be determined:

- a) With the help of scales
- b) Measuring the size of the body
- c) With the help of the amount of food consumed
- d) By the type of the tail



94. *Which one of the following is not a protective device in fishes?*
- a) Electric organ and phosphorescent organ
 - b) Poison gland
 - c) Colouration
 - d) Maltase cross
95. *Organs of Fahrenholz are found in:*
- a) Larval dipnoi
 - b) Larval bony fishes
 - c) Skates
 - d) Sharks
96. *Neuromast organs are:*
- a) Thermoreceptor
 - b) Rheoreceptor
 - c) Photoreceptor
 - d) Auditory organ
97. *The air bladder is modified into lungs in:*
- a) *Neoceratodus*
 - b) *Protopterus*
 - c) *Lepidosiren*
 - d) All
98. *Maltase cross is found in:*
- a) Vertebrae of shark
 - b) Brain of shark
 - c) Clasper of shark
 - d) Alimentary canal of shark
99. *A fish lacks:*
- a) Head
 - b) Neck
 - c) Trunk



d) Tail

100. Consider the following statements:

(A) Scale size vary in different fish species

(B) Some species of flatfish have ctenoid scales on the eyed side of the body while cycloid scale on the opposite of the eyed side

(C) Scale type may vary with the sex

(D) In some species of flatfish, males have ctenoid scales while females have cycloid scales

The incorrect statements are:

a) A and B

b) B, C and D

c) C and D

d) None

101. Match column I with column II and select the correct answer using answer codes:

Column I

Column II

(A) Oophagy

1. *Clariallabes petricola*

(B) Stomach is lacking

2. *Holocephali*

(C) Neoteny

3. *Anableps tetraphthalmus*

(D) Four-eyed fish

4. *Pelagic thresher*

Answer codes:

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

102. In which one of the following are external gills present?

a) Juvenile bichirs

b) *Lepidosiren*

c) *Carcharodon*



d) *Pristiophours*

103. *Members of this family are able to absorb oxygen through the digestive tract.*

a) Callichthyidae

b) Loricaridae

c) Scoloplacidae

d) All

104. *Which one of the following is used for purification of wine and beer?*

a) Fish emulsion

b) Fish glue

c) Isinglass

d) All

105. *Match column I with column II and select the correct answer using answer codes:*

Column I (Mating system)

Column II (Fish)

(A) Monogamy

1. Herrings

(B) Polygamy

2. Hawkfish

(C) Polyandry

3. Sunfish

(D) Polygynandry

4. Anemone fish

Answer codes

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

106. *Pelvic, ventral and caudal fins are lacking in:*

a) *Anguilla*

b) *Neoceratodus*



c) *Hippocampus*

d) *Anabas*

107. Which one of the following scales is absent in bony fishes?

a) Placoid

b) Cycloid

c) Ctenoid

d) Ganoid

108. Tympanum, tympanic cavity and ear ossicles are:

a) Present in fishes

b) Absent in fishes

c) Present only in dipnoi

d) Present only in larval forms of fishes

109. Which one of the following types of fishes is used in biological control of mosquitoes?

a) Salmon

b) *Anguilla*

c) *Gambusia*

d) *Pristis*

110. Commensalism is shown by:

a) *Echeneis*

b) *Pristis*

c) *Latimeria*

d) *Syngnathus*

111. Isinglass is obtained from:

a) Liver of fishes

b) Intestine of fishes

c) Air bladder of certain fishes

d) Scales of certain fishes

112. Fishes are a good source of:

a) Protein



b) Carbohydrate

c) Fat

d) Vitamin E

113. *Erythrocytes are absent in:*

a) *Latimeria*

b) *Gambusia*

c) *Leptocephalus*

d) *Diodon*

114. *Which one of the following is a bony fish?*

a) Sawfish

b) Ratfish

c) Guitarfish

d) Suckerfish

115. *Migration in fishes is mainly associated with:*

a) Breeding

b) Feeding

c) Protection

d) None

116. *If a fish like rohu is taken out of water, it will soon die, but at the same time, a fish like Anabas, if taken out of water, will survive for some time because:*

a) It has stored oxygen

b) It can use atmospheric oxygen as it has accessory respiratory organ

c) Its gill is of a special type and can use atmospheric oxygen

d) None

117. *Which one of the following is known as Australian lungfish?*

a) *Neoceratodus*

b) *Protopterus*

c) *Lepidosiren*

d) *Amia*



118. *Poisonous spines are present on the operculum and on the dorsal fin in:*

- a) *Heteropneustes fossilis*
- b) *Astroscopus*
- c) *Neoceratodus*
- d) *Uranoscopus*

119. *Match column I with column II and select the correct answer using answer codes:*

Column I

Column II

*(A) Scoliodon
around eggs*

1. Males guard eggs by coiling

(B) Hippocampus

2. Males brood the eggs

(C) Pholis

3. Larvivorous

(D) Gambusia

4. Viviparous

Answer codes:

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

120. *Which one of the following fishes exhibit migration for the purpose of spawning:*

- a) Salmon
- b) *Hilsa*
- c) *Anguilla*
- d) All of these

121. *Which one of the following is an incorrect pair?*

- a) *Scoliodon* - Placoid scale
- b) *Mystus* - Giant river catfish
- c) *Polypterus* - Cycloid scale
- d) *Labeo* - Operculum

122. *Dorsal fin is modified into an adhesive disc in:*



- a) *Pristis*
- b) *Sphryna*
- c) *Echeneis*
- d) *Synaptura*

123. Which one of the following is known as a freshwater shark?

- a) *WaUago*
- b) *Labeo*
- c) *Anguilla*
- d) *Mystus*

124. The excretory and genital systems are completely separate in both sexes in:

- a) *Scoliodon*
- b) *Labeo*
- c) *Labeo* and *Catla*
- d) All of these

125. Which one of the following is correct about fishes?

- a) Oviparity
- b) Ovoviviparity
- c) Viviparity
- d) All of these

126. Which one of the following statements is incorrect?

- a) *Lepisosteus* and *Amia* are freshwater forms.
- b) In bony fishes, kidneys and gills play important roles in osmo and ionic regulation of ammonia and urea.
- c) The body of *Polydon* is covered with placoid scales.
- d) In *Lepidosiren*, during the breeding season males develop vascular papillae on the pelvic fin.

127. Consider the following statements with reference to rays and skates:

- (A) In rays and skates, pectoral fins are connected to the side of head forming a disc
- (B) Gill slits are located on the ventral side of the body
- (C) Electric organs are used by rays for communication



(D) Electric organs can generate a shock of up to 200 volts

The incorrect statements are:

- a) All
- b) A and B
- c) B, C and D
- d) None

128. *Consider the statements with reference to mangrove killifish:*

(A) Mangrove killifish can live inside trees

(B) Can change their body and metabolism, i.e., adjust to stay alive when out of water

(C) Gills are altered to retain water and nutrients while they excrete nitrogen through their skin

(D) They are hermaphrodite, having self-fertilisation

The correct statements are:

- a) BandC
- b) AandC
- c) C
- d) All

129. *Swim bladder is lacking in members of the family:*

- a) Anguilliformes
- b) Perciformes
- c) Pleuronectiformes
- d) All

130. *Match column I and column II and select the correct answer using answer codes:*

Column I

Column II

(A) Gastromyzon 1. Pelvic fin is modified into claspers

(B) Neoceratodus 2. Pectoral fins are modified for sensory function



(C) *Polynemus* 3. *Lobate leaf-like pectoral fins*

(D) *Skates and rays* 4. *Both paired fins participate in the formation of sucker*

Answer codes:

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

131. *A transitional condition of the swim bladder between the physostomous and physoclistous type is found in:*

a) *Anguilla*

b) *Pleuronectes*

c) *Dipnoi*

d) *Polypterus*

132. *Consider the following characters of *Lepisosteus*.*

(A) *Presence of numerous small cheek plates*

(B) *Opisthocoelous vertebrae*

(C) *Presence of pyloric caeca*

(D) *Air bladder with cellular wall*



Of these characters, the specialised characters are:

- a) All
- b) A and B
- c) Band C
- d) None

133. *Which one of the following is not applicable to fishes?*

- a) Sinus venosus
- b) Venous heart
- c) Single circulation
- d) Extra embryonic membranes

134. *Weberian apparatus is absent in:*

- a) Scorpionfish
- b) Ribbonfish
- c) Silver promfret
- d) All

135. *Which one of the following is a hermaphrodite fish?*

- a) *Hypoplecturus*
- b) *Amia calva*
- c) *Polymixia yuri*
- d) *Holtbymia*

136. *Ovaries, blood, eggs, liver intestine and skin of this fish contain poison which can be fatal:*

- a) Goldfish
- b) Puffer fish
- c) Porcupinefish
- d) Ratfish



137. Which one of the following is commonly known as a ratfish?

- a) *Pristis*
- b) *Diodon*
- c) *Chimaera*
- d) *Carassius*

138. Which one of the following is an incorrect match?

- a) Ganoid scales - *Lepidosteus*
- b) Bony plates/scutes - *Hippocampus*
- c) Ability to change sex - *Amphiprion*
- d) Electric organ - *Rhincodon*

139. Consider the following statements:

- (A) In fishes olfactory sacs play a key role in respiration
- (B) Eye of teleosts lack *campanula Halleri*
- (C) The body of *Fistularia* is covered with cycloid scales
- (D) In elasmobranchs, thyroid is a paired structure

The correct statements are:

- a) A, B and C
- b) B and D
- c) C and D
- d) None

140. What is incorrect about intestinal bulb?

- a) Intestinal bulb is a characteristic feature of cyprinids
- b) It is an organ for storage of food
- c) It secretes digestive enzymes
- d) It contains absorptive and mucous secreting cells

141. Direct afferent and efferent blood connection is lacking in:

- a) *Polypterus*
- b) *Amia*
- c) *Labeo*
- d) All



142. *Bitterling is applicable to:*
- a) *Clarius*
 - b) *Rhodeus*
 - c) *Anguilla*
 - d) *Clupea*
143. *Campanula Halleri is associated with:*
- a) Smell
 - b) Respiration
 - c) Excretion
 - d) Process of accommodation
144. *What is incorrect about Polypterus?*
- a) Spiracles are present.
 - b) A pair of gular plate is present.
 - c) Pharyngeohypophyseal duct remains open through life.
 - d) None
145. *In which one of the following fishes are males attached with the various parts of the female, and the blood vascular system of each parasitic male and that of female host join together?*
- a) *Vandellia*
 - b) *Ceratias*
 - c) *Carapus*
 - d) *Polyodon*
146. *External gills are found in:*
- a) Young of *Polypterus*
 - b) Larva of *Lepidosiren* .
 - c) *Necturus*
 - d) All



147. Which one of the following has the ability to feed both inside the host as well as when away from the host?
- a) *Lophius*
 - b) *Hexanchus*
 - c) *Carpus*
 - d) *Labrus*
148. An abdominal vein is present in:
- a) *Neoceratodus*
 - b) *Lepidosiren*
 - c) *Protopterus*
 - d) All
149. *Dipnoi* differs from amphibians in having:
- a) Dermal scales
 - b) Tooth plates
 - c) Vomerine teeth
 - d) Autostylic jaw suspension
150. Which one of the following shows sexual dimorphism?
- a) *Scoliodon*
 - b) *Lepidosiren* (during breeding season)
 - c) *Protopterus*
 - d) *Neoceratodus*
151. Which one of the following sometimes penetrates the urethra of men if they micturate while in water?
- a) *Polyodon*
 - b) *Vandellia*
 - c) *Carapus*
 - d) *Labrus*



152. *Glassfish is applicable to:*
- a) *Leptocephalus*
 - b) *Labrus*
 - c) *Carapus acus*
 - d) *Lophius*
153. *In which one of the following fishes is the amount of mineral so little that bones can be easily cut with a small knife?*
- a) *Regalecus*
 - b) *Mola*
 - c) *Cyclopterus*
 - d) All
154. *What is incorrect about Latimeria?*
- a) Only surviving representative of coelacanthus
 - b) Body is covered with cosmoid scales
 - c) Tail is diphyccercal type
 - d) Only one dorsal fin
155. *Accessory organ is lacking in:*
- a) *Protopterus*
 - b) *Neoceratodus*
 - c) *Lepidosiren*
 - d) None
156. *Spiral valve is either absent or vestigial in all teleosts except.*
- a) *Chirocentrus*
 - b) *Labrus*
 - c) *Amia*
 - d) *Clarias*



157. Which one of the following is incorrect about *Neoceratodus*?

- a) Frontanelles are present
- b) Does not aestivate
- c) Monopneumonous
- d) No sexual dimorphism

158. Oviducts are lacking in:

- a) Dipnoi
- b) Salmonidae
- c) Salmonidae and eels
- d) None

159. What is incorrect about *Chimaera*?

- a) Closed spiracle
- b) Cephalic and pelvic claspers
- c) Fleshy boneless skin flap or operculum
- d) Viviparous

160. Guitarfish is applicable to:

- a) *Rhinobatus*
- b) *Trygon*
- c) *Stegostoma*
- d) *Hexanchus*

161. Which one of the following is not a ganoid fish:

- a) *Polypterus*
- b) *Anguilla*
- c) *Polyodon*
- d) *Amia*



TRUE OR FALSE

1. Fishes are the first group of animals having paired jaws which are ectothermic.
2. Fishes have paired pectoral and pelvic fins.
3. Fishes lack middle ear. TRUE
4. Most nerves of fishes are non medullated FALSE
5. The vertebrae of fishes are either cartilaginous or bony. TRUE
6. The epithelial cells of adult *Scoliodon* are ciliated. FALSE
7. Placoid scale develops both from epidermis and dermis. TRUE
8. *Scoliodon* lacks gall bladder. FALSE
9. Organ of corti is well developed in fishes. FALSE
10. *Latimeria* swims by rotating the pectoral fins TRUE
11. Sexual dimorphism is distinct in *Neoceratodus*. FALSE
12. In chondrichthyes, jaw suspension is hyostylic. TRUE
13. In crossopterygians, spiracles are lacking. FALSE
14. The electric organs of *Astroscopus* are modified eye muscles. TRUE
15. Fishes have monocular vision. TRUE
16. In salmonidae, eggs come out through abdominal pores. TRUE
17. *Neoceratodus* has a paired air bladder. FALSE
18. *Holocephali* lacks opercular flaps. FALSE
19. *Holocephali* lacks stomach. TRUE
20. Adult teleosts have a mesonephric kidney. TRUE
21. All placoderms were jawed. TRUE
22. The urea concentration is high in the circulation of sharks but not in rays. FALSE



23. Elasmobranchs convert some urea to trimethylamine oxide. TRUE
24. The Mermaid's purse of dogfish contains a urea reserve. TRUE
25. Lateral line system is ill developed in actinopterygians. FALSE
26. *Anguilla anguilla* is able to breathe cutaneously both on land and in water.
TRUE
27. Teleosts lack vasa efferentia. TRUE
28. The embryo of *Scoliodon* synthesises urea and stores it in the yolk. TRUE
29. Short-fin mako shark and great white shark are endothermic. TRUE
30. Bull shark can excrete large amounts of urea by changing its kidney
function. TRUE





