**ElectiveCourse –Fisheries and Aquaculture**

**Subject code, P21Z1MBE1:1**

**Multiple Choice Questions & Key**

**UNIT - I**

1. Inland water is consider as

(a)Lagoon (b)Freshwater lake (c)Closed seas (d)Estuary

1. Estuarine water is consider as

(a) Freshwater (b) Sea water (c) Ground water (d) Brackish water

1. Report says about fin and shell fish production will be achieved from 7.6 to 9.7 billion people by

(a) 2030 (b) 2035 (c)2050 (d)2064

1. Fishes provide quality nutrients for

(a) Most vulnerable populations (b) Richest populations

(c) Developed country people (d) None of the above

1. Global catches in inland waters accounted from total capture fisheries production is

(a) 8.9 percent (b) 12.5 percent (c) 10.1 percent (d) 11.6 percent

1. Inland water is consider as

The share of finfish production decreased gradually from 2000 to 2018

(a) 67.2 to 41.5 percent (b) 97.2 to 91.5 percent

(c) 74.1 to 49.4 percent (d) 90.2 to 89.5 percent

1. India has a total water surface area of

(a) 1,98,567 sq km (b) 2,35,143 sq km (c) 3,14,400 sq km (d) None of the above

1. In Kerala, Orissa, Uttar Pradesh and Assam have large water body area as

(a) Under flood plain lakes and derelict water bodies (b) Under streams and pond

(c) Derelict water bodies (d) Under flood plain lakes

1. Maritime state is

(a) Madhiya Pradesh (b) Delhi (c) Jammu and Kashmir (d) Tamil Nadu

1. Tamil Nadu has suitable water spread area of -----------for fish culture.

(a) 1.7 lakh hectares (b) 6.8 lakh hectares (c) 2.9 lakh hectares (d) 3.7 lakh hectares

1. FAO is

(a) Forestry and Agriculture Organization (b) Food and Agriculture Organization

(c) Food and Aquaculture Organization (d) Foreign Agriculture Organization

1. CCRF is

(a) Code of Conduct for Responsible Fisheries (b) Country Consumer for Responsible Fisheries (c) Code of Conduct for Responsible Factories (d) None of the above

1. ha denotes

(a) hear and art (b) hectare (c) ) hand art (d) ) None of the above

1. ICAR is

(a) Indian Council of Aqua cultural Research (b) Indian Company of Agricultural Research

(c) Indian Council of Agricultural Research (d) Inter Council of Agricultural Research

1. IMC is consider as

(a) Indian major carps

(b) International major carps

(c) Indian major crops

(d) Indian minor carps

1. Network of Aquaculture Centers in Asia-Pacific is called as

(a) NACA

(b) NACAP

(c) NOACA

(d)NOACAP

1. NFDB is

(a) Nursery of Fisheries Development Board

(b) National Forestry Development Board

(c) National Fisheries Development Board

(d) Notable Fisheries Development Board

1. Expansion of ppm is

(a) posts per million

(b) parts per million

(c) ) past per million

(d) None of the above

1. ppt is

(a) parts per two

(b) parts per thirty

(c) parts per two hundred

(d) parts per thousand

1. In world’s fish production, India is consider as

(a) tenth rank

(b) second rank

(c) sixth rank

(d) fourth rank

1. In Indian major carps, total fresh water fish production is consider as

(a) 80 to 90 %

(b) 75 to 80 %

(c) 70 to 75 %

(d) 50 to 60 %

1. Giant river prawn is called as

(a) *Macrobrachium rosenbergii*,

(b) *Littopenaeus vennamei*

(c) *Penaeus indicus*

(d) None of the above

1. Brackish water Fish Farmers Development Agencies is abreviated as

(a) BWFDAs

(b) BWFFDAs

(c) BFDAs

(d) None of the above

1. CIFRI is

(a) Central Impart Fisheries Research Institute

(b) Central Inland Fisheries Research Institute

(c) Centre for Inland Fisheries Research Innovation

(d) None of the above

1. In 1994–1995, which fish was introduced into Andhra Pradesh from Bangladesh via West Bengal, India.

(a) striped catfish

(b) striped mullet

(c) sardine fish

(d) milk fish

1. Kolleru Lake is situated at

(a) East Godavari districts

(b) West Godavari and Krishna districts

(c) West Bengal

(d) None of the above

1. LWRs is

(a) Long-width relationships

(b) Low-weight relationships

(c) Length-weight relationships

(d) Large-weight relationships

1. (Kn) is consider as

(a) relative condition factor

(b) Known factor

(c) Knowledge

(d) None of the above

1. International Union for Conservation of Nature is

(a) IUFCN

(b) IUCON

(c) IUFCON

(d) IUCN

1. FCR is consider as

(a) food conservation rate

(b) feed conversion ratio

(c) feed consume range

(d) None of the above

1. BOD is called as

(a) Biological oxygen demand

(b) Biological organ development

(c) Bio-organic dose

(d) Basic oxygen demand

1. **A common trait between tadpole and fish is**

(a) scales

(b) lateral line

(c) fins

(d) legs

1. **This has a cartilaginous endoskeleton**

(a) Bony fishes

(b) Mollusca

(c) Dipnoi

(d) Elasmobranch

1. **True fishes have fins and gills. This is not a true fish**

(a) Hippocampus – SeaHorse

(b) Hythalamictyes – Silver carp

(c) Carassius – Goldfish

(d) Lepisma – Silverfish

1. **This fish shows dorsal fin modified into suckers**

(a) Neoceratodus

(b) Hippocampus

(c) Echeneis

(d) Torpedo

1. **This is a characteristic feature of fishes**

(a) gills and epidermal scales

(b) tail and epidermal scales

(c) gills and venous heart

(d) venous heart and tail

1. Collection of multiple food chains is known as

(a)food connection

(b)food web

(c)food tie

(d)food cover

1. Fish have mucus on their overlapping scales to

(a)prevent predators

(b)slide through water

(c)absorb oxygen

(d)release carbon dioxide

1. Due to scarce supply of food, in winter animals

(a)sleep

(b)die

(c)hibernate

(d)migrate

1. Which of the following fish group is most abundant in swamps?

(a)carps

(b)catfish

(c) mullet

 (d) clupeids

1. Which one is an indigenous major carp?

(a)common carp

(b)silver carp

(c)grass carp

(d)gangetic carp

1. Which one is the primary producer in fish pond

(a)daphnia

(b)moina

(c)arcella

(d)chlorella

1. Bhetki is

a.mullet

 b.mussel

 c.milk fish

 d.Asian sea bass

1. Which one is floating aquatic weed

a.waterlilly

 b.lotus

c.water hyacinth

d.hydrilla

1. Which culture technology is suitable for culture of sea bass

a.pen

 b.cage

c.pond

d.floating raft

1. Riverine system is placed in

a. open system

b. closed system.

c. both a and b

d. none of the above

1. Carnivores are always

a.producers

b.primary consumers

c.secondary consumers

d.tertiary consumers

1. Transfer of energy in a food chain is shown by

a.double arrow

b.nverse arrow

c.straight arrow

d.curved arrow

1. What is the maximum of carp fry production in India.

a.10,000 million

b. 17,000 million

c. 21,000 million

d. 32,000 million

1. Animals that feed on dead decaying organisms are called

a.scavengers

b.primary producers

c.primary consumers

d.secondary consumers

1. National fish of India is

a.Rastrelliger kanangurta

b.Labeo rohita

c.Catla catla

d.Clarias batrachus

1. Seaweed Nymphea produces

a.Alginic acid

b.Agar

c.Caragenen

d.Biotoxin

1. During decomposition, the living material is broken down into

a.feces

b.gas

c.water

d.humus

1. **This has a cartilaginous endoskeleton**

(a) Bony fishes

(b) Mollusca

(c) Dipnoi

(d) Elasmobranch

1. **Placoid scales are found in**

(a) paleontological fishes

(b) lung fishes

(c) bony fishes

(d) cartilaginous fishes

1. Shrimp production is maximum in which state–  
   (a) Andhra Pradesh

(b) Tamil Nadu  
(c) West Bengal

(d) Goa

1. Elasmobranchs remove NaCl through

(a)gills

(b)liver

(c)kidney

(d)rectal gland

1. Eutrophication is consider as

(a) Enrichment of organisms

(b) Enrichment of nutrients

(c) Favorable factor

(d) None of the above

1. India is home to more than ………. % of global fish biodiversity with 2200 species of fish and shellfish in the marine and inland waters.

(a) 10

(b) 20

(c)  30

(d) 40

1. In fishes, age and maturity are usually the best predictors of

(a) Absolute growth rates

(b) Relative growth rates

(c) Approximate  growth rates

(d) Convertible growth rate

**UNIT - II**

1. Which of the following is the characteristic feature of Fin fishery?  
a) Rearing of animals having fins  
b) Rearing of animals living only in freshwater  
c) Rearing of animals living only in marine water  
d) Rearing of aquatic plants

2. Which of the following is the characteristic feature of Shell fishery?  
a) Rearing of fishes  
b) Rearing of only bony fishes  
c) Rearing of aquatic animals having an outer shell  
d) Rearing of cartilaginous fishes

3. Management and rearing of fishes is called as \_\_\_\_\_\_\_\_\_\_\_\_  
a) Aquaculture  
b) Pisciculture  
c) Apiculture  
d) Fishery

4. The management and rearing of aquatic animals is called as \_\_\_\_\_\_\_\_\_\_\_\_  
a) Pisciculture  
b) Sericulture  
c) Aquaculture  
d) Fishery

5. Aquaculture is the management of marine fishes.  
a) False b) True c) True in land locked regions d) False in land locked regions

6. Which of the following is not a marine fish?  
a) Hilsa  
b) Pomfret  
c) Mackerel  
d) Singhara

7. Which of the following is not an edible marine fish?  
a) Salmon  
b) Labeorohita  
c) Mackerel  
d) Sardinella

8. The practice of catching the fish available naturally is known is \_\_\_\_\_\_\_\_\_\_  
a) Monoculture  
b) Capture fishery  
c) Polyculture  
d) Culture fishery

9. The type of fishery practised in small water bodies is called as \_\_\_\_\_\_\_\_.  
a) Culture fishery b) Small fishery c) Water fishery d) None of the above

10. Which of the following is not a freshwater fish?  
a) Labeorohita  
b) Labeocalbasu  
c) Mackerel  
d) Clariasbatrachus

11. Which of the following is not an edible freshwater fish?  
a) Anguilla  
b) Labeorohita  
c) Mystussinghala  
d) Wallagoattu

12. Which of the following is not a method of fish preservation?  
a) Chilling  
b) Baking  
c) Canning  
d) Salting

13. Which of the following is not the economic importance of fishes?

a) Source of food  
b) Source of water  
c) Good source of vitamins  
d) Polishing agent

14. Which of the following product of fishes is used for clearing wines?  
A) Shagreen  
b) Isinglass  
c) Fish flour  
d) Fish oil

15. Which of the following is a surface feeder?  
a) Catlacatla  
b) Labeorohita  
c) Magur  
d) Flying fish

16.Hypophysation is a technique primarily used in fisheries for

a)Breeding

b)Feeding

c)Capturing

d)None of the above

17.Which is an ornamental species of fish..?

(a). Catla.  
(b). Rohu.  
(c). Koi.  
(d). Singgi.

18.fish live near the surface of the seas or lake?

(a). Coastal.  
(b). Deep sea.  
(c). Demersal.  
(d). Pelagic.

19.Fish meat contain ….% protein?

(a). 40 – 45.  
(b). 15 – 25.  
(c). 10 – 15.  
(d). 25 – 45

20.Fish production is practiced with cultivation.

(a). Maize crop.  
(b). Wheat.  
(c). Paddy.  
(d). Pulse.

21. Catla is a..?

(a). Mid water feeder.  
(b). Surface feeder.  
(c). Both a and b.  
(d). Column feeder.

22. Rohu is a \_\_\_\_\_\_.

(a). Deep water feeder.  
(b). Shore feeder.  
(c). Mid water feeder.  
(d). Column feeder.

23. Fish are called fry, when\_\_\_\_\_\_.

(a). They hatch from eggs.  
(b). While they are larvae.  
(c). When they are capable of feeding themselves.  
(d). None of the above.

24. Fingerlings have\_\_\_\_\_\_.

(a). Scales.  
(b). Working fins.  
(c). Both a and b.  
(d). No working fins, but have scales.

25. Ichthyoplankton is/are\_\_\_\_\_\_.

(a). Eggs of the fish.  
(b). Larvae of the fish.  
(c). Both a and b.  
(d). None of the above.

26. Which is a foreign species of fish\_\_\_\_\_\_.

(a). Gold fish.  
(b). Nandus.  
(c). Nystus.  
(d). Lanchi

27.Adults of Latescalcarifer migrate towards \_\_\_\_\_\_\_\_\_\_\_\_ for spawning.

a) River

b) Estuary

c) Sea

d)Origin of river

28.\_\_\_\_\_\_\_ can be used to reduce seepage losses from ponds.

a)Bentonite

b)Zeolite

c)Carbamide

d)Hypochlorite

29.Paddle wheel aerator is an example of \_\_\_\_\_\_\_ type of aerator.

a)Diffuser

b)Gravity

c)Surface

d)Turbine

30.\_\_\_\_\_\_\_ can be constructed in dike near the water edge to stop acid runoff during rains.

a)Berm

b)Core

c)Mound

d)Crown

31.The larvae of mud crab pass through --------------------zoea stages before metamorphosing into megalopa stage.

a)Four

b)Six

c)Seven

d)Five

32.Generally EDTA is added as chelating agent in penaeid larval rearing tanks at the rate of ---------------------mg L-1

a)10

b)100

c)1000

d) 0.1

33.-------------------colour is most commonly applied on inside surface of maturation tanks in penaeid shrimp hatcheries.

a)White

b)Yellow

c)Green

d)Black

34.The larvae of *Macrobrachiumrosenbergii* exhibit schooling behavior up to ------------------- stage.

a)Fifth

b)Seventh

c)Eighth

d)Ninth

35.The most important characteristic of an antibody utilized for detection of pathogen is

a)Valence

b)Specificity

c)Memory

d)Quantity

36.The primary lymphoid organs in teleosts are ……..

a)Spleen and epigonal organ

b)Thymus and head kidney

c)Liver and intestine

d)Skin and bone marrow

37.----------- is a leading country in export of ornamental fishes.

a)USA

b)UK

c)Singapore

d)India

38 Discus fish breeds in ------------- waters.

a)Soft and acidic

b)Soft and alkaline

c)Hard and acidic

d)Hard and alkaline

39. In male live bearing fishes, anterior rays of -------- fin are modified in to gonopodium.

a) Dorsal

b) Pectoral

c)Pelvic

d) Anal

40. Eggs of goldfish are ---------- in nature.

a)Floating

b)Adhesive

c)Semi-adhesive

d)None of the above

41. \_\_\_\_\_\_\_ zone is generally preferred for semi-intensive farming  system.

a) Inter-tidal

b)Supra-tidal

c)Low lying areas

d)None of the above

42. Catla catla is commonly known as \_\_\_\_\_\_\_\_.

a) Agricultural lime stone

b)Catla fish

c) Cuttle fish

d) Cat fish

43. Bag nets are provided with \_\_\_\_\_ line to avoid overloading of shrimps.

a)Lazy

b)Lure

c)Scare

d)Loope

44. Particles of lime smaller than \_\_\_\_\_\_\_ micron are most effective.

a) 50

b) 40

c) 55

d) 60

45. Protozoeal larval stages of Penaeusmonodon feed on  --------------

a)Diatoms

b)Freshly hatched Artemianauplii

c)Rotifers

d)None of the above

46. --------------- are generally used for production of cultchless spats.

a) Polythene sheets

b) Coconut shells

c) Oyster shells

d) Roofing tiles

47. Most preferred food item of carp spawn–  
a) Rotifer

b) Phytoplankton  
c) Clliorelln

d) Chaetocerous

48. Rihand reservoir is known for the fishery of large sized–  
a) C. Mrigata

b) W. Aiiu  
c) P. Pnngasius

d) C. Catla

49. The fecundity of an individual fish is called–  
a) Absolute fecundity

b) Relative fecundity  
c) Ovarian fecundity

d) None

50. A breed of fish produced in the same year is known as–  
a) Year class

b) Age group  
c) Recruitments

d) None of the above

51. The productivity of a reservoir depends on its–  
a) Area

b) Plankton resources  
c) Stocking rate, exploitation methods and conservation methods

d) All

52. The Elasmobranchs contribute the maximum annual landing in India from–  
a) North east

b) South east  
c) South west

d) North east

53. Two fouling organisms of crab are–  
a) Isopods and myriopods

b) Blue and green mussle  
c) Barnacles and oysters

d) Cardium

54. Belly scutes are present in–  
a) Sardinella

b) Leiognathus  
c) Mugil

d) Chanos

55. The common indigenous larval fish is–  
a) Chandanama

b) Labeorohita  
c) Channapunciatus

d) Clariasbairachus

56.Coral reefs are found in India along the coasts of–  
a) Sagar Islands

b) Kerala  
c) Andaman & Nicobar Islands

d) Andhra Pradesh

57. Induced breeding was practiced first in –  
a) Brazil

b) India  
c) China

d) Japan

Answer a

58. Which induced breeding agent was developed indigenously ?  
a) Ova prim

b) Ovatide  
c) FSH

c) gnrh

59. Widely distributed bivalve along the coast of India is–  
a) Calm

b) Oyster  
c) Green mussle

d) Blue mussle

60. Indian Major Crops spawns in–  
a) Afternoon

b) Morning  
c) Night

d) Evening

**UNIT - III**

1. Annually, total fisheries potential of India is–  
a) 8.4 mt

b) 6.4 mt  
c) 6.2 mt

d) 10 mt

2. Following are the types of fish feed  
a) Pellet feed,Flake feed

b) Salt food,fresh food  
c) Vegitables

d) All human foods

3. Larvae of eel is known as–  
a) Leptocephalus

b) Cyphonata  
c) Phyllosoma

d) Spat

4. Argulus is commonly found in ponds with–  
a) Low saline water  
b) Low alkainity  
c) High turbidity

d) High organic matter

5. Single most cultured shellfish in world is–  
a) C. Gigas

b) Lobster  
c) Cuttle fish  
d) Scylla serrate

6. Indian hill trout is–  
a) Schizothorax

b) Rohu  
c) Mnrieus bola

d) Catla

7. Chromosome number in Indian Major Carps (IMC) Rohu is–  
a) 50

b) 46  
c) 88

d) 22

8. Main composition of fish inducing agent (Ova prim) is–  
a) LHRA

b) LHRA-analogue  
c) G n RH

d) FSH

9. To minimize the cannibalism of Wallagaattu which color is given to tanks-  
a) Green

b) Red  
c) Blue

d) Violet

10. Preparations of fish feed by maximizing profit and minimizing cost is possible by–  
a) Pearson square

b) Linear programming  
c) Heat and trail

d) Complex square

11. Grass carp are used for control of–  
a) Phytoplankton

b) Macrophytes  
c) Zooplankton

d) Insects

12. Adults of which of the following fishes are iliophagous in their feeding habit–  
a) Etroplussuratensis

b) Mugilceplialus  
c) Mugil Persia

d) Pobjnemustetradacrflus

13. A fish seed hatchery can well run by obtaining iron free water from–  
a) Tube well

b) Bore well  
c) River

d) Pond

14. *Ichthyophthiris multifilis* belongs to the group of–  
a) Fungi

b) Nematode  
c) Crustacea

d) Protozoa

15. Integrated farming of rice and fish results in an increase of rice  
production by–  
a) 5-8 %,

b) 8-12 %  
c) 15- 20 %

d) 25-30 %

16. The number of barbels in catfish family Tachysuridaeare–  
a) Two pairs

b) Three pairs  
c) Four pairs

d) One pair

17. Carp fry production in India stand at about–  
a) 10, 000 million

b) 17, 000 million  
c) 21, 000 million

d) 32, 000 million

18. Chinese dip - nets are most common in–  
a) West Bengal.

b) Gujarat  
c) Kerala

d) Andhra Pradesh.

19. Which of the following species is hermaphrodite ?  
a) O. Mossambicus

b) M. Cephallus  
c) Epinepltilustaurina

d) Chamoschanos

20. The most efficient gear used for exploiting the pelagic fishery resources along Karnataka coast is–  
a) Rampani

b) Beachsiene  
c) Dol net

d) Scoop net

21. In fish, population studies indicates–  
a) Survival rate

b) Mortality rate  
c) Growth rate

d) Recruitment

22. Fish feed is called   
a) Flake feed

b) Artificial feed  
c) Natural feed

d) Andhra Pradesh

23. The national fish of India is–  
a) Rastrelliger kauagurta

b) Labeo rohita  
c) Catla catla

d) Clarias batrachus

24. Global marine fish production is the highest in–  
a) North America

b) Africa  
c) Asia

d) Australia

25. Process that nutrient-rich subsurface water come to the surface is known as–  
a) Upwelling

b) Downwelling  
c) Ups welling

d) Downswelling

26. First transgenic associated fish production, associated group–  
a) Zhu et al.

b) Palmitter et al.  
c) elm et al.

d) Dabla et al.

27. One million carps spawn weighs–  
a) 150 g

b) 600 g  
c) 1500 g

d) 250 g

28. Seaweed Nymphea produces–  
a) Alginic acid

b) Agar  
c) Caragenen

d) Biotoxin

29. Fresh water prawns yields eggs @  
a) 100 nos./ g

b) 500 nos./ g  
c) 1000 nos./ g

d) 5000 noe g

30.The inland fish production is almost \_\_\_\_\_\_\_ of total fish production in India–  
a) Over 50 %

b) 30 % I  
c) 20. %

d) 40 %

31. Shrimp production / ha is maximum in which state–  
a) Andhra Pradesh

b) Tamil Nadu  
c) West Bengal

d) Goa  
  
32. The Indian edible oyster is–  
a) Pernaviridis

b) Crassostreamadrasensis  
c) Vanmalitterata

d) Sepia aculeate

33. Recommended level of chlorination of process water in the fish processing plant is–  
a) 10 ppm

b) 50 ppm  
c) 100 ppm

d) 150 ppm

34. Which among the following organisms is considered as an indicator species for the abundance of oil sardine?  
a) Skeleionema costa turn

b) Fragilariaoceanica  
c) Brachionusplicatilis

d) Artemiasalina

35. Beche-de-mere is obtained from–  
a) Sea cucumben

b) Seafen  
c) Sea lily

d) Sea turtle

36. Dorsal fin erosion in fish is due to deficiency of which amino acid–  
a) Lysine

b) Histidine  
c) Tryptophan

d) Leucine

37. The scientific name of Indian halibut is–  
a) Harpodonnehereus

b) Gambusiaaffinis  
c) Chanoschanos

d) Psettodeserumei  
  
38. Which of the following fishes uses the sticky mucus secreted its skin for preparing nests for egg laying ?

a) Gasterosteus

b) Trichogaster  
c) Protopterus

d) Lepidopterus

39. Dominant species of mussel available in East Coast of India is–  
a) Penza indica

b) Pernaviridis  
c) Lamellidensmarginalis

d) Parassia corrugate

40. Indian reservoirs produce fishes annually–  
a) 10 kg/ha

b) 15 kg/ha

c) 20 kg/ha

d) 40 kg/ha

41.Fresh water snake is–  
a) Wallagaattu

b) M. Armatus  
c) C. Batrachus

d) M. Seenghala

42. CIFAX is developed by which ICAR institution–  
a) CIBA b) NBFGR  
c) CICFRI d) FSH  
43. Crustacean known as sea lice is \_\_\_\_\_.  
a) Argulus

b) Caligus  
c) Cymothoa

d) Ergasilus

44. Fish cell lines are used for–  
a) Bacteria

b) Virus  
c) Protozoan

d) Ectoparasites  
  
45. Black pearl is obtained from–  
a) P. Margaratifera

b) P. Maxima  
c) P. Fucuta

d) P. Sutchi

46. The European eel breeds in the sea–  
a) China Sea

b Red Sea  
c) Sargasso Sea

d) Arabian Sea

47. Migration from fresh water to marine water for reproduction is known as–  
a) Anadromous

b) Catadromous  
c) Amphidromous

d) Potamodromous

48. Scoliosis and Lordosis is due to deficiency of–  
a) Vitamin – A

b) Vitamin - C  
c) Vitamin - B complex

d) Vitamin – D  
49. Do fish eat rice?

a) Yes b) No c) At times d) On full moon days

50. Herbivorous fish eats  
a) Algae&Plants

b) Algae only

c) Plants only

d) Vegetables only  
51. Is rotifers a phytoplankton  
a) Important component of plankton

b) Artificial food  
c) Both a&b

d) None of these

52. Seaweeds are a rich source of–  
a) Carbohydrates

b) Protein  
c) Iodine

d) Fat  
53. The pelagic fish production in India is how much of the total marine production ?  
a) 25 %

b) 50%  
c) 30%

d) 10%  
54. Cage culture started first from–  
a) Indonesia

b) Egypt  
c) Japan

d) USA

**55. Adaptive radiation in fishes started about number of million years ago**:

(a) 1200

(b) 500

(c) 1000

 (d) 1500

**56. Bony armor fishes are:**

a) Placoderms

  b) Ostracoderms

  c) Elasmobranchs

  d) None

**57. The fish remained buried in the mud and sand is:**

a) Ostracoderms

b) Lamprey

c) Hag Fishes

d) Sharks

**58. Sucking mouth and rasping tongue is present in :**

a) Ostracoderms

b) Hag fishes

c) Lampreys

d) Sharks

**59. The larva of Lamprey is:**

a) Trochophore

b) Tadpole

c) Ammocoete

d) Tonaria

**60. Placoid scales are present in:**

a) Salmons

b) Lamprey

 c) Sharks

 d) Hag Fishes

**UNIT - IV**

1. Which one of the following oil cake is used to kill fishes within few hours?

(a) Mahua

(b) Castor

(c) Peanut

(d) Hemp

1. COD is consider as

(a) Chemical oxygen demand

(b) Carbonic oxide demand

(c) Carbon and oxygen demand

(d) None of the above

1. Primary consumer is (a) Phytoplankton

(b) Fishes

(c) Shrimps

(d) Zooplankton

1. Sulphur reducing bacteria is

(a) Anaerobic forms

(b) Aerobic forms

(c) Heterotrophic forms

(d) None of the above

1. Exertion of BOD ( Biological Oxygen Demand) by micro organisms is called \_\_\_\_\_

(a) Transpiration

(b) Eutrophication

(c) Deoxygenation

(d) Reoxygenation

1. Exotic shrimps that are cultured.

(a) *Litto Penaeus vennamei*

(b) Penaeus indicus

(c) *Macrobrachium rosenbergii*

(d) *Macrobrachium macolmsonii*

1. Aquatic pests of finfish is consider as

(a) Mullet

(b) Sardine

(c) Tilapia

(d) Milk fish

1. Lates calcarifer is called as

(a) Milk fish

(b) Mullet

(c) Sea bass

(d) None of the above

1. TSS is

(a) Total support solution

(b) Total suspended solids

(c) Turbid sort solution

(d) Total solid solution

1. NTU is consider as

(a) Nephelometric Turbidity Units

(b) Nephron test units

(c) Nutrient test units

(d) None of the above

1. DSS is called as

(a) Density sort suspension

(b) Description of suspended solids

(c) Dissolved suspended solids

(d) Density of solid solution

1. Optimum concentration is

(a) Harmful condition to organisms

(b) Favorable condition to organisms

(c) Low or high concentration

(d) None of the above

1. Mass mortalities happened due to

(a) Normal condition of environment

(b) Deterioration of environmental conditions

(c) Optimum concentration of environmental conditions

(d) None of the above

1. Phytoplankton biomass, uncharacteristically high for a given water body is called as

(a) plankton diversity

(b) plankton distribution

(c) plankton species

(d) plankton bloom

1. BOD (Biological Oxygen Demand) of treated waste should be \_\_\_\_\_.

(a) less than 30mg/L

(b) less than 150mg/L

(c) ) Nil

(d) less than 200mg/L

1. Which of the following filters will produce the highly bacterial free water.

(a) Slow sand filter

(b) Rapid sand filter

(c) Gravity filter

(d) both a and b

1. TOC is

(a) Turbidity optimum concentration

(b) Turbid organic carbon

(c) Total organic carbon

(d) None of the above

1. IP is consider as

(a) invalid phosphate

(b) Individual products

(c) Inorganic phosphate

(d) Input phosphate

1. DO is called as

(a) Dose of organic matter

(b) Dissolved organic matter

(c) Dissolved oxygen

(d) None of the above

1. When excess organic materials, such as large algal blooms, are decomposed by microorganisms, \_\_\_\_\_\_\_\_\_\_is created.

(a) Hypoxia

(b) Anoxia

(c) High DO

(d) None of the above

1. Low levels of oxygen is called as

(a) Hypoxia

(b) Anoxia

(c) ) High DO

(d) None of the above

1. NARS is

(a) National Advanced Resource Surveys

(b) National Academic Report Surveys

(c) National Aquatic Resource Surveys

(d) National Agreement Report System

1. Winkler’s method is used determine the

(a) Carbondioxide

(b) Salinity

(c) pH

(d) DO

1. Refractometer used to measure the

(a) Nitrate

(b) Calcium

(c) Temperature

(d) Salinity

1. Carbonic acid is formed in water by

(a) Oxygen

(b) Organic matter

(c) Temperature

(d) Carbondioxide

1. Harpacticoid copepods is consider as

(a) Benthic forms

(b) Column dwelling

(c) Pelagic forms

(d) None of the above

1. Calanoid copepods is

(a) Drifting organisms

(b) Swimming organisms

(c) Sedentary organisms

(d) None of the above

1. Physical parameter is

(a) Electrical conductivity

(b) Nitrogen

(c) Bacteria

(d) Hardness

1. Chemical parameter is

(a) Alkalinity

(b) Taste

(c) Turbidity

(d) Algae

1. Low concentration of DO in water indicates

(a) Normal water

(b) Low pollution

(c) Highly polluted water

(d) None of the above

1. Turbidity consist of

(a) Biological things

(b) Nutrients alone

(c) Microbial things

(d) Silt, clay and organic matters

1. High turbidity is supported to

(a) Fishes

(b) Fingerlings

(c) Harmful microorganisms

(d) None of the above

1. Turbid particles can act as media for

(a) Fry

(b) Juveniles

(c) Prawn

(d) Heavy metals

1. Muddy water can have turbidity readings of more than

(a) 1 NTU

(b) 20 NTU

(c) 5 NTU

(d) 100 NTU

1. Ideal water temperatures range from

(a) 25-35 degrees Fahrenheit

(b) 30-35 degrees Fahrenheit

(c) 45-50 degrees Fahrenheit

(d) 50-60 degrees Fahrenheit

1. Water color will be changed by

(a) Decayed organic matters

(b) Microbes

(c) Fingerlings

(d) None of the above

1. Pure water contains color scale ranges from

(a) 1-4 color units

(b) 5-25 color units

(c) 1-70 color units

(d) No color units

1. Total dissolved solids in freshwater is

(a) More than 1500mg/L

(b) Less than 1500mg/L

(c) 1500 - -5000mg/L

(d) None of the above

1. Water with high conductivity means

(a) It contains low amount of contaminants

(b) It contains free from the contaminants

(c) It contains high amount of contaminants

(d) None of the above

1. Electrical conductivity unit for water is

(a) mg/m

(b) ml/m

(c) cfu/l

(d) mS/m

1. Hardness in water is caused by

(a) Magnesium and calcium ions

(b) Sodium and chloride ions

(c) Nitrite and nitrate

(d) Sodium ion

1. Eukaryotic group of phytoplankton is

(a) Cyanophyta

(b) Criptophytes

(c) *Spirullina sp.*

(d) None of the above

1. Chrysophyseae is

(a) Blue green algae

(b) Green algae

(c) Golden brown algae

(d)Yellow-green algae

1. mg/L is

(a) parts per billion

(b) Parts per thousand

(c) parts per million

(d) None of the above

1. Suspended solids is measured by

(a) Turbidity rod

(b) Spectrophotometer

(c) Chromatography

(d) Gravimetric

1. Color of water is determined by

(a) Hydrometer

(b) Spectrophotometer

(c) Gravimetric

(d) T intometer

1. Rod shaped bacteria is

(a) Bacilli

(b) Vibrio

(c) Cocci

(d) None of the above

1. Coliforms are identified by

(a) Coliform index

(b) MPN test

(c) Membrane filter test

(d) None of the above

1. \_\_\_\_\_\_ is a bacterial disease.

(a) Amoebic dysentery

(b) Typhoid

(c) Hepatitis

(d) Poliomyelitis

1. Reddish brown deposit is formed by \_\_\_\_\_\_\_ in water.

(a) E. Coli

(b) Bacillus

(c) Sulphur bacteria

(d) Iron bacteria

1. Determination of chloride ions is done using \_\_\_\_\_\_ as the indicator.

(a) Potassium dichromate

(b) Potassium permanganate

(c) Potassium chromate

(d)None of the above

1. Water is a

(a) Non-polar solvent

(b) Polar solvent

(c) Non-polar uncharged solvent

(d) None of the above

1. Which pollutants is considered as a major marine pollution

(a) Agriculture runoff

(b) Oil spill

(c) Industrial waste waters

(d) Sewage

1. The gram positive bacteria is

(a) *Vibrio*

(b) *Bacillus*

(c) *Pseudomonas*

(d) *Salmonella*

1. Which algae causes toxicosis and disturbance on oxygen balance?

(a) microcystis

(b) chlorella

(c) chlamydomonus

(d) nitzichia

1. Recommended level of chlorination of process water in the fish processing plant is  
   (a) 10ppm

(b)25ppm

(c)100ppm

(d)125ppm

1. Tapti estuary is in the state of

(a)Goa

(b)Maharstra

(c)Kerala

(d)Gujarat

1. Finfish, milk fish and mud crab belongs to \_\_\_\_\_\_\_.

(a)Brackish water fisheries

(b)Aquarium fisheries

(c)Freshwater fisheries

(d)Marine cage fisheries

1. Characterization survey in fisheries is done to check \_\_\_\_\_\_\_

(a)Quantitative variation

(b)Quantitative and qualitative variation

(c) Qualitative variation

(d)Flow variation

1. Minamata tragedy was caused by eating of fish which was growing in minamata bay contaminated with \_\_\_\_\_\_\_.

(a)Peroxy alylnitrate

(b)Methyl isocyanate

(c)Pottassium cyanide

(d)Methylmercury

**UNIT - V**

1. Gear is called as

(a) Boat

(b) Canoe

(c) Mechanized boat

(d) Nets

1. Crafts is

(a) Seine net

(b) Gill net

(c) Shore seine

(d) Boats

1. \_\_\_\_\_\_\_\_\_ is a fishing luggers.

(a) Tuticorin boats

(b) Andhra boats

(c) Catamarns

(d) Canoes

1. Dugout canoes is operated by

(a) Tamil Nadu and Pondicherry coast people

(b) Tamil Nadu and Andhra coast people

(c) Kerala and konkan coast people

(d) None of the above

1. Shore seine is popularly called as

(a) Nava

(b) Drag seine

(c) Ber Jal

(d) gill net

1. Purse seine is used to catch

(a) demersal fishes

(b) Shell fish alone

(c) Pelagic and migratory fishes

(d) None of the above

1. Kulnawa is also called as

(a) Catamaran

(b) Vallam

(c) canoe

(d) Wale boat

1. Kuriar nets are used in

(a) Offshore water

(b) Deep water

(c) Shallow water

(d) None of the above

1. In fish handlings, reduction of temperature

(a) Promotes the microbial proliferation

(b) Affects the threshold condition

(c) Spoil the products

(d) Prevents the microbial proliferation

1. Soft ice is made up of

(a) Weak brine

(b) Brine

(c) strong brine

(d) Freshwater

1. Liquid ice is also called as

(a) Ice bar

(b) Ice cubes

(c) Flow ice like jelly

(d) None of the above

1. Hot blanching techniques are used in

(a) Finfish

(b) Shell fish

(c) Shark

(d) Skate

1. OTS can is

(a) Optimum temperature system can

(b) Old top sanitary can

(c) Open top sanitary can

(d)None of the above

1. Chitin is meant for

(a) Deacetylation to chitison

(b) Acetylation to chitison

(c) Alkaline to chitison

(d) None of the above

1. Ensilage is prepared by

(a) Commercially important fishes

(b) Entire trash fish

(c) Shell fish alone

(d) Finfish alone

1. Absence of hemoglobin in their blood is called as

(a) Antartic crocodile  icefishes

(b) Australian lungfishes

(c) Pacific Salmon

(d) American Eel

1. Which one is associated with the quality assurance of seafood product

(a) MPEDA

(b) HACCP

(c) IFS

(d) SART

1. Pomfret is

(a) Marine fish

(b) River fishTrue

(c) Estuarine fish

(d) None of the above

1. Among the following, which method is not applicable for fish preservation

(a) Chilling

(b) Canning

(c) Salting

(d) Baking

1. Fish products used for clearing wines is \_\_\_\_\_\_\_.

(a) Shagreen

(b) Isinglass

(c) Fish flour

(d) Fish oil

1. Smoked tuna fish is called

(a) Masmin

(b) Dried fish

(c) Chilled fish

(d) None of the above

1. Pieces of *Garcinia gambogea* curing method is called

(a) Dry curing

(b) Wet curing

(c) Salt curing

(d) Colombo curing

1. Chitosan is nothing but
2. Teichoic acid
3. Toleic acid

(c) N- acetyle glucosamine

(d) None of the above

1. Surimi product this is white inside and brown outside is

(a) Kamaboko

(b) Hampen

(c) Chikuwa

(d) Fish ham

1. Case hardening can be controlled by

(a) Temperature control in drying

(b) maintain sufficiently high RH

(c) a & B

(d) None of the above

1. Surimi is devoid of

(a) Water soluble protein

(b) Stroma protein

(c) Muscle protien

(d) None of the above

1. Fish sauce in Korea is called

(a) Shottsuru

(b) Nuoc-man

(c) Jeotkal

(d)None of the above

1. Bacteria causing red and pinkcolor in salted fish is

(a) Halophobic

(b) Salt tolerant

(c) Halophilic

(d) Salt sensitive

1. Function of NaCl in fish preservation is \_\_\_\_\_\_\_.

(a) Reduce moisture

(b) Plasmolysis of bacteria cell

(c) Preservative action

(d) All the above

1. Value addition of fish and fish products ensure

(a) Reduce the post-harvest loss

(b) Utilization of low cost fish

(c) Utilization of by-catch

(d) All the above

1. Fish paste mixed with another meat is called \_\_\_\_\_\_\_\_.

(a) Kamaboko

(b) Hampen

(c) Fish ham

(d) None of the above

1. Pla-ra is a

(a) Lactic acid fermented product

(b) Acetic acid fermented product

(c) Cured product

(d) None of the above

1. Fish oil is rich in

(a) vit B

(b) Vit c

(c) vit A

(d) vit K

1. Which one is associated with the quality assurance or seafood product

(a) MPEDA

(b) HACCP

(c) IFS

(d) SART

1. Common mold spoilage in smoked fish is caused by

(a) Sarcinia sp

(b) Halobacterium

(c) Sporendonema epizoum

(d) None of the above

1. Natural preservative is

(a) Vit - E

(b) Vit - D

(c) Both

(d) None of the above

1. Pellicle formation is specific to \_\_\_\_\_\_\_\_ process

(a) Cold smoking

(b) Hot smoking

(c) Drying

(d) Marinading

1. Cavier is prepared from

(a) Roe

(b) eat

(c) hell

(d) All the above

1. 6.Unio is

(a) Edible oyster

(b) F.W. mussel

(c) F.W. snail

(d) Sea mussel

1. Net used for Bombay duck in Gujarat is called

(a) gill net

(b) dol net

(c) trammel

(d) .trawl

1. Which is a member of zooplankton

(a) closterium

(b) pediustrum

(c) enderina

(d) daphnia

1. Beche de mer is product of dried

(a) squid

(b) .cuttle fish

(c) sea cucumber

(d) fish

1. The omega 3 fatty acid is

(a) .palmitic acid

(b) linolenic acid

(c) stearic acid

(d) oleic acid

1. Which organization is providing financial support to fishery sector?

(a) EIC

(b) CIFT

(c) NABARD

(d) CMFRI

1. Which freezing technology is most modern to produce quality fish product

(a) plate freezer

(b) oxygenic freezer

(c) ABF

(d) none of the above

1. How many freezing plants are operating in our country

(a) 199

(b)299

(c) 399

(d)499

1. Which institute is providing training programme for operating  fishing vessel in the country

(a) CIFNET

(b) CIFT

(c) NABARD

(d) CMFRI

1. Major immunoglobulin in fish

(a) IgM

(b)IgG

(c) IgB

(d)IgE

1. Which one is more efficient method for catching demersal fish seasonally

(a) bottom trawl

(b) gill netting

(c) midwater trawl

(d) long line

1. Which algae causes toxicosis and disturbance on oxygen balance?

(a) microcystis

(b) chlorella

(c) chlamydomonus

(d) nitzichia

1. Which one is  agar yielding seaweed

(a) *Sargassum*

(b) *Enteromorpha*

(c) *Ulva*

(d) *Gracillaria*

1. The number of barbels in catfish family Tachysuridae is–

(a) Two pairs

(b) Three pairs

(c) Four pairs

(d) One pair

1. Major gear used to exploit tunas from the Indian coastal water is \_\_\_\_\_\_\_\_

(a) Drift gill net

(b) Trawlers

(c) Purse net

(d) None of the above

1. The most efficient gear used for exploiting the pelagic fishery resources along Karnataka coast is–

(a) Rampani

(b) Beachsiene

(c) Dol net

(d) Scoop net

1. In fisheries catch per unit effort data gives a measures of \_\_\_\_\_\_\_ .

(a) Relative stock abundance

(b) Absolute stock abundance

(c) Fishing effort

(d) None of the above

1. First transgenic associated fish production, associated group

(a) Zhu et al.

(b) Palmitter et al.

(c) elm et al.

(d) Dabla et al.

1. Seaweed Nymphea produces

(a) Alginic acid

(b) Agar

(c) Caragenen

(d) Biotoxin

1. The Indian edible oyster is–

(a) Perna viridis

(b) Crassostrea madrasensis

(c) Vanma litterata

(d) Sepia aculeata

1. Dominant species of mussel available in East Coast of India is–

(a) Penza indica

(b) Perna viridis

(c) Lamellidens marginalis

(d) Parassia corrugata

1. Squid jigging employs the principle of–

(a) Color

(b)Smell

(c) light

(d) Electric current

1. Cage culture is started first from–

(a) Indonesia

(b)Egypt

(c) Japan

(d)USA

1. In some crustacean, blood is red coloured due to

a. Haemoglobin

b. Erythrocruorin

 c. Haemocynin

d. Blood lymph

1. The Directorate of Coldwater Fisheries Research (DCFR) is located at.

a. Bhimtal

b. Kochi

c. Chennai

d. Himachal Pradesh

ANSWER KEY

UNIT I

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | b | 11 | b | 21 | c | 31 | a | 41 | d | 51 | a |
|  | d | 12 | a | 22 | a | 32 | b | 42 | d | 52 | a |
|  | c | 13 | b | 23 | c | 33 | d | 43 | d | 53 | b |
|  | a | 14 | c | 24 | b | 34 | d | 44 | c | 54 | d |
|  | b | 15 | a | 25 | a | 35 | c | 45 | b | 55 | d |
|  | b | 16 | a | 26 | b | 36 | c | 46 | a | 56 | b |
|  | c | 17 | c | 27 | c | 37 | b | 47 | c | 57 | d |
|  | a | 18 | b | 28 | a | 38 | b | 48 | c | 58 | b |
|  | d | 19 | d | 29 | d | 39 | c | 49 | c | 59 | a |
|  | d | 20 | b | 30 | b | 40 | b | 50 | a | 60 | b |

UNIT II

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | a | 11 | a | 21 | b | 31 | d | 41 | b | 51 | d |
|  | c | 12 | b | 22 | c | 32 | a | 42 | d | 52 | b |
|  | b | 13 | b | 23 | a | 33 | d | 43 | a | 53 | c |
|  | d | 14 | b | 24 | c | 34 | a | 44 | d | 54 | a |
|  | a | 15 | a | 25 | c | 35 | b | 45 | a | 55 | a |
|  | d | 16 | a | 26 | a | 36 | b | 46 | a | 56 | c |
|  | b | 17 | c | 27 | a | 37 | c | 47 | a | 57 | a |
|  | b | 18 | a | 28 | c | 38 | a | 48 | d | 58 | b |
|  | a | 19 |  | 29 | a | 39 | d | 49 | a | 59 | a |
|  | c | 20 | d | 30 | c | 40 | a | 50 | a | 60 | b |

UNIT III

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | a | 11 | b | 21 | b | 31 | b | 41 | a | 51 | a |
|  | a | 12 | b | 22 | a | 32 | b | 42 | d | 52 | c |
|  | a | 13 | c | 23 | a | 33 | a | 43 | b | 53 | b |
|  | d | 14 | d | 24 | c | 34 | b | 44 | b | 54 | a |
|  | c | 15 | c | 25 | b | 35 | a | 45 | a | 55 | b |
|  | d | 16 | d | 26 | a | 36 | a | 46 | c | 56 | b |
|  | c | 17 | c | 27 | c | 37 | d | 47 | b | 57 | c |
|  | c | 18 | c | 28 | a | 38 | a | 48 | b | 58 | c |
|  | c | 19 | c | 29 | c | 39 | b | 49 | a | 59 | c |
|  | a | 20 | a | 30 | a | 40 | c | 50 | a | 60 | c |

UNIT IV

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | c | 11 | c | 21 | a | 31 | d | 41 | a | 51 | c |
|  | a | 12 | b | 22 | c | 32 | c | 42 | b | 52 | b |
|  | d | 13 | b | 23 | d | 33 | d | 43 | c | 53 | a |
|  | a | 14 | d | 24 | d | 34 | d | 44 | c | 54 | b |
|  | c | 15 | b | 25 | d | 35 | d | 45 | d | 55 | d |
|  | a | 16 | b | 26 | a | 36 | a | 46 | d | 56 | a |
|  | c | 17 | c | 27 | a | 37 | d | 47 | a | 57 | d |
|  | c | 18 | c | 28 | a | 38 | b | 48 | c |  |  |
|  | b | 19 | c | 29 | a | 39 | c | 49 | B |  |  |
|  | a | 20 | b | 30 | c | 40 | d | 50 | d |  |  |

UNIT V

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | d | 11 | c | 21 | a | 31 | c | 41 | d | 51 | a |
|  | d | 12 | b | 22 | d | 32 | a | 42 | b | 52 | a |
|  | a | 13 | c | 23 | c | 33 | b | 43 | c | 53 | d |
|  | c | 14 | a | 24 | c | 34 | b | 44 | b | 54 | d |
|  | c | 15 | b | 25 | c | 35 | c | 45 | a | 55 | c |
|  | c | 16 | a | 26 | a | 36 | c | 46 | c | 56 | a |
|  | d | 17 | b | 27 | c | 37 | b | 47 | c | 57 | b |
|  | c | 18 | a | 28 | c | 38 | a | 48 | a | 58 | a |
|  | d | 19 | d | 29 | d | 39 | b | 49 | b | 59 | a |
|  | a | 20 | b | 30 | d | 40 | b | 50 | a | 60 | b |
|  |  |  |  |  |  |  |  |  |  | 61 | b |
|  |  |  |  |  |  |  |  |  |  | 62 | b |
|  |  |  |  |  |  |  |  |  |  | 63 | a |