

**M.Sc. ZOOLOGY**  
**Third Semester (Repeat)**  
**PARASITOLOGY, ECONOMIC ENTOMOLOGY**  
**& AQUATIC BIOLOGY**  
**(MSZ - 302)**

**Duration: 3Hrs.**

**Full Marks: 70**

Part-A (Objective) =20  
Part-B (Descriptive) =50

**(PART-B: Descriptive)**

**Duration: 2 hrs. 40 mins.**

**Marks: 50**

**Answer any four from *Question no. 2 to 8***  
***Question no. 1 is compulsory.***

1. What is fish preservation? Mention two methods of salting in fishes and add a note on 'Canning' process used in fish preservation. (10)
2. Describe the Erythrocytic stage of *Plasmodium vivax* with suitable diagrams. (10)
3. Write short notes- (2.5×4=10)
  - (a) Euryhaline
  - (b) Importance of DO
  - (c) Stenohaline
  - (d) Importance of pH
4. Write a note on *any two* of the following: (5×2=10)
  - (a) Describe briefly on the possible risk factors that might arise after the introduction of transgenic fishes to the environment.
  - (b) Discuss briefly on the needs of the intervention of cryopreservation technology in modern aquaculture practices.
  - (c) Discuss briefly on the incidence of various fish diseases prevalent in India.
5. Write a note on silkworm diseases and their preventive measures. (10)
6. Highlight some of the salient features of freshwater prawn farming in India. (10)

Or

Write short notes on:

(a) Freshwater Ecosystem      (b) Plankton

7. What is composite fish culture? What is the principle of composite fish culture? Enumerate some of the objectives of composite fish culture and highlight some of the salient feature of composite fish culture in India. (2+2+6=10)
8. Write in brief about advancement of pearl culture in India and add a note on specific characteristics of natural and cultured pearls. (10)

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Duration: 20 minutes

Marks – 20

(PART A - Objective Type)

I. Choose the correct answer:

1×20=20

1. A host, in which larval stage of the parasite remains viable without further development is called:  
a) Accidental host      b) Paratenic host  
c) Definitive host      d) Intermediate host
2. Edwardsiellosis is caused due to:  
a) Edwardnii      b) Edwardii      c) Edwardsiellatarada
3. Ichthyophthiriasis is also known as:  
a) Gas bubble disease      b) White spot disease  
c) Both (a) and (b)      d) None of the above
4. Heavy mortality due to Argulosis or fish lice infestation has been reported in Indian major carps. This is caused due to:  
a) *Argulus*      b) *Lice*  
c) *Gyrodactylus*      d) *All of the above*
5. Immature harvesting of lac is called:  
a) Phunki lac      b) Ari lac  
c) Seed lac      d) Shellac
6. Stifling is:  
a) Spinning of cocoon      b) Killing of pupa  
c) Reeling of cocoon      d) None of the above
7. Dead Zone is an area with little or no:  
a) Light      b) Temperature  
c) Oxygen      d) None
8. Freshwater pearls form in various species of freshwater mussels of family:  
a) Unionidae      b) Pteridae  
c) Lamillidae      d) Percidae
9. The receptor for merozoites in RBC is .....  
a) Glycophorin      b) Haemoglobin  
c) Glycogen      d) RBC membrane

10. One amongst the following is the largest marine water prawn:  
a) *Macrobrachium rosenbergii*      b) *Macrobrachium malcolmsonii*  
c) *Penaeus monodon*      d) *Metapenaeus dobsoni*
19. Which of the following water can be directly used for aquarium?  
a) Tap water      b) Rain water  
c) Pond water      d) Tube well water
11. In the polar region, the intensity of temperature is:  
a) Low      b) High      c) Constant      d) None
12. Whirling disease in *Cirrhinus mrigala* has been attributed to:  
a) Protozoan parasite *Myxosomacerebralis*  
b) *Aeromonas hydrophila*  
c) *Viral infection*  
d) *None of the above*
13. Undulating membrane found in which Hemoflagellates:  
a) Amastigote and Promastigote  
b) Promastigote and Epimastigote  
c) Epimastigote and Trypomastigote  
d) Trypomastigote and Amastigote
14. *Nosema bombysis* in silkworm cause:  
a) Flacherie      b) Muscardine  
c) Grasserie      d) Pebrine
15. The resting forms of spoozoites in malaria are called:  
a) Prepatent period      b) Postpatent period  
c) Hypnozoites      d) Latetrophozoites
16. Cockchafer, *Lachosterna sp.*  
a) Sapling root borer      b) Defoliator  
c) Seed feeder      d) Bark borer
18. In response to the DENV the white blood cells respond by producing a number of signalling proteins, such as:  
a) Serine and Threonine      b) Alanine and Leucine  
c) Histidine and Glutamine      d) Cytokines and Interferons
17. Silk gland of silkworm is modification of:  
a) Labial gland      b) Mandibular gland  
c) Poison gland      d) Thoracic gland
20. The first live gene was started in 1962 at.....  
a) Fish Culture Research Institute, Hungary.  
b) Fish Culture Research Institute, China.  
c) National Bureau of Fish Genetic Resources, India.  
d) Aquaculture Research Institute, Japan.