

**M.Sc. ZOOLOGY**  
**THIRD SEMESTER**  
**PARASITOLOGY, ECONOMIC ENTOMOLOGY**  
**& AQUATIC BIOLOGY**  
**MSZ-302**

Duration: 3 Hrs.

Marks: 70

PART : A (OBJECTIVE) = 20  
PART : B (DESCRIPTIVE) = 50

**[ PART-B : Descriptive ]**

Duration: 2 Hrs. 40 Mins.

Marks: 50

**[ Answer question no. One (1) & any four (4) from the rest ]**

1. Discuss briefly about the pearl fishery resources in India and highlight some of the pearl culture methods. (5+5=10)
2. (i) Describe the general characteristic of Hemoflagelates. (5+5=10)  
(ii) Describe the life cycle of *Leishmania donovani*.
3. Why female *Anopheles* mosquito is said to be the Definitive host of Plasmodium? Describe the Erythrocytic stage of *Plasmodium*. (2+8=10)
4. Define pest. On what basis pest can be classified? Explain with examples. (2+8=10)
5. What are the host plants of Lac? Give an account of lac cultivation process. (2+8=10)
6. Describe briefly on the methods of transferring gene into animal embryo. What are the factors for rational and responsible assessment of risk of GMO? (10)
7. Write short notes on: (*any two*) (5+5=10)  
(i) Amastigote and Mastigote form of *Leishmania donovani*.  
(ii) Epizotic Ulcerative syndrome.  
(iii) Live gene bank.
8. Discuss the different types of fish diseases prevalent in India with suitable examples. (10)
9. Discuss the salient features of prawn farming in India. (10)

Or

What is fish preservation? Discuss briefly about the different methods of fish preservation prevalent in India. (10)

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[ PART-A : Objective ]

Choose the correct answer from the following :

1×20=20

1. Organism which may either live as parasitic form or as free living form, known as:
  - a. Aberrant parasite
  - b. Facultative parasite
  - c. Accidental parasite
  - d. Obligate parasite
2. The portion of the flagellum, which is inside the body of the parasite and extend from the blepharoplast to surface of the body is known as:
  - a. Kinetoplast
  - b. Parabasal body
  - c. Axoneme
  - d. Undulating membrane
3. The resting form of sporozoites are called:
  - a. Schizonts
  - b. Meronts
  - c. Merozoites
  - d. Hypnozoites
4. The glycoprotein, which is a major glycoprotein on the red cells is a major receptor of:
  - a. Sporozoites
  - b. Merozoites
  - c. Hypnozoites
  - d. All the above
5. After entering the DENV into the white blood cells, the white blood cells respond by producing a number of signaling proteins, such as:
  - a. Cytokines and glycoprotein
  - b. Cytokines and interferons
  - c. Glycoprotein and interferons
  - d. None of the above
6. Berried females are those:
  - a. That carries fertilized eggs in their egg basket.
  - b. Don't carry fertilized egg.
  - c. Reject fertilized eggs.
  - d. All of these.
7. *Sitotroga cerealla* is a pest of:
  - a. Stored grain
  - b. Sugarcane
  - c. Paddy
  - d. Forestry
8. Red cotton Bug, *Dyrdercus singulatus* is a:
  - a. Defoliater
  - b. Sucker
  - c. Borer
  - d. Miner
9. Incomplete metamorphosis is found in:
  - a. Sal borer
  - b. Rice grasshopper
  - c. Pulse beetle
  - d. Angoumois grain moth
10. Characteristics of 'key pest' is:
  - a. Perennially occurring persistent species.
  - b. Remain below DTL (Damage Threshold Level).
  - c. Occasionally appear in the field.
  - d. None of the above.
11. *Nosema bombysis* in silkworm cause:
  - a. Flacherie
  - b. Muscardine
  - c. Grasserie
  - d. Pebrine
12. Immature harvesting of lac is called:
  - a. Phunki lac
  - b. Ari lac
  - c. Seed lac
  - d. Shellac
13. Silk gland of silkworm is modification of:
  - a. Labial gland
  - b. Mandibular gland
  - c. Poison gland
  - d. Thoracic gland
14. *Macrobrachium rosenbergi* is also known as:
  - a. The giant river prawn or the giant freshwater prawn.
  - b. River prawn.
  - c. Marine King prawn.
  - d. None of these.



15. *Ichthyophthiriasis* is also known as:
  - a. Red spot disease
  - b. White spot disease
  - c. Rinder pest disease
  - d. Black spot disease
16. Which is the first known fish to be kept in tanks?
  - a. *Macropodus* sp.
  - b. *Carassius* sp.
  - c. *Hamigrammus*
  - d. *Gambusia* sp.
17. Anchor worms are:
  - a. Insects
  - b. Fish larvae
  - c. Plankters
  - d. Crustaceans
18. Which of the following fish species is kept for live gene bank in India?
  - a. *Notopterus notopterus*
  - b. *Anabas testudineus*
  - c. Mackerels
  - d. *Chitala chitala*
19. 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.
20. Stifling is:
  - a. Spinning of cocoon.
  - b. Killing of pupa.
  - c. Reeling of cocoon.
  - d. None of the above.

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Course : .....

Semester : ..... Roll No : .....

Enrollment No : ..... Course code : .....

Course Title : .....

Session : ..... 2017-18 ..... Date : .....

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Instructions / Guidelines

- The paper contains twenty (20) / ten (10) questions.
- Students shall tick (✓) the correct answer.
- No marks shall be given for overwrite / erasing.
- Students have to submit the Objective Part (Part-A) to the invigilator just after completion of the allotted time from the starting of examination.

Full Marks	Marks Obtained
20	

Scrutinizer's Signature

Examiner's Signature

Invigilator's Signature