M.Sc. ZOOLOGY
Third Semester
PARASITOLOGY, ECONOMIC ENTOMOLOGY & AQUATIC BIOLOGY
(MSZ - 12)

L ation: 3Hrs. **Full Marks: 70**

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

(PART-B: Descriptive)

Duration: 2 hrs. 40 mins. **Marks: 50**

Answer any *five* of the following questions:

1. Describe the erythrocytic phase of life cycle of *Plasmodium* with the help of a suitable diagram. Write briefly on the control measures of the vector that transmits malaria parasite. (8+2=10)
2. What are the host plants of lac insect? Give an account of the cultivation of lac. Write about economic importance of lac insect. (2+6+2=10)
3. Discuss in detail some important aspects of Brackish water ecosystem. (10)
4. rite an account on benthos and macrophytes of fresh water ecosystem along with their significance roles. (5+5=10)
5. What do you mean by composite fish culture? Describe composite fish culture with special reference to species compostion and principle. (2+8=10)
6. Describe live gene bank of fish species with special reference to its importance in fish conservation. (10)
7. Differentiate between amastigote and promastigote form of *Leishmania donovani.* Describe incubation period of *Leishmania donovani.* (5+5=10)

8. Describe briefly on the benefits arises from the GMO fishes. What are the possible risk factors that might arise after the introduction of transgenic fishes to the environment? (5+5=10)

*****

M.Sc. ZOOLOGY
Third Semester
PARASITOLOGY, ECONOMIC ENTOMOLOGY & AQUATIC BIOLOGY
(MSZ - 12)

Duration: 20 minutes **Marks – 20**

(PART A - Objective Type)

I. Choose the correct answer: **1×6=6**

i. Oocyst of malaria parasite is found–
(a) outside the intestinal wall of mosquito (b) inside the intestinal wall of mosquito
(c) outside the stomach wall of mosquito (c) inside the human RBC

ii. Dengue fever causing agent is transmitted by–
(a) male *Culex* (b) female *Anopheles*
(c) female *Aedes* (d) male *Aedes*

iii. Vector for Kala-azar causing agent is–
(a) sand fly (b) testse fly
(c) horse fly (d) may fly

iv. Which one of the following silkworm disease is caused by virus?
(a) pebrine (b) flacherie
(c) grassarie (d) muscardine

v. *Trogoderma granarium* is common pest of –
(a) maze (b) rice (c) mung (d) wheat

vi. Which one of the following is not an ornamental fish?
(a) *Colisha fasciatus* (b) *Ambasis nama*
(c) *Punctius ticto* (d) *Tor putitor*

II. Fill in the blanks with appropriate words: **1×6=6**

i. The total amount of Freshwater inflow to the World Ocean is _____.

ii. The vector that transmits the causative agent of leishmania is _____.

iii. The scientific name of the causative organism of pebrine disease of silkworm is

_____.

iv. Horizontal movement of air or water from one place to another is called _____.

v. The species of malaria parasite that causes cerebral malaria is _____.

vi. The part of the pearl oyster where pearl is deposited is _____.

III. Answer the following by selecting TRUE or FALSE: **1×6=6**

i. A pest is an insect in one place but an insect may not be a pest in another place. (True/False)

ii. The breeding ground of *Anopheles* mosquito is usually polluted water body. (True/False)

iii. *Nymphula depanctatus* is a common stored grain pest of paddy. (True/False)

iv. *Leptocorisa varicornis* is a stem borer of paddy. (True/False)

v. The basis for production of transgenic fishes is to improve output: input ratios. (True/False)

vi. Carp species have both cycloid and ctenoid scales. (True/False)

IV. Match the items of Column A with those of Column B and select the correct option from the *Codes* given below- **(1/2×4=2)**

Sl. No.	Column A	Sl. No.	Column B
1.	Spirogyra	(i)	Marine ecosystem
2.	*Hypertonic* environment	(ii)	Macrophytes
3.	*Paramecium*	(iii)	Phytoplankton
4.	Water lily	(iv)	Zooplankton

Codes:

(a) 1- (iii) 2- (ii) 3- (iv) 4- (i)
(b) 1- (iii) 2- (i) 3- (iv) 4- (ii)
(c) 1- (iv) 2- (i) 3- (iii) 4- (ii)
(d) 1- (iv) 2- (iii) 3- (ii) 4- (i)

OR

V. Match the names of the insect pests given in Column A with the host plants given in Column B and by using *Codes* select the correct option.

Sl. No.	Column A	Sl. No.	Column B
1.	*Dysdercus cingulatus*	i.	Wheat
2.	*Tryporyza incertulas*	ii.	Cotton
3.	Army worm	iii.	Paddy
4.	*Chilo infuscatellus*	iv.	Sugarcane

Codes:

(a) 1- (ii)	2- (i)	3- (iv)	4- (iii)
(b) 1- (iii)	2- (ii)	3- (iv)	4- (i)
(c) 1- (ii)	2- (iii)	3- (i)	4- (iv)
(d) 1- (ii)	2- (iv)	3- (iii)	4- (i)

*****