

POST-GRADUATE COURSE

Term End Examination — June, 2017

ZOOLOGY

Paper - 8B : Agricultural Entomology and Aquatic Resource Management

Time : 2 Hours

Full Marks : 50

(Weightage of Marks : 80%)

Special credit will be given for accuracy and relevance in the answer. Marks will be deducted for incorrect spelling, untidy work and illegible handwriting. The weightage for each question has been indicated in the margin.

1. Answer the following questions : $9 \times 2 = 18$
- a) Discuss in brief the life history and importance of tea pest. State the key features of integrated pest management.
- 4 + 5

OR

Discuss different types of mouthparts of insects with suitable diagram. Distinguish between male and female genitalia of insect. Write down one example of viviparous insect.

4 + 4 + 1

- b) Outline the design of a prawn farm. Write a brief note on cage culture. What are the criteria for selection of species in aquaculture ? $3 + 3 + 3$

OR

Write a short note on intensive shrimp culture. "Exotic fishes are very useful in polyculture." Justify. Discuss about prawn culture in paddy field. $3 + 3 + 3$

2. Answer *three* questions : $6 \times 3 = 18$
- a) Draw and describe the functioning of a Glass Jar hatchery system. $2 + 4$
- b) What is the biological method of pest management ? State its advantages and disadvantages. $2 + 4$
- c) Discuss about the trophic stages required for the formation of new reservoir. Write a short note about the nutrient budget of a reservoir. $3 + 3$

- d) Describe the structure of compound eye.
What is gena ? 4 + 2
- e) What is hypophysation ? How are pituitary extracts prepared ? What is knock-out dose ? 2 + 3 + 1
- f) Write short notes on the following : 3 × 2
- Economic Injury Level (EIL)
 - Registration of insecticides.
3. Answer *two* questions : 4 × 2 = 8
- Write a note on life history of Brinjal pest.
What is economic threshold level ? 3 + 1
 - What is microbial control of pest ? Give an example of systematic pesticide. 3 + 1
 - Write the principles of fish culture in recirculatory system. What is pen culture ?
2 + 2
 - Why and how sewage is treated before it is recycled through aquaculture ? 4

4. Answer *two* questions : 3 × 2 = 6
- Write about giant cell formation by cyst nematode (*Heterodera* sp.).
 - Give a brief account about live food required for larval production of freshwater prawn. 3
 - Enumerate the various methods of oviposition by insects. 3
 - Write short notes on the following : $1\frac{1}{2} + 1\frac{1}{2}$
- Mite as pest
 - Brackishwater lake.
-