

2009**M.Sc.****1st Semester Examination****AQUACULTURE MANAGEMENT & TECHNOLOGY****PAPER—AMT-1103****Full Marks : 40****Time : 2 Hours**

The figures in the right-hand margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Illustrate the answers wherever necessary.

(Taxonomy & Biology of fin fish & shell fish)

1. Answer any four of the following questions : 2×4
 - a) What are the group attributes of population?
 - b) State the phases of learning in fishes.
 - c) Calculate the maximum speed of a fish during migratory movement.
 - d) What are diadromous fishes?
 - e) What do you mean by glass eel?
 - f) Compare sharks and skates.
 - g) Differentiate between Natality and Mortality.
 - h) What are the taxonomic features of family Notoptesidae?

2. Answer any four of the following : 4×4
 - a) Write distinctive features of class Cephalopoda and Chondrichthyes.

(Turn Over)

- b) Distinguish between Direct Competition and apparent competition.
- c) Briefly discuss the releasing stimulus of fishes.
- d) Give an account of Lunar rhythm and Tidal rhythm of aquatic animal.
- e) Write the taxonomic position of following species :
 - (i) Salmon ; (ii) Horse mackerel ;
 - (iii) Green mussel ; (iv) Lobster.
- f) Discuss 'Source-sink' model of population structure.
- g) Elucidate the migration process of freshwater eel.
- h) Add a note on imprinting in fishes. Mention the name of species involved.

3. Answer any *two* of the following : 8×2

- a) State the main types of population fluctuation. Differentiate between density dependent and density independent population regulation. Give an account of the different types of positive and negative interactions among fish population. $2\frac{1}{2}+2\frac{1}{2}+3$
- b) What is male choice copying? Give an experimental evidence of the male choice copying in fish. Add a note on innate behaviour. 2+4+2
- c) What is growth? State the factors involved in it. Narrate the partition of feed energy. What are the significance of fish age determination? 2+2+2+2
- d) Add a note on : 4×2
 - i) Clean shrimps ;
 - ii) Amensalism in fish ;
 - (iii) Group foraging in blue-gill sun fish.
 - (iv) Nest raiding by female three spine stickle back.