M.Sc. 3rd Semester Examination, 2018

FISHERIES SCIENCE

PAPER – FSC-303

Full Marks : 40

Time : 2 hours

Answer all questions

The figures in the right hand margin indicate marks

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

Illustrate the answers wherever necessary

UNIT – I

(*Aquaculture Practices*)

1. Answer any *two* questions from the followings : 2 × 2

   (*a*) State the importance of live feed in aquaculture.

(b) How would you control biofauling in any farming system ?

(c) Enlist name of four antibiotics which are banned in commercial shrimp farming.

(d) Write scientific name of four edible sea-weeds having nutritional value.

2. Answer any *two* questions from the following :

4 × 2

(a) Briefly explain the role of carotenoids for colour enhancement of ornamental fishes.

(b) Illustrate the mariculture development in India.

(c) Narrate the development trends of aquaculture in Asian countries.

(d) State the guidelines for shrimp seed production.

3. Answer any *one* of the following questions : 8 × 1

(*a*) (*i*) What are ornamental fishes ?

(*ii*) Discuss few tips for maintaining home aquarium.

(*iii*) Write a brief note on aquarium accessories. 1 + 3 + 4

(*b*) (*i*) Define waste water aquaculture.

(*ii*) Discuss the future of waste water aquaculture in India.

(*iii*) Add a note on sea-weeds and its importance. 1 + 3 + 4

UNIT – II

(*Fish Nutrition and Bioenergetics*)

4. Answer any *two* questions from the followings : 2 × 2

(*a*) Mention the important criteria of good fish feed.

(b) What is aflatoxin ? State its impact on fish.

(c) Define NPU% and D%.

(d) State the differences between fish nutrition from other animal nutrition.

5. Answer any *two* questions from the following : 4 × 2

(a) Write down different factors which are involved in the digestibility of fish.

(b) Discuss about Glycolytic pathway with ATP gain.

(c) How to calculate the growth rate of fish ?

(d) State about energy partitioning in fish.

6. Answer any *one* question from the following : 8 × 1

(a) (i) State about optimal Foraging Theory in fish nutrition.

(ii) Classify different types of fish feed.

(iii) State the relation among FCE and PER.

3 + 3 + 2

(*Continued*)

(b) (i) Give an idea about hydro-stability of feed.

(ii) Formulate using algebraic equation 10 tons of fish feed containing 36% Cp using Soybean meal (Cp = 54%) and rice bran (12% Cp).

(ii) Discuss in detail the different steps of feed production.   2 + 3 + 3

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