UG/I/AQM/H/II/18

2018

AQUACULTURE MANAGEMENT

[Honours]

PAPER – II

Full Marks : 90

Time : 4 hours

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

1. Answer any *ten* questions from the following : 2×10

(*a*) Mention the criteria for selection of candidate special for aquaculture.

(*b*) What do you mean by detritus food chain ?

(*c*) Cite two examples of indigenous and two examples of exotic cold water fishes found in India.

(*d*) Define mariculture.

(*e*) State the important characteristics of ornamental fish.

(*f*) What is Pokkali fish culture ?

(*g*) Write down the central Dogma of genetics.

(*h*) Define fry and fingerling.

(*i*) State about silent mutation.

(*j*) Enlist the endocrine glands of fishes.

(*k*) What do you mean by multiple breeding ?

(*l*) Define polyploidy with example.

(*m*) State the fish seed collection process from nature in West Bengal.

(*n*) What are clams ? Write the characteristics and example.

(*o*) State the feeding practices of IMC brooder.

GROUP – A

2. Answer any *two* questions of the following : 10×2

(*a*) (*i*) Define super intensive aquaculture.

(*ii*) Write down the culture process of any one air-breathing fish.

(*iii*) Add a note on paddy-cum fish culture. $2 + 5 + 3$

(*b*) (*i*) What is race-way culture of fish ?

(*ii*) Briefly example the mahaseer culture in cold water.

(*iii*) Add a note on bhasabandha fishery. $2 + 5 + 3$

(*c*) Write short notes on the following : $2\frac{1}{2} \times 4$

(*i*) Live feed for ornamental fishes.

(*ii*) Biology of Mudcrab.

(*iii*) Fungal disease of ornamental fishes

(*iv*) Semi-intensive aquaculture process.

(*d*) (*i*) Discuss in detail the wastewater management through aquaculture

(*ii*) Write in detail the management of marine fisheries in India. 5 + 5

3. Answer any *one* question of the following : 15 × 1

(*a*) (*i*) Discuss the preparation process of rearing ponds for IMC culture.

(*ii*) State about stocking density of rearing pond for carp polyculture.

(*iii*) Write down the prospect of organic aquaculture.

(*iv*) Add a note on pen culture of fish. 4 + 4 +4 + 3

(*b*) (*i*) What is aquascaping ?

(*ii*) Write down the management of home aquarium.

(*iii*) State about aquarium plants.

(*iv*) Add a note on marine ornamental fishes. 2 + 6 + 3 + 4

GROUP – B

4. Answer any *two* questions of the following : 10×2

(*a*) Write short on the following : $2\frac{1}{2} \times 4$

(*i*) Sex reversal of fish

(*ii*) Inbreeding

(*iii*) Bundh breeding

(*iv*) Types of fish egg.

(*b*) (*i*) What do you mean by cryopreservation ?

(*ii*) Discuss in detail the process of cryopreservation of fish gamate.

(*iii*) Add a note on breeding season of *cyprinus carpio*. $2 + 6 + 2$

(*c*) (*i*) State about natural and synthetic ovulating agent.

(*ii*) Give an idea about spawning pool and hatching pools.

(*iii*) State the advantages of induced breeding. $3 + 5 + 2$

(*d*) (*i*) Discuss the hormonal regulation related to gonadal maturation of fish.

(*ii*) State about internal and External fertilization.

(*iii*) Add a note on fish pheromones. 5 + 3 + 2

5. Answer any *one* question of the following : 15 × 1

(*a*) (*i*) Define linkage and crossing over.

(*ii*) Write down the sex determination processes in fish.

(*iii*) What do you mean by androgenesis and gynogenesis ?

(*iv*) How to produce a transgenic fish ?

3 + 3+ 4 + 5

(*b*) (*i*) State ecological condition of natural breeding of IMC.

(*ii*) Discuss the parental care of any two fishes.

(*iii*) State the principle of Chinese hatchery.

(*iv*) Write down the hydrobiological parameters maintain in a IMC hatchery.

3 + 4 + 4 + 4