# 2015

## AQUACULTURE MANAGEMENT

**[ Honours ]**

PAPER – II (New)

*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*

[ NEW SYLLABUS ]

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

(*a*) What are the criteria for selection of a candidate species for aquaculture ?

(*b*) Write the scientific name of four Mahseer species in India.

(*c*) Write a short note on intensive pisciculture.

(*d*) What is photoperiod ?

(*e*) What do you mean by sea farming ?

(*f*) What is 'Pokkali' fish culture ?

(*g*) What is point mutation ?

(*h*) Mention different types of fish eggs.

(*i*) Differentiate between spawn and fry.

(*j*) Enlist two synthetic formulations used in fish breeding.

(*k*) Mention different components of a carp hatchery complex.

(*l*) State the needs of parental care.

(*m*) What are the significance of gastrulation ?

(*n*) Point out the difference between cage and pen.

(*o*) What is advantages of triploid fishes ?

## GROUP – A

**2.** Answer any *two* of the following questions : $10 \times 2$

(*a*) (*i*) Define composite fish culture.

(*ii*) Write a note on the principles, stocking density, species ratio and supplementary feeding in composite fish culture.

(*iii*) Add a note on organic fertilizers. $2 + 6 + 2$

(*b*) (*i*) Define integrated fish farming.

(*ii*) State the different integrations in this farming system.

(*iii*) Add a note on spent fish and rani fish. $2 + 4 + 4$

(*c*) Write note on : $2\frac{1}{2} \times 4$

(*i*) Nanoplankton and ultra plankton

(*ii*) Decorative materials used in aquarium

(*iii*) Farming of exotic shell fish

(*iv*) Breeding behaviour of live bearer fishes.

(*d*) (*i*) What are the common diseases of ornamental fishes ? 5

(*ii*) Write a note on paddy-cum fish culture. 5

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

(*a*) Write a note on organic recycling and detritus food chain. Briefly discuss on production of live food organism for fish culture. How will you control aquatic weeds and algal bloom ?
5 + 5 + 5

(*b*) Write notes on following : 5× 3

(*i*) Preparation of nursery pond

(*ii*) Fish gamets banking

(*iii*) Waste water aquaculture.

## GROUP – B

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

(*a*) Define gynogenesis. Briefly discuss on induced gynogenesis and explain the production of mitotic and meiotic gynogen.
2 + 8

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

(*i*) Multiple carp spawning

(*ii*) Perennial pond

(*iii*) Transgenic fish

(*iv*) Inbreeding depression.

(*c*) (*i*) Discuss different modes of reproduction in fishes.

(*ii*) Briefly discuss on spermatogenesis in fish. 5 + 5

(*d*) (*i*) State the functions of aerators and heaters.

(*ii*) Discuss the traditional fish culture in bheries. 5 + 5

**5.** Answer any *one* of the following : $15 \times 1$

(*a*) What is induced breeding ? Describe the process of Hypophysation technique. Add a note on riverine spawn collection. 2 + 8 + 5

(*b*) Write notes on following : 3 × 5

(*i*) Hormones of pituitary gland

(*ii*) Cryoprotectant

(*iii*) Biofilters

(*iv*) Fungal disease of ornamental fishes

(*v*) Advantages of hybridization technique.

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