

**SWAMI RAMANAND TEERTH MARATHWADA
UNIVERSITY, NANDED**

SYLLABUS EFFECTIVE FROM JUNE - 2010

B.Sc IIIrd Year

Subject :- Fishery Science

Theory Paper - VIII Indian Fisheries, Mericulture

Unit - I

Study of estuarine and marine fisheries classification, external feature
Distribution, food & feeding, reproduction, Fishing.

- 1) Sardine Fishery.
- 2) Bombay duck fishery.
- 3) Mackerel Fishery.
- 4) Prawn Fishery.
- 5) Ribbon Fishery.

Unit - II

- 1) Prawn Fishery.
- 2) Sole Fishery.
- 3) Mollusk Fishery, (Cephalopod, Chunks).
- 4) Chika lake Fishery.
- 5) Hilsa Fishery.
- 6) Pomfreet Fishery.

Unit - III

Mericulture:-

- 1) Prawn Culture.
- 2) Mussel Culture.
- 3) Perl oyster culture.
- 4) Edible oyster.
- 5) Sea weed culture.
- 6) Commercial importance of Moll scans.

Unit - IV

- 1) Role of remote sensing, in fishery.
- 2) Indian Exclusive economic zone (EEZ).
- 3) Indian Fisheries Act strategies for exploitation of deep sea & Shore fisheries.
- 4) Organization setup of fisheries sector of states, central level.
- 5) Commercial Fisheries Institution of Indian CIFE, CMERI, CIFT.

Theory Paper – IX **Aquarium keeping, Fish Genetics, Economics, Management & Extension**

Unit - I

Fish Aquarium

- 1) Introduction
- 2) Types of an aquarium.
- 3) Importance of an aquarium.
- 4) Accessories of an aquarium.
- 5) Setting of an aquarium.
- 6) Care and maintenance of an aquarium.
- 7) Aquarium fishes.

Unit - II

Fish Genetics :

- 1) Introduction
- 2) Fish genetic (germ plasm) resources.
- 3) Application to genetic approach to fisheries management.
 - a) Capture fishery management
 - b) Fish culture management.
- 4) Cryopreservation of gamete (Gen banking)
- 5) Cryopreservation technique for sperm.

- 6) Sex reversal.
- 7) Sterile fish.
- 8) Hybridization :- Diploid hybrid, Triploid Hybrid (polyploidy) Hybrid vigor (Favorable heterosis)
- 9) Transgenic fishes, Inbreeding, Cross breeding, selective breeding, breeding technique in, ornamental fishes (Gold fish, Black molly -----

- Unit - III

Fish Economics :-

- 10) Definition and application of economic principles fisheries.
- 11) Fish marketing and importance of marketing and management.
 - 1) Marketing regulation.
 - 2) Fish export trade
 - 3) Marketing infrastructure.
 - 4) Analysis of price making forces of different stages in the marketing.
- 12) Fisheries Co-operatives :-
 - 1) Structure and function of fisherman co-operatives.
 - 2) Problems of fisherman Societies & remedial measures.
 - 3) Welfare schemes of fisherman.
 - 4) Training programme in fishing & Fish processing.

Unit - IV

Fisheries Extension :

- 13) Extension education objectives and principles.
 - 1) Need of education objectives and principles.
 - 2) Indian fishing communities & Their social status.
 - c) Role of extension activities in fishing community development.
 - 4) Role of FFDA (Fish farmer development agency).

Practical Paper – X

- 1] Identification, classification and commercial importance of following fishes.
 - 1) Sardine
 - 2) Mackerel
 - 3) Bombay duck
 - 4) Sole fish
 - 5) Ribbon fish
 - 6) Hilsa
 - 7) Pomfreet
- 2] Peanus indices
 - 2) Peanus Monodon
 - 3) Edible oyster
 - 4) Peral oyster
 - 5) Sepia
 - 6) Loligo
 - b) Chanks.
 - 8) Aquatic weed (any three)
- 3] Calculate per hector income by traditional method of fish cultivation and intensive method of fish cultivation from given data.
- 4] Case study of price determination of fish from local fish market.
- 5] Study of fishing crafts (any three).
- 6] Study of fishing gears (any three).

Practical Paper – XI

- 1] Identify and describe the aquarium accessories with their use and maintains. (any five).
- 2] Preparation of an aquarium tank of suitable size
- 3] Setting of aquarium.
- 4] Maintenance of an aquarium.
- 5] Identify classify and describe an aquarium fishes (any five).

- 6] Identify and describe an aquarium plants (any five).
- 7) Identify classify and describe cultural fishes (any five).
- 8) Identify and describe fish fed (any five).
- 9) Identify and describe fertilizers used in fish farms (any three).
- 10) Project report submission on any one aspect
 - 1) Aquarium fishes.
 - 2) Breeding Techniques in aquarium fishes.
 - 3) Case study of fishing co-operating study.

Theory Paper – VIII & IX

- 1] Marine fisheries by Dr. Bal & K. Virbhadrarao.
- 2] Fishery science and Indian fisheries by C.B.L. Shrivastav.
- 3] The Economic of Fisheries management of Anderson L 1977 & John Hapkins.
- 4] Fish economic by P.S. Rao
- 5] Fishery economic and Introduction by cunningan Dunn whit masesh, (1985) Marshall st. martins.
- 6] Marketing management by Kothar P 1988 prentice Halt.
- 7) Extension Education by Adivia Reddy 1976 & Bapatlal.
- 8) Aquaculture Extension Gibbons M.J. & R. Shrider 1983 peace cons. In formation collection Exchange manual M 18.

Practical Paper – X

Time : 3 hrs

Marks : 100

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| 1] | Identify, Classify and comments on commercial. Importance of any five marine fishes. | 25 |
| 2] | Identify, Classify and comments as per instruction (1 fresh water prawn, 1 marine prawn, two mollusk & one aquatic and weed). | 20 |
| 3] | Identify & describe fishing crafts & gears. | 20 |
| 4] | Calculate Per hector income by traditional method of fish cultivation intensive method of fish cultivation from the data given. | 20 |
| 5]] | Submission of fishing crafts & gears model. | 06 |
| 6] | Reword book & viva-voce & Excursion report. | 09 |

Practical Paper – XI

Time : 3 hrs

Marks : 100

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| 1] | Identify and Comments on use of aquarium accessories (any four) | 20 |
| 2] | Fabrication of glass aquarium glass (cutting, glass, fitting) | 20 |
| 3] | Identify, classify & describe aquarium fish & aquarium plant. | 16 |
| 4] | Identify and describe as per Instruction . | 24 |
| | 1) Culturable fishes – 02 | |
| | 2) Fish feed – 02 | |
| | 3) Fertilizers - 02 | |
| 5]] | Submission of collection of culturable fishes, Fish feed & Fertilizers. | 06 |
| 6] | Submission of project report. | 08 |
| 7] | Record book & viva voce. | 06 |