

SYLLABUS
MARICULTURE
(PG Degree Standard)

Subject Code:359

UNIT – I: PRODUCTION AND STATUS: MARICULTURE

An overview of status of Mariculture- Global production – Top 10 countries – Present status in India – Tamil Nadu – Production by environment -Mariculture Production –By species.

UNIT – II: COMMERCIALLY IMPORTANT MARICULTURE SPECIES

Status of farming of selected species – Marine finfish - Crustaceans – Molluscs – Sea cucumbers – Sponges – Corals – Seaweeds – Global status – Present trend and scope in India and Tamil Nadu – Shore based aquaculture.

UNIT – III: SEED RESOURCES

Finfish seed resources – Shellfish seed resources – Traits of important cultivable finfish and shellfish species.

UNIT – IV: DIFFERENT FARMING SYSTEMS

Cage and Pen culture types - site selection - Construction specifications for cultivable species – Raft and rack culture site selection – design and operation of the systems – Off/on bottom culture techniques – Open sea cage farming systems – tanks and raceways – Recirculatory aquaculture system – Cage maintenance – Hatchery units (Indoor).

UNIT - V: IMPORTANT CULTIVABLE FINFISHES

Distribution, biology, seed collection, nursery rearing - culture techniques – Problems and prospects – (sea breams, rabbitfish, Groupers, pomfret, yellowtail, cobia, flatfishes, tuna, cod, puffers, silver pompono and porgy). Present status – Global and scope in India - Tamil Nadu.

UNIT - VI: IMPORTANT CULTIVABLE SHELLFISHES

Culture of marine molluscs and echinoderms – Status and scope – Global – India – Species cultured (mussels, edible oysters, pearl oysters, clams, cockles, abalones, sea cucumber, squid, cray fish) – their distribution biology – Farming methods in India – culture methods – off-bottom and on-bottom farming methods - problems and prospects.

UNIT- VII: CULTURE OF SEaweEDS:

Seaweed species of commercial importance – Culture methods – Open sea culture – Integrated farming systems – Integrated mariculture systems – Marine integrated multitrophic aquaculture (MIMTA) – Products of commercial importance from seaweeds – Emerging trends in farming in open seas.

UNIT - VIII: NONFOOD PRODUCTS

Nonfood products from mariculture – Fish meal/shrimp meal – nutrient agar – Cultured pearls (marine pearl oyster) – Cosmetics – Mabe pearl.

UNIT - IX: SUSTAINABILITY AND ENVIRONMENTAL MANAGEMENT IN MARICULTURE

Pollutionary effects of waste discharge from open farming systems – Controlled use of natural resources – Sea ranching – Guidelines for sustainable mariculture – Principles and standards – Licensing – Guidelines for regulating mariculture – Environmental impact assessment.

UNIT - X: NUTRITION AND FEEDS

Brood stock nutrition – Larval nutrition – Live foods of commercial importance – Marine microalgae – Brine shrimp – Culture of rotifers – Marine Chlorella – Artificial feeds – Supplementary feed ingredients – Processed feeds – Larval feeds – Larval microdiets – Feeding techniques – Feeding rates – Automated feeders – Feeding management.
