

TKM COLLEGE OF ARTS & SCIENCE, KOLLAM

DEPARTMENT OF ZOOLOGY

FIN FISH CULTURE

SYLLABUS

TOTAL- 30 HOURS

UNIT 1. PRINCIPLES OF AQUACULTURE 15 HOURS

1.1 Basics of aquaculture 10 hours

Basics of aquaculture-definition and scope. History of aquaculture: Present global and national scenario. Aquaculture vs agriculture. Overview of national and international agricultural systems. Extensive, semi-intensive, intensive and super intensive aquaculture in different types of water bodies *viz.*, freshwater, brackishwater and inland saline ground water. Pre-stocking and post stocking pond management. Criteria for selection of candidate species for aquaculture. Major candidate species for aquaculture: freshwater, brackish-water and marine. Monoculture, polyculture and integrated culture systems. Water and soil quality in relation to fish production and estimation of productivity. Physical, chemical and biological factors affecting productivity of ponds. Nutrition, health management and economics.

1.2 Taxonomy of finfish 5 hours

Morphological, morphometric and meristic characteristics of taxonomic significance. Major taxa of inland and marine fishes up to family level. Commercially important freshwater and marine fishes of India and their morphological characteristics. Important fishes of the world.

UNIT 2. FIN FISH BREEDING 13 HOURS

2.1 Freshwater aquaculture 5 hours

Freshwater aquaculture resources – ponds, tanks, lakes, reservoir, etc. Traits of important cultivable fish and shellfish and their culture methods – Indian major carps, exotic carps, air breathing fishes, cold water fishes. Sewage-fed fish culture. Composite fish culture system of Indian and exotic carps - competition and compatibility. Exotic fish species introduced to India and their impact on indigenous species.

2.2 Coastal aquaculture and and mariculture. 5 hours

Traits of important cultivable fish (seabass, mullet, milkfish, grouper, snappers, ayu, pearlspot)
Shore based aquaculture system: traditional (pokkali, bheries, gazanis, khazans), semi-intensive, intensive aquaculture practice of commercially important species of finfish. Methods of aquaculture - rafts, racks, cages, poles and ropes. Seed resources, Sea ranching.

2.3 Diseases and management

3 hours

Pathogenicity and mechanism of bacterial, viral and fungal infections finfish. Morphology, Biology and life cycle of parasites.

UNIT 3. ECONOMICS OF FIN FISH CULTURE

2 hours

Prospects of fin fish culture in marine, freshwater and brackish water. Fin fish culture as a method of income generation.