

**Course specific outcome:**

<b>Course</b>	<b>Expected outcome</b>
<p align="center">IFFA CORE 1- <b>Taxonomy of aquatic organism</b></p>	<p>Development of insight into –</p> <ol style="list-style-type: none"> <li>1. Fish taxonomy</li> <li>2. Crustacean taxonomy</li> <li>3. Molluscan taxonomy</li> </ol>
<p align="center">IFFA CORE 2- <b>Biology of fish</b></p>	<p>Familiarity with –</p> <ol style="list-style-type: none"> <li>1. Different types of feeding habits and types of food in fish and shellfish.</li> <li>2. Physiology of digestion, circulation, excretion and respiration in finfish and shell fish.</li> <li>3. Fin fish and shell fish reproduction and endocrinology.</li> <li>4. Osmoregulation and specialized organs in fishes.</li> </ol>
<p align="center">IFFA CORE 3- <b>Fresh water aquaculture and aquatic ecology</b></p>	<p>Development of concept on –</p> <ol style="list-style-type: none"> <li>1. Freshwater finfish and shell fish culture.</li> <li>2. Different systems of aquaculture.</li> <li>3. Freshwater aquatic ecosystem.</li> </ol>
<p align="center">IFFA CORE 4- <b>Coastal aquaculture and mariculture</b></p>	<p>Development of concept on –</p> <ol style="list-style-type: none"> <li>1. Brackish water Finfish and shell fish culture.</li> <li>2. Marine and brackish water ecosystem</li> <li>3. Coastal aquaculture and mariculture.</li> </ol>

<p>IFFA CORE 5- <b>Inland and marine fishery</b></p>	<p>Familiarity with –</p> <ol style="list-style-type: none"> <li>1. Riverine, reservoir and coldwater fishery</li> <li>2. Marine and estuarine fishery</li> <li>3. Pelagic, demersal and deep sea resources.</li> <li>4. Fishery assessment and regulations</li> </ol>
<p>IFFA CORE 6- <b>Aquaculture nutrition &amp; biochemistry</b></p>	<p>Development of insight into –</p> <ol style="list-style-type: none"> <li>1. Nutrient requirement of fish &amp; Feed ingredients and different types of fish feed manufacturing methods.</li> <li>2. Feed management and feed quality of fish.</li> <li>3. Larval nutrition and live feed culture</li> <li>4. General introduction for importance of biochemistry in fisheries and food technology.</li> </ol>
<p>IFFA CORE 7- <b>Post-harvest technology and quality control</b></p>	<p>Acquisition of knowledge on-</p> <ol style="list-style-type: none"> <li>1. Fishing crafts and gears.</li> <li>2. Responsible fisheries and fisheries legislation</li> <li>3. Seafood spoilage</li> <li>4. Different types of preservation, processing and packaging techniques of seafood.</li> <li>5. Quality assurance and export of fishery products</li> </ol>

<p>IFFA CORE 8- <b>Biostatistics and computer application</b></p>	<p>Basic knowledge on –</p> <ol style="list-style-type: none"> <li>1. Bio statistics</li> <li>2. Computer application</li> </ol>
<p>IFFA CORE 9- <b>Biological tools and techniques</b></p>	<p>Basic knowledge on –</p> <ol style="list-style-type: none"> <li>1. Microscopy</li> <li>2. Chromatography</li> <li>3. Electrophoresis</li> <li>4. Histology</li> </ol>
<p>IFFA CORE 10- <b>Ornamental fish culture</b></p>	<p>Development of concept on –</p> <ol style="list-style-type: none"> <li>1. Construction and management of aquarium.</li> <li>2. Common species of freshwater and marine ornamental fishes and their commercial production.</li> <li>3. Nutrition and Disease of Ornamental fishes</li> </ol>
<p>IFFA CORE 11- <b>Fish microbiology and pathology</b></p>	<p>Development of concept on –</p> <ol style="list-style-type: none"> <li>1. Introduction to structure, isolation and culture of microbes and fish microbiology.</li> <li>2. Pathology and fish parasitology</li> <li>3. Pathogenic, nutritional and environmental fish diseases</li> <li>4. Immunology and fish health management</li> </ol>

<p>IFFA CORE 12- <b>Fish genetics and biotechnology</b></p>	<p>Development of insight into –</p> <ol style="list-style-type: none"> <li>1. Basic genetics</li> <li>2. Sex determination and hybridization in fish.</li> <li>3. Aquaculture biotechnology and genetic manipulation in fish.</li> <li>4. Marine biotechnology</li> </ol>
<p>IFFA CORE 13 – <b>Fishery economics and extension + market survey</b></p>	<p>Familiarity with –</p> <ol style="list-style-type: none"> <li>1. Various principles of economics and marketing and their importance to fishery.</li> <li>2. Present status of economy of fishermen and fishery sector.</li> <li>3. Socio-economic impact &amp; rural development through fishery.</li> <li>4. Different types of fisheries management tools.</li> </ol>
<p>IFFA CORE 14- <b>Entrepreneurship development + On job training</b></p>	<p>Development of basic concept on-</p> <ol style="list-style-type: none"> <li>1. Scope and importance of management.</li> <li>2. Human resource, marketing and processing sector management.</li> <li>3. Indian fishery acts.</li> <li>4. Cooperatives and Agencies in Fisheries</li> </ol>
<p><b>DSE1- Fish Feed Preparation and Quality Control</b></p>	<p>Development of basic concept on-</p> <ol style="list-style-type: none"> <li>1. Different aspects of feed preparation</li> <li>2. Feed evaluation</li> </ol>

<p><b>DSE2- Ornamental Fish Production and Management</b></p>	<p>Development of insight into –</p> <ol style="list-style-type: none"> <li>1. Different varieties of ornamental fish and aquarium management.</li> <li>2. Breeding and rearing of ornamental fishes</li> <li>3. Aquarium construction.</li> </ol>
<p><b>DSE4 Fish By products and Waste Utilization</b></p>	<p>Familiarity with –</p> <ol style="list-style-type: none"> <li>1. Importance of different types of fish and shellfish by products.</li> <li>2. Utilization of different seaweeds.</li> </ol>
<p><b>DSE5 Culture of live fish food organisms</b></p>	<p>Development of concept on –</p> <ol style="list-style-type: none"> <li>1. Importance of live feed in aquaculture and their culture methods.</li> <li>2. Proximate composition of live feed</li> </ol>