DEPARTMENT OF INDUSTRIAL FISH AND FISHERIES
LESSION Plan
Session 2023-24
SEMESTER – IV

Name of Teacher: TINKEY ACHARYA

Paper Allotted: IFFACOR08T, IFFACOR08P, IFFACOR10T, IFFACOR10P

Month	Paper	Topic	No of classes
March 2024 (02.03.2024)	IFFACOR08T	**Web Development and programming** Introduction to the World Wide Web; Basics of web development using HTM L; Creation of email accounts; Application of Search Engines.	4
	IFFACOR08P	Formatting a document using word, use of mail merge. Use of internet to collect fisheries data - FAO, NACA, ICLARM.	6
April 2024	IFFACOR10T	**Marine Ornamental Fishes** Marine ornamental fishes – varieties and their habitat. Major marine ornamental fish resources of India. Method of collection of live fish. Breeding of marine ornamental fishes (clown fishes and Damsel fishes). Reef aquarium and live rocks. Other ornamental organisms – anemones, worms, lobsters, shrimps, octopus, starfish.	10
	IFFACOR10P	Fresh water Ornamental fishes (Exotic-Goldfish, Angel, Tiger barb, Sword tail, Fighter fish, Oscar. Indigenous- Dwarf Gourami, Indian glass fish, Zebra Danio, Y loach, Peacock eel, Rosy barb)	8
May 2024	IFFACOR10T	**Nutrition and Disease** Nutritional requirements of aquarium fishes. Different kinds of feeds. Culture of fish food organisms, Preparation of dry feeds, Feeding methods. Use of pigments for colour enhancement. Larval feeds and feeding. Provision of nutrients and optimum environmental conditions for their growth. Common diseases of ornamental fishes and their control and prophylaxis – itch disease, tail and fin rot, dropsy, Trichodiniasis, Argulosis, Gyrodactylosis, Dactylogyrosis, gas bubble disease.	12
May 2024		**Internal Examination & Class for Slow Learners**	
July 2024		**End Semester Examination**	

		Total Classes	40

Name of Teacher: Dr. NANDITA MUKHERJEE

Paper Allotted: IFFACOR08T, IFFACOR08P, IFFACOR09T, IFFACOR09P, IFFACOR10T, IFFACOR10P, SEC2

Month	Paper	Topic	No of classes
March 2024 **(02.03.2024)**	**IFFACOR08T**	Computer organization- input – output devices, Binary system, operating system, types of programming languages (Machine languages, Assembly languages, high level languages. Data organization, Drives, Files, Directories. Types of Memory (primary and secondary), RAM, ROM, PROM, EPROM.	5
	IFFACOR09T	Chromatographic techniques- Paper Chromatography, Thin layer chromatography, Ion exchange chromatography, gel filtration chromatography, gas chromatography, HPLC.	5
	IFFACOR08P	Formatting a document using word, use of mail merge.	6
	IFFACOR09P	Microtomy and staining of fish tissue- Liver, Kidney, Ovary, Testes, Stomach and Intestine.	10
April 2024	**IFFACOR08T**	Secondary storage devices (FD, CD, HD, Pen drive) I/O Devices (Scanner, Plotters, Plasma Display) Numbering system and introduction to Binary, Microprocessor. Office application software; Word Processors; Spreadsheet; Presentation; Data Base Management; SQL.	10
	IFFACOR08P	Use of internet to collect fisheries data - FAO, NACA, ICLARM.	4
	IFFACOR09T	Principle of electrophoresis, types gel electrophoresis, SDS-PAGE. Centrifugation - Types of centrifugation – differential and density gradient.	4
	IFFACOR09P	Electrophoresis/paper chromatography (Demonstration).	4

Month	Paper	Topic	No of classes
May 2024	**IFFACOR10T**	Introduction to aquarium. World aquarium trade and present status. Design and construction of home and public aquaria (freshwater and marine), oceanarium. Aquarium accessories - Aerators, filters (different types) and lighting. Water quality requirements.	**5**
	IFFACOR10T	Setting up of aquarium – under gravel filter, pebbles, plants, drift wood, ornamental objects and selection of fishes, Quarantine measures. Aquarium maintenance and water quality management for fresh water and marine aquariums. Control of snail and algal growth. Handling, care, packing and transportation of fishes - Use of anaesthetics. Temperature acclimation.	**5**
	IFFACOR10P	Aquarium accessories (Aerators/filters/decors/feeding Equipments/heaters/pumps/lights). Aquarium setting (Freshwater).	**5**
	SEC 2	Ornamental fish culture as hobby. Design and construction of different types of aquarium, frameless tank. Selection of suitable species, species combination. Water quality management and maintenance of aquarium. Use of aerators, filters, heater and thermometer etc. Aquarium plants and their propagation.	**6**
May 2024		Internal Examination & Class for Slow Learners	
July 2024		End Semester Examination	
		Total Classes	**69**

Name of Teacher: Dr. DIBYENDU DUTTA

Paper Allotted: IFFADSE04T, IFFADSE04P

Month	Paper	Topic	No of classes
March 2024 (02.03.2024)	**IFFADSE04T**	Fish meal. Dry reduction and wet reduction methods – specification – packaging and storage. Fish oil – body oil – liver oil – extraction – purification – preservation – storage – application. Shrimp wastes – chitin – chitosan - production – uses.	**10**
	IFFADSE04P	Preparation of fish meal, fish body oil, fish liver oil, fish maws, isinglass, fish silage, ensilage.	**10**
April 2024	**IFFADSE04T**	Fish protein concentrate. Fish hydrolysate, partially hydrolyzed and deodorized fish meat, functional fish protein concentrate	**8**

		and the reincorporation to various products. Fish silage – acid silage – fermented silage – application.	
	IFFADSE04P	**Fish glue, fish gelatin, pearl essence, chitin, chitosan and fish manure Preparation of acid and fermented silage.**	**8**
May 2024	**IFFADSE04T**	**Fish maws, shark leather, fish glue, fish gelatin, isinglass, pearl essence, shark fin rays, beach - de - mer. Biochemical and pharmaceutical products. Utilization of seaweeds: agar agar, algin, carrageenan.**	**6**
	IFFADSE04P	**Preparation of fish protein concentrate and fish hydrolysate.**	**6**
May 2024		**Internal Examination & Class for Slow Learners**	
July 2024		**END SEMESTER EXAMINATION**	
Total Classes			**48**