

COLLEGE OF FISHERIES, KISHANGANJ
BIHAR ANIMAL SCIENCES UNIVERSITY, PATNA

Class Schedule for M.F.Sc. 1st Semester

AQC-505: Fish Nutrition and Feed Technology 3(2+1)

Theory

Sl. No.	Topic	No. of Classes
1.	Unit I Introduction: Need for studying the nutritional requirements of cultivable fishes, feed formulation, Methods to study the nutritional requirements, and its need.	2
2.	Unit II Feed ingredients and Feed preparation: Commonly used feed ingredients in aqua feeds, Novel feed ingredients, estimation of quality of feed ingredients, Qualities of feed ingredients that determine feed quality, Selection of ingredients, Formulation of feeds, Feed processing and making. Different feed preparation methods.	2 3
3.	Unit III Types of feeds: Floating, semi-floating, sinking and stable feeds for aquaculture, Feed making methods for different feeds, Nutrient leeching in feeds, feed quality determination and feed making, Evaluation of feeds, Simulated system evaluation, lab analysis.	2 2
4.	Unit IV Advanced feeds: High energy feeds, Alternative protein sources for feeds, maturation diets to enhance breeding efficiency, Larval feeds, bio availability in feeds, High FCE and economic benefits of feeding in the farming, Live feed enrichment, Bio-routing of nutrients, Chemo-therapeutants, Other growth promoting agents through live feeds. Evaluation of bio-accumulation and bio-utilisation.	3 3 1
5.	Unit V Feed processing technology: Common processes in feed manufacture; Grinding, Dosing, Homogenization; Extrusion cooking; Complimentary processes; Drying, crumbling, coating; Use of binders; Feed manufacture productions with high energy diets vacuum coating with lipid. Equipments used in feed manufacture; Pulverizer, grinder, mixer, pelletizer, crumbler, drier, Extruder/Expander, Vacuum coater, fat sprayer	2 2 2
6.	Unit VI Quality control in fish feed manufacturing: Quality control procedures, raw materials, finished products; Geometrical, and physical feature;	3

	Mechanical characteristics in air, Behavioural characteristics in water, Feed economics and evaluation criteria: FCR, AFCR, SGR, PRE, ERE, PER, NPU	3 2
	Total numbers of classes	32

Practical

Sl. No.	Topic	No. of Classes
1.	Nutritional requirements determination for different species	2
2.	Collection and analysis of different feed ingredients	3
3.	Feed formulation with different feed ingredients; Feed quality analysis	2
4.	Evaluation process in farms and labs	3
5.	Visit to feed mills and feed making process	2
6.	Economic analysis of feeding and non-feeding systems;	2
7.	Identification of different feed additives	2
8.	Observation of novel feeds and their utilization	1
	Total numbers of classes	17

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