

College of Fisheries, Kishanganj
Bihar Animal Sciences University, Patna
Lecture Plan (M.F.Sc. 2nd Sem, Batch: 2025)

Course Title: Principles of Fish Pharmacology and Therapeutics

Course code & Credit Hours: AAH-507; 2 (1+1)

Assigned Teacher: Dr. Pushpa Kumari

Theory Classes		
Sl. No.	Topics	No. of Classes
1.	An introduction to therapeutics in aquaculture	1
2.	Common therapeutants used in aquaculture, mode of action, dose & dosage of drugs	2
3.	Methods of application of drugs in aquaculture	1
4.	Phytotherapy, Phage therapy, Nanoparticle-based drugs, AMPs	2
5.	Pharmacology principles: Pharmacokinetics and pharmaco-dynamics	2
6.	Residual effect and withdrawal period of various chemotherapeutants	1
7.	Pharmacovigilance & Pharmacogenetics	1
8.	Immunopharmacology	1
9.	OECD guidelines	1
10.	Impacts of aqua drugs: Drug toxicity and poisoning	1
11.	Antimicrobial resistance: Antibiotic resistance and its impact on the environment and human health	1
12.	Legislative framework of chemotherapy in aquaculture	1
13.	Drug regulation acts and other legal aspects	1
Total Number of classes		16
Practical Classes		
1.	On-farm practical sampling sessions on use of drugs and chemicals in aquaculture.	2
2.	Case studies: on different events of fish mortality (due to disease of toxicants).	2
3.	Dose determination of drugs and chemicals in aquaculture.	1
4.	Application of therapeutants: Different methods of delivery of therapeutants in aquaculture.	2
5.	Preparation of plant extracts and extraction of compounds from plants.	3
6.	Laboratory demonstration of phytotherapy.	2
7.	Determination of MIC of drugs on common bacterial pathogen of fish.	2
8.	Determination of MBC of drugs on common bacterial pathogen of fish.	1
9.	Methods to identify the active compounds (plants or drugs) through HPLC.	1
Total Number of classes		16

Signature of Course Instructor:

Name of Course Instructor: Dr. Pushpa Kumari