

**COLLEGE OF FISHERIES, KISHANGANJ
BIHAR ANIMAL SCIENCES UNIVERSITY, PATNA**

Lecture Plan/Schedule

Course Title: Reproductive Biology of Finfish and Shellfish

Course No. FRM 506; 3(2+1)

Theory

Sl. No.	Topic	No. of classes
1.	Fish reproduction: Types - Gonads - Sexual differentiation	2
2.	Reproductive biology: Gonado-Somatic Index, Fecundity	2
3.	Length at first maturity-breeding migration	2
4.	Environmental influence on the breeding cycle.	2
5.	Male reproductive system of finfish and shellfish: Endocrinology	2
6.	Spermatogenesis	1
7.	Sperm morphology	1
8.	Female reproductive system of finfish and shellfish: Endocrinology- Oogenesis	2
9.	Ovulation - Atresia- Vitellogenesis.	2
10.	Physiological control of reproduction in finfish: Fish reproduction – Fish hormone	2
11.	Hormone Dynamics- Maturation and spawning	2
12.	Hormones in spermatogenesis, Oogenesis, Yolk formation	1
13.	Mechanism of sex reversal	1
14.	Pheromone	1
15.	Hormone-based induced reproduction.	2
16.	Physiological control of reproduction in crustaceans (shrimp, crab and lobsters): Maturation and spawning,	2
17.	Spermatogenesis, Oogenesis, Yolk formation,	2
18.	Mechanism of sex reversal- Eye stalk ablation	2
19.	Physiological control of reproduction in molluscs: Maturation and spawning	2
20.	Spermatogenesis, Oogenesis, Yolk formation,	2
21.	Mechanism of sex reversal – sex Control;	2
22.	Early Embryonic Development, Maturity cycle and hormone	1
	Total no. of classes	38

Practical

Sl. No.	Topic	No. of classes
1.	Study of sexual dimorphism in finfish	1
2.	Study of sexual dimorphism in shellfish	1
3.	Study of reproductive organs in finfish by dissection	2
4.	Study of reproductive organs in shellfish by dissection	1
5.	Study of maturity stage observation in finfish	1
6.	Study of length at maturity estimation in finfish	1
7.	Study of intra-ovarian periodicity	1
8.	Dissection of reproductive glands in finfish	1
9.	Study of fish sperm quality analysis - morphology	1
10.	Study of fish sperm quality analysis - quantification and motility	2
11.	Study of egg quality analysis - morphology	1
12.	Study of fecundity estimation	1
13.	Identification of moult stages	1
14.	Histological techniques-study gonadal maturity stages	1
	Total no. of classes	16

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