

CLASS WISE LECTURE OUTLINE

SEED PRODUCTION AND HATCHERY MANAGEMENT

Course Code: AQC-602

Credit Hours: 2+1

Sl. NO.	TOPIC	No. of Lecture
1	Reproductive biology of high-value cultivable fishes, crustaceans and molluscs: Reproductive behaviour and sexual differentiation	1
2	Anatomy and morphology of reproductive organs in fishes, crustaceans and molluscs	1
3	Gametology and factors influencing gonadal maturity	1
4	Broodstock management: Factors affecting maturation and spawning	1
5	Nutritional and environmental requirements of broodstock and broodstock manipulation for early maturation	1
6	Criteria for selection of broodstock and selective breeding strategies	1
7	Tagging and transportation of broodstock; natural and synthetic anaesthetics for transportation	1
8	Vaccines and therapeutics for broodstock health management; broodstock determination and hormonal dynamics	1
9	Induced spawning: Inducing agents and factors behind development of inducing agents	1
10	Hormonal analogues and comparative evaluation of commercially available inducing agents	1
11	Artificial insemination in crustaceans and molluscs	1
12	Cryopreservation of gametes and embryos in finfishes and shellfishes	1
13	Artificial fertilization protocols in finfishes and shellfishes	1
14	Larval nutrition: Nutritional requirements of larvae and post-larvae	1
15	Live food culture and nutritional enrichment of live food organisms	2
16	Different live-feed products: Powdered algae, algal paste and micronized vitamin-fortified algal products	1
17	Formulation and use of artificial diets for larvae and post-larvae	1
18	Hatchery management: Water quality management and physico-chemical and biological approaches	1

19	Disease control in hatcheries: Diagnosis, quarantine procedures and biosecurity	1
20	Probiotics and biofloc systems in hatcheries	1
21	Seed quality testing methods and seed certification	1
22	Immunostimulants and immune modulators in hatcheries; SPF and effluent treatment	1
23	Seed transportation methods and management during transportation	1
24	Advances in seed production of commercially important finfishes	1
25	Advances in seed production of commercially important shellfishes	1
26	Artificial propagation of seaweeds and tissue culture techniques	1
27	Recent technologies for enhancing survival and growth in nurseries	1
28	Nursery technology for different finfishes	1
29	Nursery technology for different shellfishes	1
30	Legal issues in seed quality and marketing	1

Total Theory Lectures: 30

PRACTICAL LECTURE OUTLINE

Sr. No.	TOPIC	No. ofLecture
1	Reproductive biology of high-value cultivable fishes, crustaceans and Molluscs: Reproductive behaviour and sexual differentiation	1
2	Anatomy and morphology of reproductive organs in fishes, crustaceans and Molluscs	1
3	Gametology and factors influencing gonadal maturity	1
4	Broodstock management: Factors affecting maturation and spawning	1
5	Nutritional and environmental requirements of broodstock and broodstock manipulation for early maturation	1
6	Criteria for selection of broodstock and selective breeding strategies	1
7	Tagging and transportation of broodstock; natural and synthetic anaesthetics for transportation	1
8	Vaccines and therapeutics for broodstock health management; broodstock determination and hormonal dynamics	1
9	Induced spawning: Inducing agents and factors behind development of inducing agents	1

10	Hormonal analogues and comparative evaluation of commercially available inducing agents	1
12	Cryopreservation of gametes and embryos in finfishes and shellfishes	1
14	Larval nutrition: Nutritional requirements of larvae and post-larvae	1
15	Live food culture and nutritional enrichment of live food organisms	2
16	Different live-feed products: Powdered algae, algal paste and micronized vitamin-fortified algal products	1
17	Formulation and use of artificial diets for larvae and post-larvae	1
18	Hatchery management: Water quality management and physico-chemical and biological approaches	2

Total Practical Lectures: 18

Dr Abhiman
Course Teacher