



SRI Y.N. COLLEGE (Autonomous), Narasapur

Affiliated to Adikavi Nannayya University

Thrice Accredited by NAAC with 'A' Grade

Recognized by UGC as 'College with potential for Excellence'

CURRICULAR PLAN 2021-22

DEPARTMENT OF ZOOLOGY & FISHERIES

I B.Sc. Aquaculture Technology; Paper-I, Semester –I

BASIC PRINCIPLES OF AQUACULTURE

(Dr. N.H.K Durga Prasad , G. Sunitha, Ch. Durga Bhavani)

S.No	Month	Week	Syllabus	Additional input/ Value addition	Curricular Activity		Co-Curricular Activity	
					Activity	Hours Allotted	Activity	Hours Allotted
1.	Nov	III week	Concept of Blue Revolution – History and definition of Aquaculture	Seminar	Teaching	8	Assignment	1
		IV week	Fresh Water Aquaculture, Brackish Water Aqua Culture and Mari Culture.					
2.	Dec	I week	Different aquaculture system. Pond, Cage, Pen, Running Water	Group Discussion	Teaching	16	Assignment	1
		II week	Extensive, Semi Intensive, Intensive System and their Significance Monoculture, Poly Culture and Mono Sex Culture Systems and Mixed Culture.					
		III week	Food chains and Food Web					
		IV week	Lotic and lentic system, Streams and Springs.					
3.	Jan	I week	Importance of plankton and Benthos in culture ponds	Quiz	Teaching	16	Slip test	1

		II week	Functional classification of Pond				Assignment	1
		III week	Hatchery design – Fish Hatchery					
		IV week	Important (nature of soil, water resources) Factors in the construction of an ideal fish Pond					
	Feb	I week	Lay out and arrangements of Ponds in a Fish Farm.	Seminar	Teaching	16	Slip test	1

4.		II week	Manure application in culture ponds				Assignment	1 1
		III week	Physico - chemical conditions of soil					
		IV week	Physico - chemical conditions of water					
5.	March	I week	Eradication of Predators and weed control		Teaching	16	Slip test Assignment	1 1
		II week	Advantages and disadvantages of weed, weed plants in culture ponds					
		III week	Aquatic weeds, weed Fish, toxins used for weed control and control of predators.					
		IV week	Revision					



SRI Y.N. COLLEGE (Autonomous), Narasapur

Affiliated to Adikavi Nannayya University

Thrice Accredited by NAAC with 'A' Grade

Recognized by UGC as 'College with potential for Excellence'

CURRICULAR PLAN 2021-22

DEPARTMENT OF ZOOLOGY & FISHERIES

I B.Sc. Aquaculture Technology; Paper-II, Semester –II

BIOLOGY OF FIN FISH & SHELL FISH

(Dr. N.H.K Durga Prasad ,G. Sunitha, Kum. Ch. Durga Bhavani)

S.No	Month	Week	Syllabus	Additional input/ Value addition	Curricular Activity		Co-Curricular Activity	
					Activity	Hours Alloted	Activity	Hours Alloted
1.	May	III week	General characters and classification of fishes up to the classes.	Charts Making	Teaching	8	Assignment Guest lecture	1
		IV week	Fish, crustaceans and molluscs of commercial importance.					
		V week	Sense organs of Fishes & Specialized organs in Fishes					
2.	June	I week	Buoyancy in Fishes – Swim bladder or air bladder.	Quiz	Teaching	16	Slip test Assignments Quiz	1 1 1
		II week	Natural Fish Food, Feeding habits, Stimuli for Feeding, gut content analysis, structural modifications in relation to feeding habits.					
		III week	Principles of age and growth determination, Growth rate measurement – scale method, otolith method.					
3.	July	I week	Length – weight relationship, condition factor.	PPT	Teaching	16	Slip test Assignments	1 1

		II week	Breeding in Fishes, breeding places, breeding habits, breeding in natural environment and in artificial ponds.					
		III week	Induced breeding in fishes (Fresh water)					
		IV week	Parental case in Fishes, Ovo – Viviparity, Oviparity, viviparity, nest building and brooding.					
4.	Aug	I week	Embryonic and larval development of Fish & Shrimp	Seminar				
		II week	Environmental factors affecting reproduction and development of cultivable fish fishes.					
		III week	Endocrine system in fishes & Neurosecretary cell, ovary and chromatophores.					
		IV week	Molting in crustacean shell fish.					



SRI Y.N. COLLEGE (Autonomous), Narasapur

Affiliated to Adikavi Nannayya University

Thrice Accredited by NAAC with 'A' Grade

Recognized by UGC as 'College with potential for Excellence'

CURRICULAR PLAN 2021-22

DEPARTMENT OF ZOOLOGY & FISHERIES

II B.Sc. Aquaculture Technology; Paper-III, Semester –III

FISH NUTRITION & FEED TECHNOLOGY

(Dr. N.H.K Durga Prasad , G. Sunitha, Kum. Ch. Durga Bhavani)

S.No	Month	Week	Syllabus	Additional input/ Value addition	Curricular Activity		Co-Curricular Activity	
					Activity	Hours Allotted	Activity	Hours Allotted
1.	Dec	III week	Requirement for protein, carbohydrates, lipids, fiber, for different of cultivable fish.	Group discussion	Teaching	8	Assignment	1
		IV week	Essential Amino acid and fatty acids.					
2.	Jan	I week	Feed conversion efficiency, feed conversion ratio	Quiz	Teaching	16	Assignment	1
		II week	Wet feeds, Moist feeds, dry feeds, mash, pelleted feeds, floating and sinking pellets, advantage of pelletization					
		III week	Manual feeding, automatic feeders, surface spraying, bag feeding and tray feeding.					
		IV week	Feed ingredients and their selection.					
3.	Feb	II week	Feed formulation – Steam pelleting, grinding,	Seminar	Teaching	12	Assignments	1

			mixing and drying, pelleting and packing.					
		III week	Water stability of feeds, farm made aqua feeds, Micro-Coated feeds, Micro-Encapsulated feeds					
		IV week	Microbial, insect and rodent damage of feed chemical spoilage during storage period and proper storage methods					
4.	March	I week	Binders, anti-oxidants, probiotics & Feed attractants and feed stimulants	Seminar	Teaching	16	Slip test Assignments	1 1
		II week	Enzymes, hormones, growth promoters and pigments.					
		III week	Protein deficiency, Vitamin and Mineral deficiency Symptoms.					
		IV week	Importance of Natural and supplementary feeds, balance diet.					



SRI Y.N. COLLEGE (Autonomous), Narasapur

Affiliated to Adikavi Nannayya University

Thrice Accredited by NAAC with 'A' Grade

Recognized by UGC as 'College with potential for Excellence'

CURRICULAR PLAN 2021-22

DEPARTMENT OF ZOOLOGY & FISHERIES

II B.Sc. Aquaculture Technology; Paper-IV, Semester –IV

FRESH WATER & BRACKISH WATER AQUA CULTURE

(Dr. N.H.K Durga Prasad , G. Sunitha, Kum. Ch. Durga Bhavani)

S.No	Month	Week	Syllabus	Additional input/Value addition	Curricular Activity		Co-Curricular Activity	
					Activity	Hours Alloted	Activity	Hours Alloted
1.	May	I week	Status, scope and prospects of fresh water aquaculture	Seminar	Teaching	12	Slip test	1
		II week	Different fresh water Aquaculture systems.					
		III week	Major cultivable Indian carps					
2.	June	I week	Exotic fish species introduced to India	Quiz	Teaching	12	Slip test	1
		II week	Composite fish culture (fish) system of Indian and exotic carps.					
		III week	Recent developments in the culture of clarius, anabas, murrels.					
3.	July	I week	Advantages and constraints in the culture of air breathing and cold water fishes	Quiz	Teaching	12	Assignment	1
		II week	Special systems of Aqua culture					
		III week	Fresh Water prawns of India – Commercial value.					
		IV week	Macrobrachium rosenbergii and M. Malcomsoni-					

			biology					
4.	Aug	I week	Culture of Brackish water species.	Seminar	Teaching	04	Assignment	1



SRI Y.N. COLLEGE (Autonomous), Narasapur

Affiliated to Adikavi Nannayya University

Thrice Accredited by NAAC with 'A' Grade

Recognized by UGC as 'College with potential for Excellence'

CURRICULAR PLAN 2021-22

DEPARTMENT OF ZOOLOGY & FISHERIES

III B.Sc. Aquaculture Technology; Paper-V, Semester –V

FISH HEALTH MANAGEMENT

(G. Sunitha)

S.No	Month	Week	Syllabus	Additional input/ Value addition	Curricular Activity		Co-Curricular Activity	
					Activity	Hours Allotted	Activity	Hours Allotted
1.	Sep	IV week	Introduction to fish diseases – Definition	Seminar	Teaching	10	Assignment	1
		V week	Types of diseases.					
2.	Oct	I week	Neoplasms, Inflammation	Collection of diseased fish pictures	Teaching	20	Assignment	1
		II week	Fungal diseases – saprolegniosis, Branchiomyxosis, Ichthyophonus diseases.					
		III week	Viral diseases – Haemorrhagic Sepsis					
		IV week	Spring viremia of carps, infections hematopoietic necrosis, channel cat fish viral disease					
3.	Nov	I week	Bacterial diseases – Vibrio infections, columnaris	Downloaded diseased fish pictures	Teaching	20	Slip test Assignment	1 1
		II week	Furunculosis, Bacterial gill disease, Bacterial kidney disease.					
		III week	Major shrimp viral diseases – Baculovirus, Baculaviral midgut necrosis					
		IV week	Infections hypodermal and haematopoietic,					

			yellow head baculovirus.					
4.	Dec	I week	Nutritional Pathology – vitamin mineral deficiency diseases.	PPT	Teaching	20	Slip test Assignment	1 1
		II week	Environmentally induced diseases.					
		III week	Methods of fish disease diagnosis, prevention of fish diseases.					
		IV week	Therapeutic Methods fish diseases.					
5.	Jan	I week	Revision		Teaching	10	Slip test Assignment	1 1
		II week	Revision					



SRI Y.N. COLLEGE (Autonomous), Narasapur

Affiliated to Adikavi Nannayya University

Thrice Accredited by NAAC with 'A' Grade

Recognized by UGC as 'College with potential for Excellence'

CURRICULAR PLAN 2021-22

DEPARTMENT OF ZOOLOGY & FISHERIES

III B.Sc. Aquaculture Technology; Paper-VI, Semester –V

FISHERIES EXTENSION, ECONOMICS & MARKETING

(Dr. N.H.K Durga Prasad)

S.No	Month	Week	Syllabus	Additional input/ Value addition	Curricular Activity		Co-Curricular Activity	
					Activity	Hours Allotted	Activity	Hours Allotted
1.	Sep	IV week	Meaning and scope of economics with reference to fisheries.	Quiz	Teaching	10	Assignment	1
		V week	Basic concepts of economics					
2.	Oct	I week	Various factors influencing the fishery product's price	Group Discussion	Teaching	20	Assignment	1
		II week	Basic marketing functions, consumer behaviour and demand, fishery market survey and test marketing a product.					
		III week	Fish marketing – prices and price determination of fishes.					
		IV week	Marketing institutions – primary & secondary					
3.	Nov	I week	Aquaculture economics – application of economics	Guest Lecture	Teaching	25	Slip test	1

			principles to aquaculture operations.				Assignment	1
		II week	Various inputs and production function. Laws of variable proportions.					
		III week	Cost and earnings of aquaculture systems					
		IV week	Socio-economic conditions of fishermen in Andhra Pradesh					
		V week	Role of Matsyafed and NABARD in uplifting fishermen's conditions, fishermen cooperatives.					
4.	Dec	I week	Contribution of fisheries to the national economy.	Seminar	Teaching	20	Slip test Assignment	1 1 1
		II week	Fisheries extension – scope and objectives, principles and features of fisheries extension education.					
		III week	Fisheries extension methods and rural development.					
		IV week	ICAR programs					
5.	Jan	I week	Education of farmers through print and electronic media.	Quiz	Teaching	10	Slip test Assignment	1 1
		II week	Revision					



SRI Y.N. COLLEGE (Autonomous), Narasapur

Affiliated to Adikavi Nannayya University

Thrice Accredited by NAAC with 'A' Grade

Recognized by UGC as 'College with potential for Excellence'

CURRICULAR PLAN 2021-22

DEPARTMENT OF ZOOLOGY & FISHERIES

III B.Sc. Aquaculture Technology; Paper-VII, Semester –VI

FISHERY ENGINEERING

(Dr. N.H.K Durga Prasad)

Paper- VII, Cluster Elective - III, Semester –VI,

S.No	Month	Week	Syllabus	Additional input/ Value addition	Curricular Activity		Co-Curricular Activity	
					Activity	Hours Allotted	Activity	Hours Allotted
1.	Sep	I week	Different types of fishing crafts in India – inland and marine – traditional, motorized and mechanized	Group discussion	Teaching	24	Assignment	1
		II week	Classification of fishing craft					
		III week	Boat building materials – wood, steel, FRP, ferro – cement, aluminium etc.,					
		IV week	Mechanization of fishing craft and its impact					
2.	Oct	I week	Evolution of fishing methods and gear – principles	Seminar	Teaching	24	Assignments	1
		II week	Design of fishing gear and fish catching methods					
		III week	Fishing accessories, Netting materials – natural and synthetic fishing gear materials and yarn numbering system					
		IV week	Active fishing gear – classification and description of modern fishing gears – Design and operation					
3.	Nov	I week	Types of Anchors – chains, ropes, blocks, leads.		Teaching	24	Slip test Assignments	1 1
		II week	Echo sounders, fish finders, sonar and net sounds					

		III week	Sexant, chronometer, gyro compass, radar, decca, omega.					
		IV week	Remote sensing applications in fish finding and catching					
		V week	Destructive and prohibited fishing practices					
4.	Dec	I week	Fish aggregating devices and artificial reefs	Field Visit				
		II week	Ice making machinery					
		III week	Operation of various freezing machinery					
		IV week	Machinery for sausage making canning and packing					
5.	Jan	I week	General maintenance of freezing and cold storage ice plant	Visiting local market				
		II week	Revision					



