



SRI Y.N. COLLEGE (Autonomous), Narsapur

Affiliated to Adikavi Nannayya University

Thrice Accredited by NAAC with 'A' Grade

Recognized by UGC as 'College with potential for Excellence'

CURRICULAR PLAN 2019-2020

DEPARTMENT OF ZOOLOGY & FISHERIES

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

BASIC PRINCIPLES OF AQUACULTURE

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

S.No	Month	Week	Syllabus	Additional input Value addition	Curricular Activity		Co-Curricular Activity	
					Activity	Hours Allotted	Activity	Hours Allotted
1.	June	IV week	Concept of Blue Revolution	Quiz	Teaching	08	Assignment	1
		V week	Fresh Water Aquaculture, Brackish Water Aqua Culture and Mari Culture					
2.	July	I week	Different aquaculture system. Pond, Cage, Pen, Running Water, Extensive, Semi Intensive	Seminar	Teaching	20	Assignment	1
		II week	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					

		V week	Importance of plankton and Benthos in culture ponds and primary productivity					
3.	Aug	I week	Functional classification of Pond – Nursery, rearing, production, stocking and quarantine ponds	Group Discussion	Teaching	16	Slip test Assignment	1 1
		II week	Hatchery design – Fish Hatchery					
		III week	Important factors in the construction of an ideal fish Pond – site selection topography, nature of the soil, water resources.					
		IV week	Lay out and arrangements of Ponds in a Fish Farm					
4.	Sept	I week	Manure application in culture ponds	Seminar	Teaching	16	Slip test Assignment	1 1 1
		II week	Physico - chemical conditions of soil					
		III week	Physico - chemical conditions of water					
		IV week	Eradication of Predators and weed control advantages and disadvantages of weed					
5.	Oct	I week	Weed plants in culture ponds, aquatic weeds, weed Fish, used for weed control and control of predators	Seminar	Teaching	8	Slip test Assignment	1 1
		II week	Revision					



SRI Y.N. COLLEGE (Autonomous), Narsapur

Affiliated to Adikavi Nannayya University
Thrice Accredited by NAAC with 'A' Grade
Recognized by UGC as 'College with potential for Excellence'

CURRICULAR PLAN 2019-2020

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 ,Smt. G. Sunitha)

S.No	Month	Week	Syllabus	Additional input Value addition	Curricular Activities		Co-Curricular Activities	
					Activity	Hours Allotted	Activity	Hours Allotted
1.	Nov	III week	General characters and classification of fishes up to the classes	Quiz	Teaching	8	Assignment	1
		IV week	Fish, crustaceans and molluscs of commercial importance					
2.	Dec	I week	Sense organs of Fishes & Specialized organs in Fishes	Field Data	Teaching	16	Assignment Guest Lecture	1
		II week	Buoyancy in Fishes – Swim bladder or air bladder					
		III week	Natural Fish Food, Feeding habits, Stimuli for Feeding					
		IV week	Principles of age and growth determination, Growth rate measurement					
3.	Jan	I week	Length – weight relationship, condition factor.	Seminar	Teaching	16	Slip test Assignment	1 1
		II week	Breeding in Fishes, breeding places, breeding habits, in natural environment and in artificial pond					

		III week	Induced breeding in fishes (Fresh water)					
		IV week	Parental case in Fishes, Ovo – Viviparity, Oviparity, viviparity, nest building and brooding					
4.	Feb	I week	Embryonic and larval development of Fish & Shrimp	Seminar	Teaching	16	Slip test Assignment	1
		II week	Environmental factors affecting reproduction and development of cultivable fish fishes.					1
		III week	Endocrine system in fishes.					1
		IV week	Neurosecretary cell, ovary and chromatophores					
5.	March	I week	Molting in crustacean shell fish.	Seminar	Teaching	4	Slip test Assignment	1 1



SRI Y.N. COLLEGE (Autonomous), Narsapur

Affiliated to Adikavi Nannayya University

Thrice Accredited by NAAC with 'A' Grade

Recognized by UGC as 'College with potential for Excellence'

CURRICULAR PLAN 2019-2020

DEPARTMENT OF ZOOLOGY & FISHERIES

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

FISH NUTRITION & FEED TECHNOLOGY

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

S.No	Month	Week	Syllabus	Additional input/ Value addition	Curricular Activity		Co-Curricular Activity	
					Activity	Hours Allotted	Activity	Hours Allotted
1.	June	IV week	Requirement for protein, carbohydrates, lipids	Seminar	Teaching	8	Assignment	1
		V week	Essential Amino acid and fatty acids					
2.	July	I week	Feed conversion efficiency, feed conversion ratio	Group Discussion	Teaching	20	Assignment	1
		II week	Wet feeds, Moist feeds, dry feeds, mashes					
		III week	Pelleted feeds, floating and sinking pellets, advantage of pelletization.					

		IV week	Manuel feeding, automatic feeders, surface spraying, feeding and tray feeding					
		V week	Microbial, insect and rodent damage of feed chemical spoilage during storage period and proper storage methods Feed ingredients and their					
3.	August	I week	Feed formulation	Quiz	Teaching	16	Slip test Assignment	1 1
		II week	Water stability of feeds, farm made aqua feeds, Micro-Coated feeds, Micro-Encapsulated feeds and micro – bund diets.					
		III week	Microbial, insect and rodent damage of feed chemical spoilage during storage period and proper storage methods					
		IV week	Binders, anti-oxidants, probiotics					
4.	Sept	I week	Feed attractants and feed stimulants	Quiz	Teaching	16	Slip test Assignment	1 1 1
		II week	Enzymes, hormones, growth promoters and pigments					
		III week	Protein deficiency, Vitamin and Mineral deficiency Symptoms					
		IV week	Nutritional pathology and Anti Nutrients					
5.	Oct	I week	Importance of Natural and supplementary feeds, balan		Teaching	8	Slip test Assignment	1 1
		II week	Revision					



SRI Y.N. COLLEGE (Autonomous), Narsapur

Affiliated to Adikavi Nannayya University

Thrice Accredited by NAAC with 'A' Grade

Recognized by UGC as 'College with potential for Excellence'

CURRICULAR PLAN 2019-2020

DEPARTMENT OF ZOOLOGY & FISHERIES

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

FRESH WATER & BRACKISH WATER AQUACULTURE

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

S.No	Month	Week	Syllabus	Additional input/ Value addition	Curricular Activit		Co-Curricular Activit	
					Activity	Hours Allotted	Activity	Hours Allotted
1.	Nov	III week	Status, scope and prospects of fresh water aquaculture in the world	Seminar	Teaching	4	Assignment	1
		IV	Different fresh water Aquaculture systems					
2.	Dec	I week	Major cultivable Indian carps	Quiz	Teaching	8	Assignment	1
		II week	Exotic fish species introduced to India					
		III week	Composite fish culture (fish) system of Indian and exotic carps					
		IV week	Recent developments in the culture of clarius, anabas, murels					

3.	Jan	I week	Advantages and constraints in the culture of air breathing and cold water fishes	Quiz	Teaching	8	Slip test Assignment	1 1
		II week	Special systems of Aqua culture					
		III week	Fresh Water prawns of India – Commercial value.					
		IV week	Macrobrachium rosenbergii - biology, seed production, pond preparation					
4.	Feb	I week	M. Malcomsoni- biology, seed production, pond preparation	Seminar	Teaching	8	Slip test Assignment	1 1 1
		II week	Culture of P.Mondon					
		III week	Culture of l-vannamei					
		IV	Mixed culture of fish and prawns					
5.	March	I week	Revision		Teaching	2	Slip test Assignment	1 1



SRI Y.N. COLLEGE (Autonomous), Narsapur

Affiliated to Adikavi Nannayya University

Thrice Accredited by NAAC with 'A' Grade

Recognized by UGC as 'College with potential for Excellence'

CURRICULAR PLAN 2019-2020

DEPARTMENT OF ZOOLOGY & FISHERIES

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

FISH HEALTH MANAGEMENT

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

S.No	Month	Week	Syllabus	Additional input/ Value addition	Curricular Activity		Co-Curricular Activity	
					Activity	Hours Allotted	Activity	Hours Allotted
1.	June	IV week	Introduction to fish diseases – Definition and types of diseases	Seminar	Teaching	10	Assignment	1
		V week	Neoplasms, Inflammation					
2.	July	I week	Fungal diseases – Saprolegniosis, Branchiomyxosis, Ichthyophorus diseases	Quiz	Teaching	25	Assignment	1
		II week	Viral diseases – Haemorrhagic Scepticemia, Spring viremia of carps					
		III week	Infections hematopoietic necrosis, channel cat fish viral disease.					
		IV week	Bacterial diseases – Vibrio infections, columnaris, furunculosis					
		V week	Bacterial gill disease, Bacterial kidney disease.					

3.	August	I week	Major shrimp viral diseases – Baculovirus, Bacculaviral midgut necrosis	Quiz	Teaching	20	Slip test Assignment	1 1
		II week	Infections hypodermal and haematopoietic, yellow baculovirus					
		III week	Nutritional Pathology					
		IV week	Vitamin deficiency diseases.					
4.	September	I week	Mineral deficiency diseases.	Group discussion	Teaching	20	Slip test Assignment	1 1 1 1
		II week	Environmentally induced diseases					
		III week	Methods of fish disease diagnosis					
		IV week	Prevention of fish diseases.					
5.	October	I week	Therapeutic Methods fish diseases.	Group discussion	Teaching	10	Slip test Assignment	1 1
		II week	Revision					



SRI Y.N. COLLEGE (Autonomous), Narsapur

Affiliated to Adikavi Nannayya University

Thrice Accredited by NAAC with 'A' Grade

Recognized by UGC as 'College with potential for Excellence'

CURRICULAR PLAN 2019-2020

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.	June	IV week	Meaning and scope of economics with reference to fisheries	Seminar	Teaching	12	Assignment	1
		V week	Basic concepts of economics – goods, services, wants and utility, demand and supply, value price, market demand and individual demand					
2.	July	I week	Elasticity of demand, law of diminishing marginal utility.	Seminar	Teaching	20	Assignment	1
		II week	Various factors influencing the fishery product's price					
		III week	Basic marketing functions, consumer behavior and demand, fishery market survey and test marketing a product					
		IV week	Fish marketing – prices and price determination of fishes					
		V week	Marketing institutions – Primary					

3.	August	I week	Marketing institutions – Secondary	Field data	Teaching	24	Slip test Assignment	1 1
		II week	Aquaculture economics – application of economics principles to aquaculture operations					
		III week	Various inputs and production function. Laws of variable proportions					
		IV week	Cost and earnings of aquaculture systems					
4.	Septem	I week	Socio-economic conditions of fishermen in Andhra Pradesh	Field Data	Teaching	24	Slip test Assignment	1 1
		II week	Contribution of fisheries t the national economy.					
		III week	Fisheries extension – scope					
		IV week	Fisheries extension – Objectives, principles and features					
5.	Octobe	I week	Fisheries extension methods and rural development.	Seminar	Teaching	12	Slip test Assignment	1 1
		II week	ICAR programs & Education of farmers through print and electronic media.					



SRI Y.N. COLLEGE (Autonomous), Narsapur

Affiliated to Adikavi Nannayya University

Thrice Accredited by NAAC with 'A' Grade

Recognized by UGC as 'College with potential for Excellence'

CURRICULAR PLAN 2019-2020

DEPARTMENT OF ZOOLOGY & FISHERIES

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

FISHERY ENGINEERING

(Dr. N.H.K Durga Prasad)

S.No	Month	Week	Syllabus	Additional input/ Value addition	Curricular Activities		Co-Curricular Activities	
					Activity	Hours Allotted	Activity	Hours Allotted
1.	Nov	III week	Different types of fishing crafts in India	Quiz	Teaching	10	Assignment	1
		IV week	Classification of fishing craft					
2.	Dec	I week	Boat building materials	Seminar	Teaching	20	Assignment	1
		II week	Mechanization of fishing craft and its impact					
		III week	Evolution of fishing methods and gear – principles					
		IV week	Design of fishing gear and fish catching methods					
3.	Jan	I week	Fishing accessories, Netting materials	Seminar	Teaching	20	Slip test Assignment	1 1
		II week	Active fishing gear – classification and description of modern fishing gears					
		III week	Types of Anchors – chains,ropes,blocks,leads.					
		IV week	Echo sounders, fish finders,sonar and net sounds.					
	Feb	I week	Sexant, chronometer, gyro compass, radar, decca, omeg	Field Work	Teaching	20	Slip test	1

4.		II week	Remote sensing applications in fish finding and				Assignment	1
		III week	Destructive and prohibited fishing practices & Fish aggregating devices and artificial reefs					
		IV week	Ice making machinery & Operation of various freezing machinery					
5.	March	I week	Machinery for sausage making canning and packing & General maintenance of freezing and cold storage ice	Field Work	Teaching	10	Slip test Assignment	1 1