ADD ON COURSE

AQUA FEED

Dr. V. S. Krishna Govt. Degree College (A)
Visakhapatnam

Dr. V. S. Krishna Govt. Degree & PG College (A)

Add-on Course

2022-23

Subject: AQUA FEED

DEPARTMENT OF ZOOLOGY

Dr.V.S.KRISHNA GOVT. DEGREE COLLEGE
(AUTONOMOUS)
NODAL RESOURCE CENTRE & AU CENTRE FOR RESEARCH
Maddilapalem, Visakhapatnam – 530013, Andhra Pradesh.
0891-2553262, https://www.drvskrishnagdc.edu.in

PERMISSION LETTER TO START ADD-ON COURSE

From
The Head of The Department,
Department Of Zoology
Dr. V. S. Krishna Govt. Degree College (A)

To
Principal,
Dr. V. S. Krishna Govt. Degree College (A)

Sir,

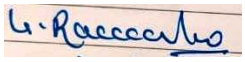
SUB: Permission to start an Add-on course for 2022-23 and permission to nominate the Zoology faculty to teach classes for the add on course - regarding

Ref: Resolution copy of the department of Zoology Dated 03-08-2022

As per the resolution of the department of Zoology, we are very much glad to start add-on course with a title **"Aqua Feed"** for the B.Sc (CBZ) students. Hence, we are requesting you to give permission to start the Add on course and also permission to teach theory and practical classes for the said add on course.

Thanking you sir

HOD
Department of Zoology



Course Coordinator

PRINCIPAL

Dr.V.S.KRISHNA GOVT. DEGREE COLLEGE
(AUTONOMOUS)
NODAL RESOURCE CENTRE & AU CENTRE FOR RESEARCH
Maddilapalem, Visakhapatnam – 530013, Andhra Pradesh.
0891-2553262, https://www.drvskrishnagdc.edu.in

DEPARTMENTOFZOOLOGY

Add-onCoursefor2022-23

AQUA EED

Introduction:

Like all other living things, aquatic animals need certain nutrients or substances for growth, tissue upkeep, metabolic control, and overall health. Fish farming depends increasingly on planned feeds and less on natural food sources as it gets more intensive. A well-balanced meal and sufficient feeding are essential components. Maximizing the profitability and productivity of fish. Farm fish suffer from excessive mortality, poor development, and insufficient food. It has been discovered that high-quality feed, when paired with appropriate feeding management, can increase feed conversion efficiency, reduce production costs, and lessen environmental harm.

The essential concepts of proper nutrition and feeding should be taken into consideration in an efficient feeding regime. This calls for knowledge of the dietary needs, eating habits, and behavior of various species, as well as fish's ability to absorb and utilize essential nutrients. The protein and essential amino acid needs of cultured species, along with lipids and essential fatty acids, energy, vitamins, and minerals, must all be provided via aqua feeds. The quantity of nutrients that fish can access will ultimately determine the meal's quality. As a result of fish eating to maintain their efficiency.

A particular fish species' nutritional requirements for cultivation should be understood. Carnivores like grouper, sea bass, and snapper have higher protein requirements than omnivores like milkfish and herbivores like tilapia. Varying fish species have varying requirements for vital amino acids. While tiger prawns and Asian seabass need both omega-3 and omega-6 fatty acids, milkfish only need omega-3 fatty acids. Conversely, tilapia needs N–6 fatty acids. Therefore,

feed compositions ought to be determined by the optimal nutrient requirements and levels for the farmed species. Feed development should continuously investigate methods to raise the quality of raw materials, reduce feed prices, and enhance farm feeding management.

The fish need to use the nutrients in the feed effectively. A plethora of new products, such as growth boosters, binders, and feed attractants, have entered the market. However, feed additives must be utilized cautiously in aqua feeds since new ones are constantly being launched without enough study on their effectiveness. Feed manufacturing ought to ensure that anti-nutrient components are eliminated and that the nutritional content is maintained. The control of feed quality in fish farms must start with the selection of materials and continue through feed processing, storage, and use. If a high-quality, nutritionally balanced diet is not properly implemented, it may be ineffective. Prioritizing improved feed performance and good feeding management is also necessary. Effective feeding management necessitates having answers to the questions of what, how much, when, how often, and where to feed the fish. The feeding schedule that is used must coincide with the fish's eating schedule and digestive cycle in order to maximize feed usage. Fish production costs and the quality of the cultural environment will be significantly impacted by any decrease in food waste.

Goals and Objectives:

- To determine the significant foods that aquatic species consume on a daily basis.
- Encouragement of Aquafeeds' preparation and manufacturing.
- To create methods for preparing feed using various ingredients.
- To lower disease rates with wholesome diets.
- Being aware of the kind of feeding ingredients used for fish and shrimp.
- Acquire practical knowledge

Course objectives:

- The student will recognize the ingredients in the food.
- The student will be familiar with manufacturing processes.
- Students will take action to fix their own fish meals.
- The students manufacture and sell fish meals for small-scale farmers.

• Methods for understanding how to lessen and treat fish illnesses.

• Employment prospects in the feed and aqua farming sectors.

Dr.V.S.KRISHNA GOVT. DEGREE COLLEGE
(AUTONOMOUS)
NODAL RESOURCE CENTRE & AU CENTRE FOR RESEARCH
Maddilapalem, Visakhapatnam – 530013, Andhra Pradesh.
0891-2553262, https://www.drvskrishnagdc.edu.in

Department of Zoology Add-on-course (w.e.f.2022-23)

Course Title: AQUAFEED

Hours: 60 **Max. Marks: 100**

AIM OF THE COURSE

To become knowledgeable about the feed equipment and nutritional needs of the main cultivable species in order to create innovative and new feeds for commercial aquaculture

LEARNING OBJECTIVES

• To comprehend the idea of feeds, feed ingredients, and feed preparation;

• To recognize the significance of ingredient selection, formulation, processing, and manufacturing;

• To give students hands-on experience with feed processing technology;

• To familiarize students with various nutritional leaching in feeds, feed quality determination, and feed making;

• To help students comprehend the equipment used in feed manufacturing.

COURSEOUTCOMES:

The overall course outcome is that the student shall develop deeper understanding of feed quality and feed ingredients. This course will provide students with a deep knowledge in aqua culture feeds. By the completion of the course the

graduate shall able to –

- **CO1**-Understandthebasicconceptsfeedmaking,whichcreatesscientifictemper among students
- **CO2**– Acquire knowledge on different types of feed ingredients for feed making.
- **CO3**– Get hands-on experience of various instruments.
- **CO4**–Analyzesamplesbyusingvariousscientifictechniquesandexposureto protocol-based research analysis.
- **CO5**– Knowledge on types of feeds for aqua industry.

CO–PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CO1	✓				✓		✓		✓
CO2	✓		✓			✓	✓	✓	✓
CO3		✓				✓		✓	✓
CO4	✓				✓		✓	✓	
CO5				✓	✓		✓	✓	✓

SYLLABUS

Unit I

Introduction: Types of fishes habitation, Need for studying the nutritional requirements of cultivable fishes, Natural Feed and Artificial Feed, feed formulation, Feed ingredients and Feed preparation: Commonly used feed ingredients in aqua feeds, Novel feed ingredients, estimation of quality of feed ingredients, Qualities of feed ingredients, Floating fish feed processing and manufacturing. Fish feed preparation method.

Unit II

Larval feeds and Live feeds: Shrimp larval feeds, artificial diets for larvae

Forms of feeds: Floating, semi-floating, sinking and stable feeds for aquaculture, Feed making methods for different feeds, Nutrient leeching in feeds, feed quality determination and feed making, Evaluation of feeds, Simulated system evaluation, lab analysis.

Unit III

Feed processing technology: Common processes in feed manufacture; Grinding, Dosing, Homogenization; Extrusion cooking; Complimentary processes; Drying, crumbling, coating; Use of binders; Feed manufacture productions with high energy diets vacuum coating with lipid. Equipments used in feed manufacture; Pulverizer, grinder, mixer, pelletizer, crumbler, drier, Extruder/Expander, Vacuum coater, fat sprayer

UNIT VI. Practicals

Nutritional requirements determination for different species

Collection and analysis of different feed ingredients

Feed formulation with different feeding gradients

Visit to feed mills and feed making process

Suggested Reading

1. Dr. Karri. Rama Rao, P. Ayodhya Reddy, Dr. Dasari Prasanna. Recent Trends in

Aquaculture: (2021), JTS Publications, Delhi, ISBN 978-93-90143-69-6.

2. ADCP (Aquaculture Development and Co-ordination Programme), 1980.Fish Feed Technology. ADCP/REP/80/11. FAO.
3. AliSA. 2018. Nutritional feeding of fish and shrimps in India. MJPPubl.
4. CyrinoEPandBureauDandKapoorBG.2008.FeedingandDigestiveFunctionsinFishes. Science Publ.
5. DAbramoLR, Conklin DE and Akiyama DM.1977. Crustacean Nutrition: AdvancesinAquaculture. Vol. VI. World Aquaculture Society, Baton Roughe.
6. DeSilvaSSandAndersonTA.1995.FishNutritioninAquaculture.ChapmanandHall Aquaculture Series.
7. ElenaM. 2003. Nutrition, Physiology and Metabolism in Crustaceans. Science Publishers.
8. GangulyS.2014.Potentialandrecommendedfeedadditivesforsustainableaquaculture, livestock and poultry farming practices. Narerndra Publ.
9. GuillameJ,KaushikS,BergotPandMetallierR.2001.NutritionandFeedingofFishand Crustaceans. Springer Praxis Publ.
10. Halver J and Hardy RW. 2002. FishNutrition. Academic Press.
11. HalverJE and TiewsKT. 1979.Finfish Nutrition and Fish feed Technology. Vols. I,II Heenemann, Berlin.
12. HertrampfJW and PascualFP. 2000.Hand book on Ingredients for Aquaculture Feeds. Kluwer.
13. HoulihanD, Boujard Tand JoblingM.2001. FoodIntakein Fish.Blackwell.
14. LavensPandSorgeloosP.1996.ManualontheProductionandUseofLiveFoodfor Aquaculture. FAO Fisheries Tech. Paper 361, FAO.
15. LovellRT.1998.Nutrition andFeedingofFishes.Chapmanand Hall.
16. LovellT.2014. Nutritionand feedingof fish.Springer Publ.
17. Merrifield D and Ringo E. 2014. Aquaculture Nutrition: gut health, probiotics and prebiotics.
18. Nates SF, 2016. Aquafeed formulation. Academic Press
19. New MB. 1987. Feed and Feeding of Fish and Shrimp. A Manual on the Preparation and Preservation of Compound Feeds for Shrimp and Fish in Aquaculture. FAO – ADCP/REP/ 87/26. • Strasbourg LK. 2013. Fish feeding in integrated fish farming. Random Exports.
20. Wiley Blackwell. Ninawe AS and KhedkarGD.2009. Nutrition in aquaculture. Narendra Publications.

Dr.V.S.KRISHNA GOVT. DEGREE COLLEGE
(AUTONOMOUS)
NODAL RESOURCE CENTRE & AU CENTRE FOR RESEARCH
Maddilapalem, Visakhapatnam – 530013, Andhra Pradesh.
0891-2553262, https://www.drvskrishnagdc.edu.in

BLUEPRINT FOR SEMESTER END EXAMINATIONS PAPERSETTING

Learning Level-wise Weightage				
Bloom's Taxonomy level	**Weightage**	**marks**	**Essay type**	**Short answer type**
Knowledge/ Remember	33%	24	1	1 (1 out of 2)
Understanding/ Comprehension	27%	20	1	1 (1 out of 2)
Application/	20%	24	1	1 (1 out of 2)
Analysis	13%	16		2 (2 out of 4)
Synthesis/Evaluate	7%	16		1 (1 out of 2)
Total	100	100	3 questions	6 questions

S. No.	**Module/ Chapter**	**Name of the chapter**	**50 Marks (MCQs)**
1	Module-I	Unit-**I**	25 marks
2	Module-II	Unit-**II**	20 marks
3	Module-III	Unit-**I**	25 marks
4	Module-IV	Unit-**II**	30 marks

Note: The questions with internal choice should be of same Bloom's level.

Dr.V.S.KRISHNA GOVT. DEGREE COLLEGE
(AUTONOMOUS)
NODAL RESOURCE CENTRE & AU CENTRE FOR RESEARCH
Maddilapalem, Visakhapatnam – 530013, Andhra Pradesh.
0891-2553262, https://www.drvskrishnagdc.edu.in

Department of Zoology
Add-on course
Course Title: Aqua Feed

Time: 3 Hours **70 M**

MODEL PAPER

I. *Answer any FOUR of the following:* ***5*4x5= 25**
Draw labeled diagrams wherever necessary

1. Feed ingredients
2. Feed quality determination
3. Evaluation of feeds
4. Extrusion cooking
5. Pelletizer
6. Binders

.SECTION–B

II. ***Answer any THREE of the following:*** **3x15 = 45**
Draw labeled diagrams wherever necessary

1. Describe the method and needs of study the nutritional requirements
   OR
   Explain the estimation of quality of feed ingredients
2. Describe the various types of feeds?
   OR
   Write a detail note on feed quality and feed making
3. Explain the Feed processing technology?
   OR
   Describe the Feed manufacture productions with high energy diets

Dr.V.S.KRISHNA GOVT. DEGREE COLLEGE
(AUTONOMOUS)
NODAL RESOURCE CENTRE & AU CENTRE FOR RESEARCH
Maddilapalem, Visakhapatnam – 530013, Andhra Pradesh.
0891-2553262, https://www.drvskrishnagdc.edu.in

Department of Zoology
Add-on course
Course Title: Aqua Feed Practical

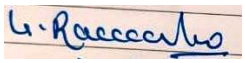
Time: 1 $^{1/2}$ Hours **30 M**

MODEL PAPER

1. Prepare Fish Feed using different feed ingredients - 20M

II. Field trip Record ----5M

III. Viva-Voce---- 5M



Internal Examiner

External Examiner

Dr.V.S.KRISHNA GOVT. DEGREE COLLEGE

(AUTONOMOUS)

NODAL RESOURCE CENTRE & AU CENTRE FOR RESEARCH

Maddilapalem, Visakhapatnam – 530013, Andhra Pradesh.

0891-2553262, https://www.drvskrishnagdc.edu.in

DEPARTMENT OF ZOOLOGY

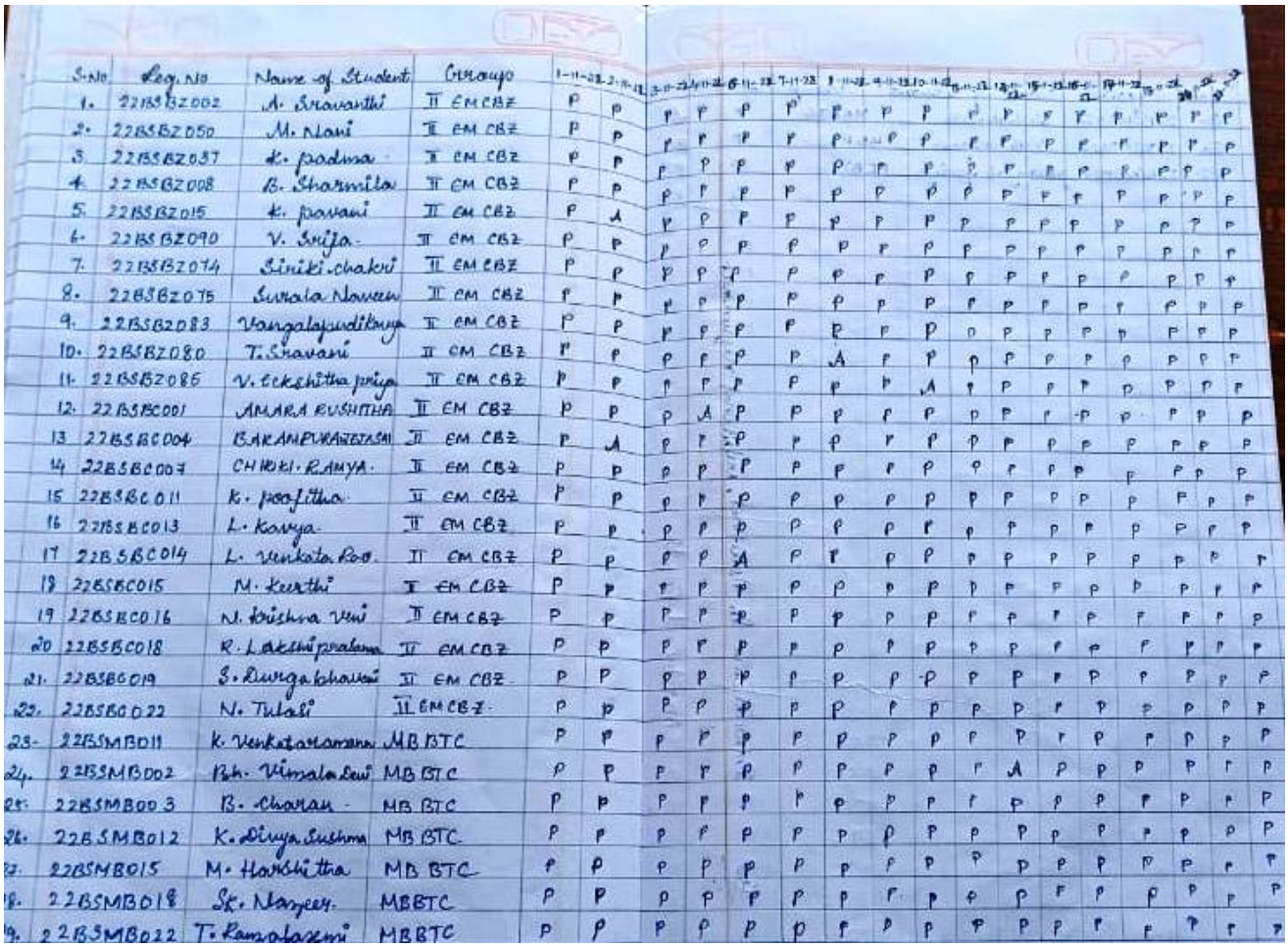
ADD-ON COURSE IN, 2022-23

Topic: ***Aqua Feed***

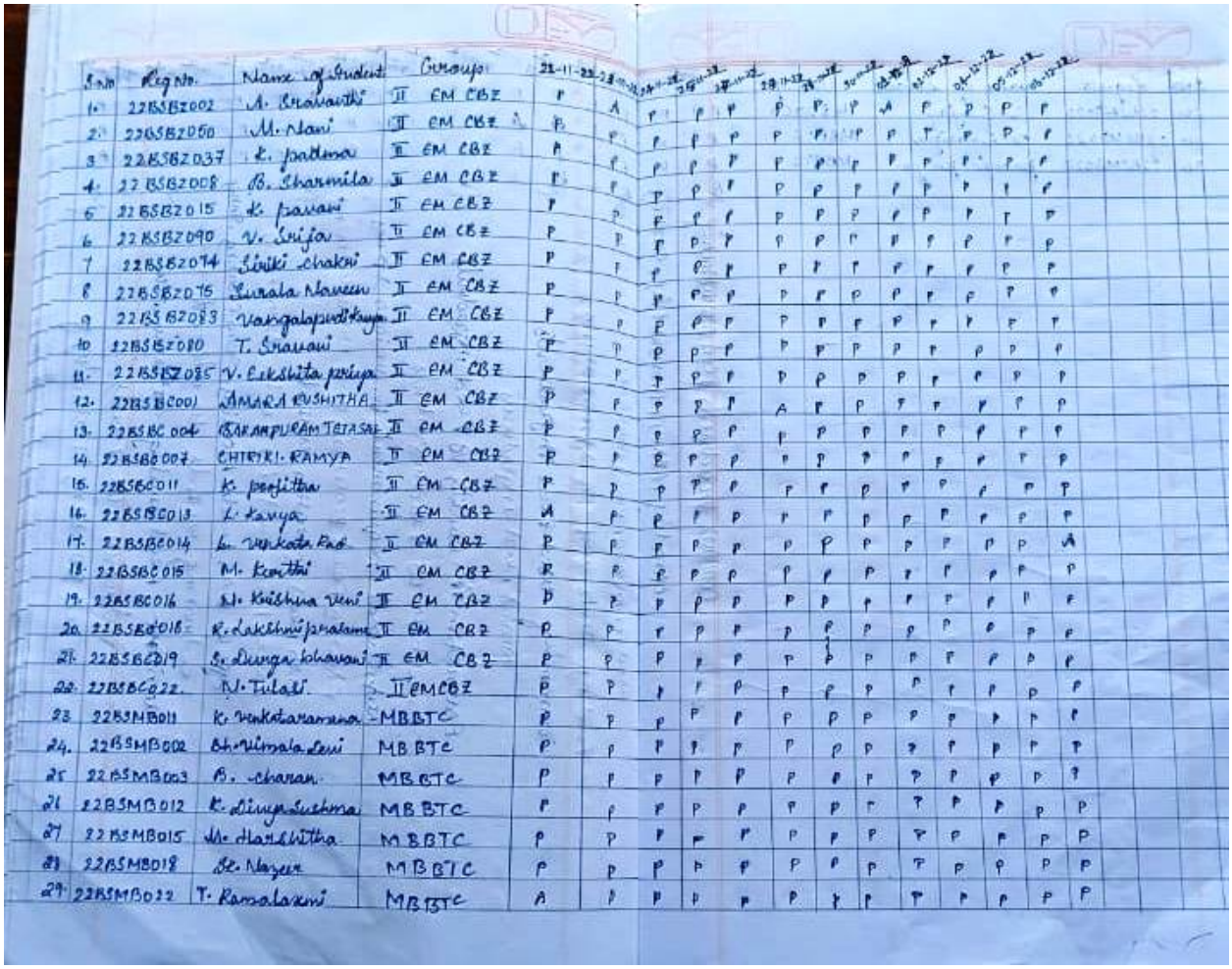
Award List

S.No	Name of the student	Regd: No	Class	Grade
1	A SRAVANTHI	22BSBZ002	II CBZ EM	A
2	M.NANI	22BSBZ050	II CBZ EM	A
3	K.PADMA	22BSBZ037	II CBZ EM	A
4	B.SHARMILA	22BSBZ008	II CBZ EM	A
5	K.PAVANI	22BSBZ015	II CBZ EM	A
6	V. SRIJA	22BSBZ090	II CBZ EM	A
7	V. EEKSHITA PRIYA	22BSBZ085	II CBZ EM	A
8	SIRIKI CHAKRI	22BSBZ074	II CBZ EM	A
9	SURALA NAVEEN	22BSBZ075	II CBZ EM	A
10	VANGALAPUDI KAVYA	22BSBZ083	II CBZ EM	A
11	T. SRAVANI	22BSBZ080	MB BT C	A
12	AMARA.RUSHITHA	22BSBC001	MB BT C	A
13	BARAMPURAM.TEJA SAI	22BSBC004	MB BT C	A
14	CHIRIKI.RAMYA	22BSBC007	MB BT C	A
15	KANCHIPATI.POOJITHA	22BSBC011	MB BT C	A
16	LAGUDU.KAVYA	22BSBC013	MB BT C	A
17	LALAM.VENKATA RAO	22BSBC014	MB BT C	A
18	MUDASALA.KEERTHI	22BSBC015	MB BT C	A
19	NAKKELA.KRISHNA VENI	22BSBC016	MB BT C	A
20	R.LAKSHMI PRASANNA	22BSBC018	MB BT C	A
21	SEEKOLU. DURGA BHAVANI	22BSBC019	MB BT C	A
22	NETHINI.TULASI	22BSBC022	MB BT C	A
23	K. VENKATARAMANA	22BSMB011	MB BT C	A
24	BH. VIMALA DEVI	22BSMB002	MB BT C	A
25	B. CHARAN	22BSMB003	MB BT C	A
26	K. DIVYA SUSHMA	22BSMB012	MB BT C	A
27	M. HARSHITHA	22BSMB015	MB BT C	A
28	SK. NAZEER	22BSMB018	MB BT C	A
29	T. RAMALAXMI	22BSMB022	MB BT C	A
30	U. SANJAY	22BSMB024	MB BT C	A
31	V. BHARGAV	22BSMB026	MB BT C	A
32	PRANJAL PRIYA	22BSMB027	MB BT C	A

Coordinator **HOD**



S.No	Reg. No	Name of Student	Group
1.	22BSBZ002	A. Sravanthi	II EM CBZ
2.	22BSBZ050	M. Navi	II EM CBZ
3.	22BSBZ037	K. padma	II EM CBZ
4.	22BSBZ008	B. Sharmila	II EM CBZ
5.	22BSBZ015	K. pavani	II EM CBZ
6.	22BSBZ090	V. Srija	II EM CBZ
7.	22BSBZ074	Siniki. chakri	II EM CBZ
8.	22BSBZ075	Surala Naveen	II EM CBZ
9.	22BSBZ083	Vangalajyothirmaya	II EM CBZ
10.	22BSBZ080	T. Sravani	II EM CBZ
11.	22BSBZ085	V. Lekshitha priya	II EM CBZ
12.	22BSBC001	AMARA KUSHITHA	II EM CBZ
13	22BSBC004	BARANEPRAVEENASAI	II EM CBZ
14	22BSBC007	CHIKKI. RAMYA.	II EM CBZ
15	22BSBC011	K. poojitha	II EM CBZ
16	22BSBC013	L. Kavya	II EM CBZ
17	22BSBC014	L. Venkata Rao	II EM CBZ
18	22BSBC015	M. Keerthi	II EM CBZ
19	22BSBC016	N. krishna Veni	II EM CBZ
20	22BSBC018	R. Lakshmiprasanna	II EM CBZ
21.	22BSBC019	S. Divyabhavani	II EM CBZ
22.	22BSBC022	N. Tulasi	II EM CBZ
23.	22BSMB011	K. Venkataramana	MB BTC
24.	22BSMB002	Bh. Vimala Devi	MB BTC
25.	22BSMB003	B. Charan	MB BTC
26.	22BSMB012	K. Divya Sushma	MB BTC
27.	22BSMB015	M. Harshitha	MB BTC
28.	22BSMB018	Sk. Nazeer	MBBTC
29.	22BSMB022	T. Ramalaxmi	MBBTC



S.no	Reg No.	Name of Student	Group	22-11-22	23-11-22	24-11-22	25-11-22	26-11-22	28-11-22	29-11-22	30-11-22	01-12-22	02-12-22	05-12-22	06-12-22
1.	22BSBZ002	A. Sravanthi	II EM CBZ	P	A	P	P	P	P	P	P	P	P	P	P
2.	22BSBZ050	M. Nani	II EM CBZ	P	P	P	P	P	P	P	P	P	P	P	P
3.	22BSBZ037	K. Jyothsna	II EM CBZ	P	P	P	P	P	P	P	P	P	P	P	P
4.	22BSBZ008	B. Sharmila	II EM CBZ	P	P	P	P	P	P	P	P	P	P	P	P
5.	22BSBZ015	K. Pavani	II EM CBZ	P	P	P	P	P	P	P	P	P	P	P	P
6.	22BSBZ090	V. Srija	II EM CBZ	P	P	P	P	P	P	P	P	P	P	P	P
7.	22BSBZ074	Sirliki Chakri	II EM CBZ	P	P	P	P	P	P	P	P	P	P	P	P
8.	22BSBZ075	Surala Naveen	II EM CBZ	P	P	P	P	P	P	P	P	P	P	P	P
9.	22BSBZ083	Vangalapudi Kavya	II EM CBZ	P	P	P	P	P	P	P	P	P	P	P	P
10.	22BSBZ080	T. Sravani	II EM CBZ	P	P	P	P	P	P	P	P	P	P	P	P
11.	22BSBZ085	V. Lakshita priya	II EM CBZ	P	P	P	P	P	P	P	P	P	P	P	P
12.	22BSBC001	AMARA KUSHITHA	II EM CBZ	P	P	P	P	P	A	P	P	P	P	P	P
13.	22BSBC004	BARAMPURAM TEJASRI	II EM CBZ	P	P	P	P	P	P	P	P	P	P	P	P
14.	22BSBC007	CHITIKI RAMYA	II EM CBZ	P	P	P	P	P	P	P	P	P	P	P	P
15.	22BSBC011	K. Jyothitha	II EM CBZ	P	P	P	P	P	P	P	P	P	P	P	P
16.	22BSBC013	L. Kavya	II EM CBZ	A	P	P	P	P	P	P	P	P	P	P	P
17.	22BSBC014	L. Venkata Rao	II EM CBZ	P	P	P	P	P	P	P	P	P	P	P	A
18.	22BSBC015	M. Keerthi	II EM CBZ	P	P	P	P	P	P	P	P	P	P	P	P
19.	22BSBC016	M. Krishna Veni	II EM CBZ	P	P	P	P	P	P	P	P	P	P	P	P
20.	22BSBC018	K. Lakshmi prasanna	II EM CBZ	P	P	P	P	P	P	P	P	P	P	P	P
21.	22BSBC019	S. Durga bhavani	II EM CBZ	P	P	P	P	P	P	P	P	P	P	P	P
22.	22BSBC022	N. Tulasi	II EM CBZ	P	P	P	P	P	P	P	P	P	P	P	P
23.	22BSMB011	K. Venkataramana	MBBTC	P	P	P	P	P	P	P	P	P	P	P	P
24.	22BSMB002	Bt. Vimala Devi	MBBTC	P	P	P	P	P	P	P	P	P	P	P	P
25.	22BSMB003	B. Charan	MBBTC	P	P	P	P	P	P	P	P	P	P	P	P
26.	22BSMB012	K. Divya Lakshmi	MBBTC	P	P	P	P	P	P	P	P	P	P	P	P
27.	22BSMB015	M. Harshitha	MBBTC	P	P	P	P	P	P	P	P	P	P	P	P
28.	22BSMB018	Sk. Nazeer	MBBTC	P	P	P	P	P	P	P	P	P	P	P	P
29.	22BSMB022	T. Ramalaxmi	MBBTC	A	P	P	P	P	P	P	P	P	P	P	P

S.No	Reg. No.	Name of Student	Group	22-11-22	23-11-22	24-11-22	25-11-22	23-11-22	28-11-22	29-11-22	30-11-22	01-12-22	02-12-22	06-12-22	07-12-22	08-12-22
30.	22BSMB024	V. Sanjay	MBBTC	P	P	P	P	P	P	P	P	P	P	P	P	P
31.	22BSMB025	V. Bhargav	MBBTC	P	P	A	P	P	A	P	P	A	P	P	P	P
32.	22BSMB027	prasad priya	MBBTC	P	P	P	P	P	P	P	P	P	P	P	P	P

Common procedures of feed Manufacturing

Grinding, Mixing, Homogenizing, Pelletizing

Compensation Procedure, Drying Cooling

Collection and analysis of various Raw ingredients

Uses of Binder for Aqua feeds

High Energy diets

Equipments used in Feed manufacturing

Pulverizing, Grinding, Pelletizer, Crumbler

Extruder / Expander, Vaccume coating

Autoclave, analysis of feeds

Proximate Composition of feeds

Feed preparation in Laboratory

Feed testing in Aquarium.

Dr. V. S. Krishna Govt. Degree College (A)

(NAAC ACCREDITED 'A'GRADE INSTITUTION & NODAL RESOURCE CENTRE)
MADDILAPALEM, VISAKHAPATNAM-530013. ANDHRA PRADESH

Value Added Course Certificate

2022. to 2023.

This is to certify that Mr./Miss SURALA NAVEEN of II EM CBZ has successfully completed the Value Added Course in AQUA FEED with Regd No. 22BSBZ075 Organized by the Department of ZOOLOGY in collaboration with during year 2022 to 2023. He/She has passed the course with 'A' grade.

Academic Coordinator | IQAC Coordinator | Course Coordinator | PRINCIPAL, Dr. V.S. Krishna Govt. Degree College(A)

Dr. V. S. Krishna Govt. Degree College (A)

(NAAC ACCREDITED 'A'GRADE INSTITUTION & NODAL RESOURCE CENTRE)
MADDILAPALEM, VISAKHAPATNAM-530013. ANDHRA PRADESH

Value Added Course Certificate

2022. to 2023.

This is to certify that Mr./Miss T. SRAVANI of II EM CBZ has successfully completed the Value Added Course in AQUA FEED with Regd No. 22BSBZ080 Organized by the Department of ZOOLOGY in collaboration with during year 2022 to 2023. He/She has passed the course with 'O' grade.

Academic Coordinator | IQAC Coordinator | Course Coordinator | PRINCIPAL, Dr. V.S. Krishna Govt. Degree College(A)

Dr. V. S. Krishna Govt. Degree College (A)

(NAAC ACCREDITED 'A'GRADE INSTITUTION & NODAL RESOURCE CENTRE)
MADDILAPALEM, VISAKHAPATNAM-530013. ANDHRA PRADESH

Value Added Course Certificate

202~~2~~. to 202~~3~~.

This is to certify that Mr./Miss VANGALAPUDI KAVYA of II EM CBZ has successfully completed the Value Added Course in AQUA FEED with Regd No. 22BSBZ083 Organized by the Department of ZOOLOGY in collaboration with during year 202~~2~~ to 202~~3~~. He/She has passed the course with 'A' grade.

~~Academic~~ Coordinator | IQAC Coordinator | Course Coordinator

PRINCIPAL
Dr. V.S. Krishna Govt. Degree College(A)