



St. Michael's College, Cherthala

Alappuzha, Kerala-688 539

**Affiliated to University of Kerala
and Re-accredited by NAAC with 'A' Grade**



ADD ON COURSE 2022-23

Name of the Programme : TECHNIQUES IN COASTAL AQUA-CULTURE

Name of the Department : ZOOLOGY

Course Code : ZO 069



St. Michael's College

MAYITHARA P.O., CHERTHALA, ALAPPUZHA-688539
An institution with Minority Status Affiliated to the University of Kerala and
Re-accredited by NAAC with 'A' Grade

Add on Course - 2022-23

CHEMISTRY

Food Science and Quality Control

MANAGEMENT

Diploma in Port Operations and
Management (DPOM)

PSYCHOLOGY

Guidance Counseling and Psychology of
Interpersonal Relationships

SOFTWARE DEVELOPMENT

Python

ZOOLOGY

Techniques in Coastal Aquaculture

ENGLISH

(Certificate Course)

Basic Proficiency in English Language

COMMERCE

Certified Insurance Advisor and
Risk Analyst (CIARA)

ECONOMICS

Statistical Data Analysis
Using Software Packages

PHYSICS

Basics of C Programming

TOURISM STUDIES

Customer Service Skills

HISTORY

(Certificate Course)

Introduction to Indian Constitution

MALAYALAM

(Certificate Course)

Madhyama Malayalam



Phone : 0478-2822387, 2810387

Email : michaelscherthala@gmail.com. Web : www.stmcc.in

NAME OF COURSE : **TECHNIQUES IN COASTAL AQUA-CULTURE**
COURSE CODE : **ZO 069**
NO OF STUDENTS ENROLLED : **34**

CONTENTS

- **SYLLABUS**
- **CLASS SCHEDULES**
- **ATTENDANCE STATEMENT**
- **QUESTION PAPER**
- **MARK LIST**
- **CERTIFICATE**
- **PHOTO**
- **REPORT**

DEPARTMENT OF ZOOLOGY
ST. MICHAEL'S COLLEGE, CHERTHALA

SYLLABUS FOR THE ADD-ON COURSE TO BE OFFERED IN THE ACADEMIC YEAR 2022-23

CERTIFICATE COURSE ON 'TECHNIQUES IN COASTAL AQUACULTURE'

Total hours: 30

Course co-ordinator: Dr. Antony P. J.

Course Objective

- The course is introduced to undergraduate level students to make them understand the basic techniques in brackish water aquaculture practice in the coastal areas.
- The course is designed with the intention to teach various aspects like candidate species selection, fish farm management, feed and water quality management, market value of fishes and their cost of production.
- The course will also provide field exposure and hands on experience for students on different techniques in coastal aquaculture practice.

Module I

3 hrs

Introduction to aquaculture-freshwater, brackish water and marine - monoculture, polyculture and integrated farming

Module II

3 hrs

Site preparation - criteria for site selection –source of water – access for seed, feed, marketing - pond preparation – water culture

Module III

3 hrs

Candidate species for culture - Seed collection – Wild and Hatchery seeds – health status analysis

Module IV

2 hrs

Feed management – types of feed – FCR – sampling – feed calculation – Natural productivity – phytoplankton, zooplankton and benthos

Module V

3 hrs

Water quality management – pH, salinity, DO, turbidity, toxic gases – liming, water colour management

Module VI

2 hrs

Harvesting and marketing – local and international markets – marketing channels

Practical

14 hrs

Identification of candidate species for brackish water aquaculture

Estimation of DO, CO₂, Turbidity, Temperature, pH

Field study

Visit to scientific or traditional shrimp / fish farms and/or hatchery

Course Outcome

By qualifying the course the students will get awareness about various coastal aquaculture practices and techniques. The learning in this course will provide them scope for employment opportunities in firms and self-employment in aquaculture field.

Class Schedule Format 2022-2023

Department:
ZOOLOGY

Course: CERTIFICATE COURSE ON COASTAL
AQUACULTURE

Sl No	Date	Day	Time	Name of Teacher	Class Room No
1	06.01.23	Friday	3.30 pm	Dr. Antony P.J.	B 22
2	11.01.23	Wednesday	3.30 pm	Ms. Greeshma P M	B 22
3	13.01.23	Friday	3.30 pm	Dr. Antony P.J.	B 22
4	18.01.23	Wednesday	3.30 pm	Ms. Greeshma P M	B 22
5	25.01.23	Wednesday	3.30 pm	Ms. Greeshma P M	B 22
6	27.01.23	Friday	3.30 pm	Dr. Antony P.J.	B 22
7	02.02.23	Thursday	3.30 pm	Ms. Greeshma P M	B 22
8	03.02.23	Friday	3.30 pm	Dr. Antony P.J.	B 22
9	08.02.23	Wednesday	3.30 pm	Ms. Greeshma P M	B 22
10	10.02.23	Friday	3.30 pm	Dr. Antony P.J.	B 22
11	14.02.23	Tuesday	3.30 pm	Ms. Greeshma P M	B 22
12	16.02.23	Thursday	3.30 pm	Dr. Antony P.J.	B 22
13	18.02.23	Saturday	9.30 am	Dr. Antony P.J. & Greeshma P M	B 26
14	18.02.23	Saturday	10.30 am	Dr. Antony P.J. & Greeshma P M	B 26
15	18.02.23	Saturday	11.30 am	Dr. Antony P.J. & Greeshma P M	B 26
16	18.02.23	Saturday	1.30 pm	Dr. Antony P.J. & Greeshma P M	B 26
17	18.02.23	Saturday	2.30 pm	Dr. Antony P.J. & Greeshma P M	B 26
18	21.02.23	Tuesday	3.30 pm	Dr. Antony P.J.	B 22
19	23.02.23	Thursday	3.30 pm	Ms. Greeshma P M	B 22
20	24.02.23	Friday	3.30 pm	Dr. Antony P.J.	B 22
21	27.02.23	Monday	3.30 pm	Ms. Greeshma P M	B 22
22	02.03.23	Thursday	3.30 pm	Dr. Antony P.J.	B 22
23	04.03.23	Saturday	9.30 am	Dr. Antony P.J. & Greeshma P M	B 26
24	04.03.23	Saturday	10.30 am	Dr. Antony P.J. & Greeshma P M	B 26
25	04.03.23	Saturday	11.30 am	Dr. Antony P.J. & Greeshma P M	B 26
26	04.03.23	Saturday	1.30 pm	Dr. Antony P.J. & Greeshma P M	B 26
27	04.03.23	Saturday	2.30 pm	Dr. Antony P.J. & Greeshma P M	B 26
28	06.03.23	Monday	3.30 pm	Dr. Antony P.J.	B 22
29	07.03.23	Tuesday	3.30 pm	Ms. Greeshma P M	B 22
30	08.03.23	Wednesday	3.30 pm	Dr. Antony P.J.	B 22

CERTIFICATE COURSE IN COASTAL AQUACULTURE		Date																		
Reg. No.	Name of the student	6/10	11/10	15/10	18/10	25/10	27/10	3/11	3/11	8/11	10/11	14/11	16/11	18/11	18/11	18/11	18/11	18/11	18/11	18/11
1	Adithya KS	X	X	X	X	X	a	a	a	X	a	a	X	X	X	X	X	X	X	X
2	Aleena Joseph	X	a	X	X	a	X	X	X	X	X	X	X	X	X	X	X	X	X	X
3	Aliya	a	a	X	X	a	X	a	a	X	X	X	X	X	X	X	X	X	X	X
4	Aparna K J	X	a	X	X	X	a	X	X	X	X	X	X	X	X	X	X	X	X	X
5	Divya Dev	X	a	X	X	a	X	X	X	X	a	a	a	X	X	X	X	X	X	X
6	Madhvi S	X	X	X	X	X	X	X	X	X	X	a	a	X	X	X	X	X	X	X
7	Nandana Ajay	a	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
8	Nekha Malid	X	a	a	a	a	a	X	X	X	X	X	X	X	X	X	X	X	X	X
9	Revathi R	a	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
10	Savya B kishore	X	X	X	X	X	X	X	X	X	X	a	a	X	X	X	X	X	X	X
11	Seetha P P	a	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
12	Yamini P Vasquez	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
13	Adithya PE	a	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
14	Adithya J	X	a	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
15	Agnel Rose	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
16	Akshaya Jose	a	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
17	Aishwarya S kishore	a	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
18	Aleena Sivad	a	a	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
19	Angel Tabby	a	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
20	Anusha K Dbs	a	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
21	Archana K S	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
22	Anul Joseph	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
23	Arya S	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
24	Carlin L	a	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
25	Devadas	a	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
26	Ebin Yesudas	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
27	Fathimath Farsana	a	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
28	Joel Sebastian	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
29	Lakshmi P	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
30	Misakiya R	a	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
31	Nimmi Yesudas	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
32	Sangeetha K S	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
33	Seetha Laju	a	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
34	Thabitha R J	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

St. Michael's College, Cherthala

Add-on Course Examination March 2023

Discipline: Zoology

Course Title: TECHNIQUES IN COASTAL AQUACULTURE

Time 01.00 hour

Maximum Marks

30

Draw diagrams wherever necessary

I. Answer ALL questions (Each question carries 1 mark)

1. Mariculture

2. FCR
3. Indian major carps
4. Secchi disc
5. Acclimatization
6. FFDA
7. Water culture
8. Integrated aquaculture
9. Thermal stratification
10. Polyculture

(10x1=10marks)

II. Answer any FIVE of the following questions (Each question carries 2 mark)

11. Comment on BOD
12. Classify different types of aquaculture based on the seed stocking density
13. How co-operative societies help aquaculture farmers
14. Name four candidate species for aquaculture
15. Explain types of fish marketing
16. Write the principle of oxygen estimation
17. Briefly explain different types of aquaculture
18. Comment on risk of fish marketing

(5x2=10 marks)

III. Answer any ONE of the following questions (Each question carries 10 mark)

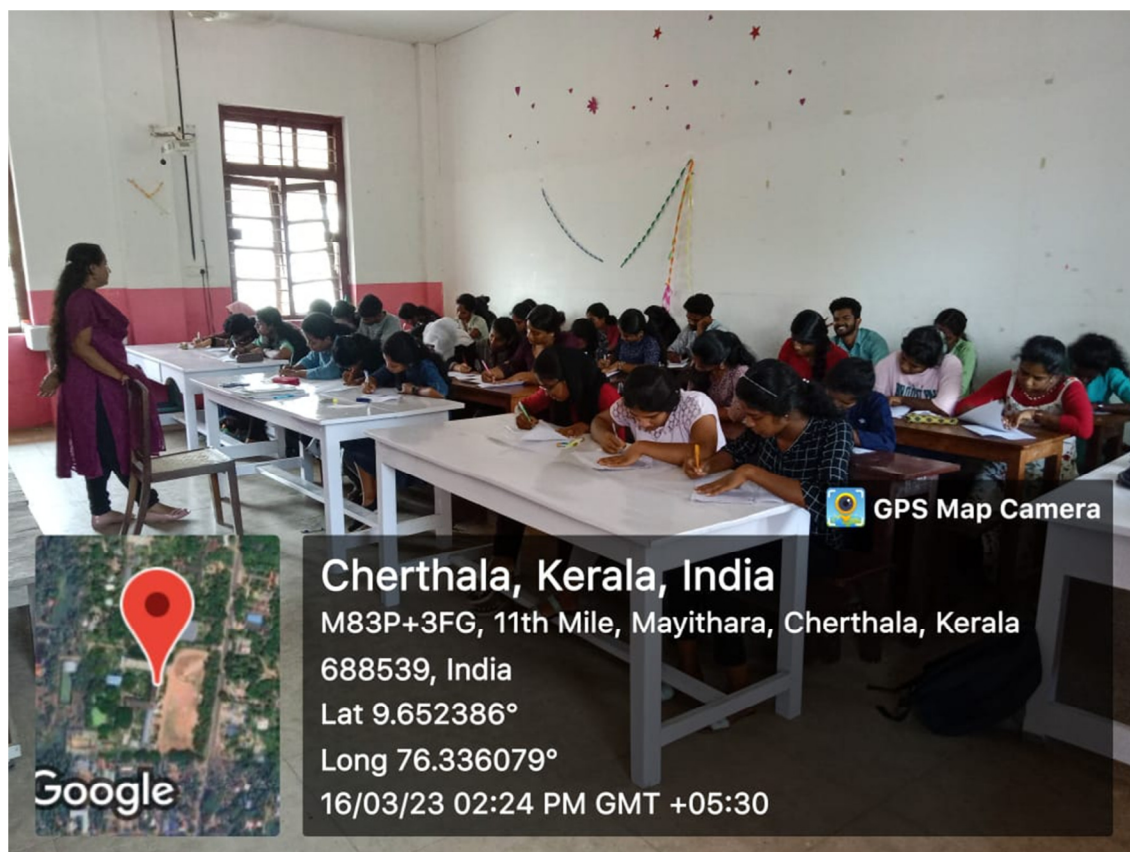
19. Write an account on fish trading and marketing in aquaculture
20. Explain water quality management in aquaculture

(1x10=10 marks)

Mark List					
Discipline : ZOOLOGY					
Course Title : TECHNIQUES IN COASTAL AQUACULTURE					
Date of Examination : 16/03/2023		Maximum Marks: 30			
Sl No	Candidate Code	Name of the Student	Mark Obtained		
1	25020136001	Adithya K.S	21	70.00	B
2	25020136002	Aleena Joseph	27	90.00	A+
3	25020136003	Aliya N	24	80.00	A
4	25020136004	Aparna K J	15	50.00	D
5	25020136005	Divya Dev D	28	93.33	A+
6	25020136006	Malini S	23	76.67	B
7	25020136007	Nandana Ajay	24	80.00	A
8	25020136008	Nekha Maria Benedict	20	66.67	C
9	25020136009	Revathimol R	28	93.33	A+
10	25020136010	Sravya G Krishnan	24	80.00	A
11	25020136011	Sreedevi P	26	86.67	A
12	25020136012	Yemuel P Varghese	23	76.67	B
13	25020136013	Adheena P E	10	33.33	F
14	25020136014	Adithy J	29	96.67	A+
15	25020136015	Agnel Rose	28	93.33	A+
16	25020136016	Aiswarya Jose	18	60.00	C
17	25020136017	Aiswarya Krishna	26	86.67	A
18	25020136018	Aleena Siyad	26	86.67	A
19	25020136019	Angel Joshy	18	60.00	C
20	25020136020	Anusreedas K	14	46.67	E
21	25020136021	Archana K S	12	40.00	E
22	25020136022	Arul Joseph	24	80.00	A
23	25020136023	Arya S	23	76.67	B
24	25020136024	Carolin L	15	50.00	D
25	25020136025	Devi Das	29	96.67	A+
26	25020136026	Ebin Yesudas	20	66.67	C
27	25020136027	Fathimath Farsana	30	100.00	A+
28	25020136028	Joel Sebastian	13	43.33	E
29	25020136029	Lakshmi P	20	66.67	C
30	25020136030	Misariya R	15	50.00	D
31	25020136031	Nimmy Yesudas	20	66.67	C
32	25020136032	Sangeetha K S	29	96.67	A+

33	25020136033	Sereena Laiju	22	73.33	B
34	25020136034	Thabithamol P J	28	93.33	A+





Aquaculture is the farming of aquatic organisms, including fish, mollusks, crustaceans, and aquatic plants. Farming implies some sort of intervention in their rearing process to enhance production, such as regular stocking, feeding, or protection from predators. Farming also implies individual or corporate ownership of the stock being cultivated.

This certificate course is introduced to undergraduate level students to make them understand the basic techniques in brackish water aquaculture practice in the coastal areas. It is designed with the intention to teach various aspects like candidate species selection, fish farm management, feed and water quality management, market value of fishes and their cost of production. It will also provide field exposure and hands on experience for students on different techniques in coastal aquaculture practice.

Duration: 30 hours (16 theory and 14 practical hours)

Focus on Employability/Entrepreneurship: By qualifying the course the students will get awareness about various coastal aquaculture practices and techniques.

After the completion of the program, a fresher can begin their career as,

- Aquaculture farm technician
- Fish hatchery technician
- Self-entrepreneurship

The students have completed 30 sessions including theory and practical during the period 6th January 2023 to 8th March 2023.



Handwritten signature
Principal
St. Michael's College
Cherthala