



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 2021-22

**Name of the Programme : BRACKISH WATER AQUACULTURE
METHODS AND PRACTICES**

Name of the Department : ZOOLOGY

Course Code : ZO 082



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 - 2021-22

CHEMISTRY

Coir
Technology

COMMERCE

GST Filing &
Tally

ECONOMICS

Applied
Economics
Analysis

ENGLISH

Interpersonal
Relationship
Counseling and
Psychological
Guidance

PHYSICS

Observing
the sky with
Stellarium and
beyond

SOFTWARE DEVELOPMENT

Add on Course
in PHP

TOURISM STUDIES

Air Transport
Operations

ZOOLOGY

Brackish Water
Aquaculture
Methods and
Practices

ENGLISH

Certificate Course

Fundamentals of
Communication
and Soft Skills



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

NAME OF COURSE : CERTIFICATE COURSE ON 'BRACKISHWATER AQUACULTURE -
METHODS AND PRACTICES

COURSE CODE : ZO 082

NO OF STUDENTS ENROLLED : 32

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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 'BRACKISHWATER AQUACULTURE - METHODS AND PRACTICES'

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 brackishwater aquaculture - Seed collection – Wild and Hatchery seeds – health status analysis

Module IV

2 hrs

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

Module V

3 hrs

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

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

Add-On Cell

St.Michael's College, Cherthala

Class Schedule Format 2021-2022

Department: ZOOLOGY

**Course: CERTIFICATE COURSE ON
BRACKISH WATER METHODS AND
PRACTICES**

Sl No	Date	Day	Time	Name of Teacher	Class Room No
1	17.01.22	Monday	3.30 pm	Dr. Antony P.J.	B 22
2	07.02.22	Monday	3.30 pm	Dr. Antony P.J.	B 22
3	09.02.22	Wednesday	3.30 pm	Dr. Antony P.J.	B 22
4	11.02.22	Friday	3.30 pm	Dr. Antony P.J.	B 22
5	14.02.22	Monday	3.30 pm	Ms. Patricia Michael	B 22
6	17.02.22	Thursday	3.30 pm	Ms. Patricia Michael	B 22
7	19.02.22	Saturday	9.30 am	Dr. Antony P.J.	B 22
8	19.02.22	Saturday	10.30 am	Dr. Antony P.J.	B 22
9	19.02.22	Saturday	11.30 am	Dr. Antony P.J.	B 22
10	19.02.22	Saturday	1.30 pm	Dr. Antony P.J.	B 22
11	19.02.22	Saturday	2.30 pm	Dr. Antony P.J.	B 22
12	24.02.22	Thursday	3.30 pm	Ms. Patricia Michael	B 22
13	25.02.22	Friday	3.30 pm	Ms. Patricia Michael	B 26
14	26.02.22	Saturday	9.30 am	Dr. Antony P.J.	B 26
15	26.02.22	Saturday	10.30 am	Dr. Antony P.J.	B 26
16	26.02.22	Saturday	11.30 am	Dr. Antony P.J.	B 26
17	26.02.22	Saturday	1.30 pm	Dr. Antony P.J.	B 26
18	26.02.22	Saturday	2.30 pm	Dr. Antony P.J.	B 22
19	02.03.22	Wednesday	3.30 pm	Ms. Patricia Michael	B 22
20	07.03.22	Monday	3.30 pm	Dr. Antony P.J.	B 22
21	09.03.22	Wednesday	3.30 pm	Ms. Patricia Michael	B 22
22	10.03.22	Thursday	3.30 pm	Dr. Antony P.J.	B 22
23	11.03.22	Friday	3.30 pm	Ms. Patricia Michael	B 26

24	16.03.22	Wednesday	3.30 pm	Ms. Patricia Michael	B 26
25	17.03.22	Thursday	3.30 pm	Dr. Antony P.J.	B 26
26	18.03.22	Friday	3.30 pm	Ms. Patricia Michael	B 26
27	19.03.22	Saturday	9.30 am	Dr. Antony P.J. & Patricia Michael	B 26
28	19.03.22	Saturday	10.30 am	Dr. Antony P.J. & Patricia Michael	B 22
29	19.03.22	Saturday	11.30 am	Dr. Antony P.J. & Patricia Michael	B 22
30	19.03.22	Saturday	1.30 pm	Dr. Antony P.J. & Patricia Michael	B 22
Course Coordinator			Head of the Department		

ST. MICHAEL'S COLLEGE, CHERTHALA
Certificate Course
BRACKISH WATER AQUACULTURE – METHODS AND PRACTICES
Attendance statement (2021-22)

No.	Candidate code	Name of the candidate	% of attendance
1	25019136001	ABHIRAMI SHIBU	100
2	25019136002	ABIYA P S	91
3	25019136003	AKASH RAJESH	82
4	25019136004	ALEENA ANTONY	93
5	25019136005	GOPIKA S	100
6	25019136006	JAYAKRISHNAN K	84
7	25019136007	JUDE SEBASTIAN	91
8	25019136008	KALOLA A M	93
9	25019136009	MEENAKSHY K S	98
10	25019136010	NEESMOL M	93
11	25019136012	AKHILAMOL K A	88
12	25019136013	AMAL ANTONY	95
13	25019136014	ANAKHA SHAJI	82
14	25019136015	ANGEL JISA A T	84
15	25019136017	APARNA T S	77
16	25019136018	DONA XAVIER	93
17	25019136020	JASMINE JOSEPH	82
18	25019136021	JENNIFER E J	77
19	25019136022	JOSMI P JOY	80

20	25019136023	LAKSHMI S	100
21	25019136024	LASNAMOL L	100
22	25019136025	MARY DAYANA	93
23	25019136026	NILA SAJU	100
24	25019136027	P N BARNABAS	91
25	25019136028	ROJISH V B	82
26	25019136029	ROSHNY CYRUS	82
27	25019136030	SAIDA FATHIMA K A	95
28	25019136031	SANDRA SHIBU	84
29	25019136032	SANDRA S K	80
30	25019136033	SAREENA BEEGUM U P	75
31	25019136034	SURJITH K T	93
32	25019136035	VISWAI SAJEEV	93

ST. MICHAEL'S COLLEGE, CHERTHALA
FIRST DEGREE PROGRAMME IN ZOOLOGY (CBCSS)

CERTIFICATE COURSE (2021-22)

Course Title: BRACKISHWATER AQUACULTURE – METHODS AND PRACTICES

Time 01.00 hour
Marks 30

Maximum

Draw diagrams wherever necessary

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

1. CMFRI
2. FCR
3. Polyculture
4. Winkler's method
5. Seed selection
6. pH
7. Soil culture
8. Check tray sampling
9. Thermal stratification
10. MPEDA

(10x1=10marks)

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

11. Comment on feed calculation method in shrimp farm
12. Classify and comment on different types of aquaculture based on the type of water
13. How co-operative societies help aquaculture farmers
14. Name four candidate species used for freshwater aquaculture
15. Give an account on the criteria of site selection for aquaculture
16. Write the principle of CO₂ estimation
17. Comment on constraints in fish marketing
18. Write an account on fish marketing channels.

(5x2=10 marks)

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

19. Explain techniques in water quality monitoring and management in aquaculture
20. Write an account on seed and feed management in aquaculture

(1x10=10 marks)

Add-On Cell			
St.Michael's College, Cherthala			
Mark List			
Discipline : ZOOLOGY			
Course Title : Brakish water aquaculture methods and practices			
Date of Examination : 23/03/2022		Maximum Marks: 30	
Sl No	Candidate Code	Name of the Student	Mark Obtained
1	25019136001	ABHIRAMI SHIBU	27
2	25019136002	ABIYA P S	22
3	25019136003	AKASH RAJESH	18
4	25019136004	ALEENA ANTONY	22
5	25019136005	GOPIKA S	28
6	25019136006	JAYAKRISHNAN K	18
7	25019136007	JUDE SEBASTIAN	25



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ADD-ON COURSE CERTIFICATE

This is to certify that..... Miss. ALEENA ANTONY (25019136004)
B.Sc Zoology 2019 Admission.....*has completed*
Certificate/Add-on course in **Brackish Water Aquaculture Methods and Practices**
(ZO 082).....
..... *offered by the Department of Zoology*
during the academic year 2021-2022. He/She is awarded with **A** *Grade.*

Head of the Department

Course Coordinator

Principal



Name of the certificate course: 'BRACKISHWATER AQUACULTURE - METHODS AND PRACTICES'

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.




Principal
St. Michael's College
Chertthala