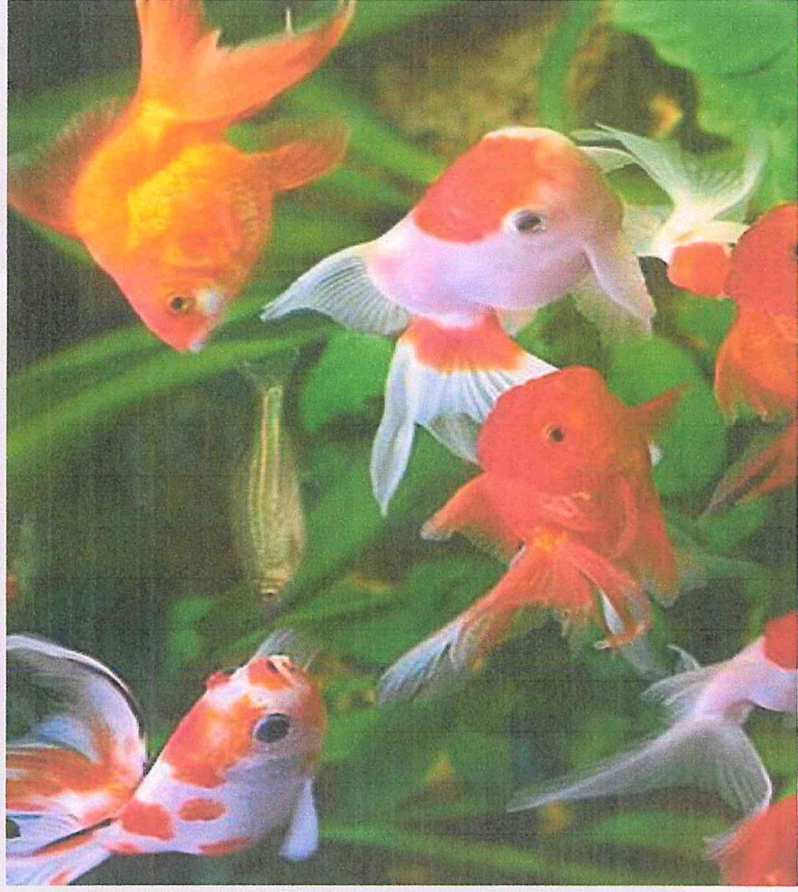




Sree Narayana College Kollam



Department of Zoology

**Certificate Course in Ornamental
fish culture (2018-2019)**

Duration : 30 hours, Seats available: 30

Course Co-Ordinator: Dr Bindhu V

Contact: 9496995401

OUTLINE OF SYLLABUS OF THE COURSE

(TOTAL -30 hours, 15-hour theory and 15-hour practical)

THEORY-(15 hours)

UNIT- I Introduction to Ornamental fishes (2 Hr)

- Introduction to aquarium and aquarium accessories.
- Basic knowledge on profile of ornamental fishes in world
- Basic knowledge and profile of some selected indigenous Indian ornamental

Unit II. Fish Breeding and rearing in Live Bearers (3 Hr)

- Breeding of ornamental fish with reference to live bearer species.
- Breeding of Guppies, Mollies, Swordtail fish and Platy fish
- Introduction hatchery management system for live bearers
- Nursery management of live bearers
- Rearing of live bearers

UNIT III. Fish Breeding and rearing in Egg layers (5 Hr)

- Breeding of ornamental fish with reference to selected egg layer species.
- Introduction hatchery management system for egg layers
- Nursery management of egg layers

UNIT-IV Ornamental fish farming-Management Aspects (5 Hr)

- Ornamental Fish-diseases and their management
- Live Food culture for tropical ornamental fish • Feeding for breeding and maintenance of ornamental fish.
- Health management in Ornamental Fish Farming.

UNIT-IV Introduction to Aquarium plants and its propagation techniques (5Hr)

- Introduction to Aquarium plants and their export potential.

- Profiles of some selected aquarium plants.

Morphology, multiplication of aquarium plants – different methods.

Indigenous ornamental plants of Western Ghats.

- Aquarium plant propagation.

- Management of ornamental aquatic plants and its trading

PRACTICAL

(15 hours)

1) Identification of common live bearer ornamental fishes: - Guppy, Molly, Platy, Sword Tail

2) Identification of common Egg layer ornamental fishes: - Angel, Neon tetra

3) Identification of common Egg layer ornamental fishes: Discus and Siamese fighter

4) Identification of common Egg layer ornamental fishes: Gold fish, Koi Carp

5) Identification of common Egg layer ornamental fishes: Danio- Zebra, and Flower Horn.

6) Field Visits-Field visits are to be organised to facilitate students to have firsthand experience and exposure to technology / production / functioning of an organisation / unit or witness a relevant activity. Each student must make at least two such visits to the units/markets/public aquarium out of 2 to 3 such visits organised by the college. i) Visit to one of the units with one or multiple activities such as. Ornamentalfishfarm/Nursery/Hatchery.

REFERENCES:

- Fish & Fisheries in India – By Jhingran V.G. – Hindustan Pub. Corporation – New Delhi.

- Hand Book of Fresh Water Fishes of India By Beaven C.R. – Narendra Pub. House.

- Fish Biology By C.B.C. Srivastava – Narendra Pub. House.

- Ecological Methods for Field & Laboratory Investigations By P. Michael.

- Fish & Fisheries By Chandy – National Book Trust.

BOARD OF STUDIES MEMBERS (2018-2019)

DEPARTMENT OF ZOOLOGY

SREE NARAYANA COLLEGE, KOLLAM

CERTIFICATE COURSE IN ORNAMENTAL FISH CULTURE

Course Co-ordinator: Dr Bindhu V, Assistant Professor, Department of Zoology, S. N. College, Kollam

BOARD OF STUDIES FOR CERTIFICATE COURSE IN ORNAMENTAL FISH CULTURE

Members:

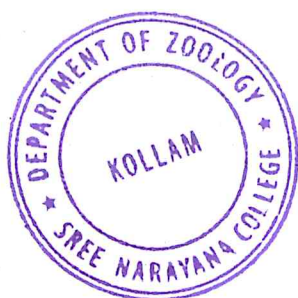
Dr Sainudeen Sahib, Associate Professor, Head of the Department of Zoology, S. N. College, Kollam

Dr B T Sulekha, Assistant Professor, Department of Zoology, S. N. College, Kollam

Dr B Hari, Assistant Professor, Department of Zoology, S. N. College, Kollam

Dr S Sheeba, Assistant Professor, Department of Zoology, S. N. College, Kollam

Dr S Jisha, Assistant Professor, Department of Zoology, S. N. College, Kollam



Dr. SULEKHA B.T
Associate Professor & Head
P.G.& Research Dept.of Zoology
S.N.College, Kollam-691001

Turhathurayil
Principal
Sree Narayana College
Kollam



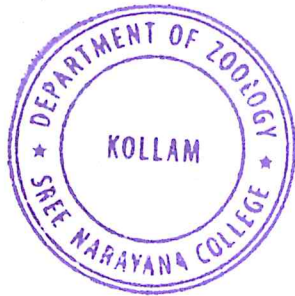
Sree Narayana College Kollam

Department of Zoology

Certificate Course in Ornamental fish culture 2018-2019

Time table

Dr Bindhu V	Day	Time	Theory/lab
	Monday	3.15-4.45	Theory
	Tuesday	3.15-4.45	Lab
	Wednesday	3.15-4.45	Theory
	Thursday	3.15-4.45	lab
	Friday	3.15-4.45	Theory

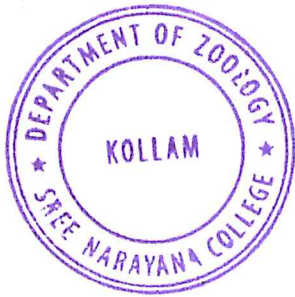


Dr. SULEKHA B.T
Associate Professor & Head
P.G.& Research Dept.of Zoology
S.N.College, Kollam-691001

Sree Narayana College Kollam
Department of Zoology
Certificate Course in Ornamental Fish Culture 2018-2019

List of teachers who are handling classes for the certificate course

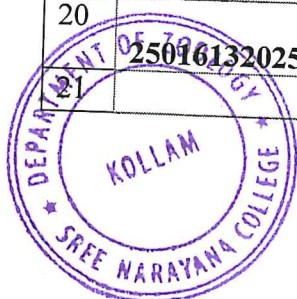
1. Dr Bindhu V (Assistant Professor, Department of Zoology, Sree Narayana College, Kollam)



Dr. SULEKHA B.T
Associate Professor & Head
P.G.& Research Dept.of Zoology
S.N.College, Kollam-691001

Sree Narayana College Kollam
Certificate Course in Ornamental Fish Culture 2018-2019
Student List

Sl No	Candidate Code	Name of the student	Name of the Department
1	25016132001	AHALYA DAS M	Zoology
2	25016132002	AKHILNATH A	Zoology
3	25016132004	ANU RAJ B	Zoology
4	25016132007	BABITHA BABU	Zoology
5	25016132008	KAVYA KRISHNAN	Zoology
6	25016132009	MANISHA V	Zoology
7	25016132010	NOUFIA N	Zoology
8	25016132011	RESHMA MUKUNDAN L	Zoology
9	25016132013	VARSHA JAYAN	Zoology
10	25016132014	ABHIRAM SL	Zoology
11	25016132015	AKHIL KRISHNAN R	Zoology
12	25016132017	AMMU S	Zoology
13	25016132018	AMRUTHA A S	Zoology
14	25016132019	ANANDHU LAL B R	Zoology
15	25016132020	ANUSREE S VIJAYAN	Zoology
16	25016132021	APARNA SASI	Zoology
17	25016132022	ARCHA GOPAN	Zoology
18	25016132023	ARCHA S L	Zoology
19	25016132024	ATHIRA A R	Zoology
20	25016132025	ATHIRA S R	Zoology
			Zoology



Sree Narayana College Kollam
Certificate Course in Ornamental Fish Culture 2018-2019
Student List

	25016132026	DIVYA V	
22	25016132027	FEBA JOHN	Zoology
23	25016132029	JAYAKRISHNAN S	Zoology
24	25016132030	JITHENDRA S	Zoology
25	25016132038	PRANAV J P	Zoology
26	25016132039	PREETHI PRAKASH	Zoology
27	25016132040	RAHUL S	Zoology
28	25016132046	VARSHA SUBEER	Zoology
29	25016132047	VISHNU PRIYA M	Zoology
30	25016132048	VISHNU RAJ	Zoology



Dr. SULEKHA B.T
Associate Professor & Head
P.G. & Research Dept. of Zoology
S.N. College, Kollam-691001

Minutes of the Certificate Course (Beekeeping)

Meeting for the certificate course by department committee (Bee Keeping), Department of Zoology, S.N. College, Kollam was held on 2/9/2018. in the department staff room at 3:45pm.

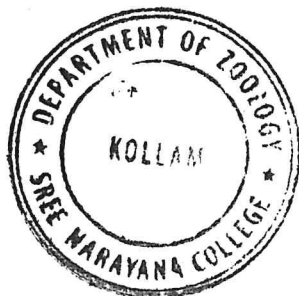
Members Attended

Dr. Binudeen Shihab	Assoc. Professor .HOD
Dr. B.T. Sulekha	Asst. Professor.
Dr. B. Hari	Asst. Professor.
Dr. S. Sheeba	Asst. Professor.
Dr. S. Jisha	Asst. Professor
Dr. Bindhy V. Binil	Asst. Professor (On Contract)

Agenda: Fixation of Date of Board of Studies Meeting

Decisions Taken: Members of the Board of Studies are fixed.

∴ Syllabus approval



Sulekha
DR. SULEKHA B.T.
Associate Professor & Head
P.G. & Research Dept. of Zoology
S.N. College, Kollam-691001

Minutes of the Certificate Course (Bee Keeping)

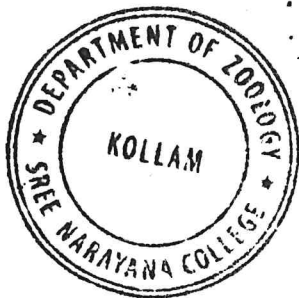
Meeting of the Department Committee of the Certificate Course in Bee Keeping of the Department of Zoology, S.N. College, Kollam was held on 10/9/2018 in the department staff room at 3:30pm.


Members

Dr. Saimudeen Akhbar	Assoc. Professor. HOD
Dr. B.T. Sulekha	Asst. Professor
Dr. B. Hari	Asst. Professor
Dr. S. Sheeba	Asst. Professor
Dr. S. Sushu	Asst. Professor
Dr. Bindu V. Binte	Asst. Professor (On Contract)

Agenda: 1. Applications inviting of Course
2. Commencement of Course.

Decisions Taken: Announcement for inviting applications.
Date of Commencement of Course.




Dr. SULEKHA B.T.
Associate Professor & Head
P.G. & Research Dept. of Zoology
S.N. College, Kollam-691001

Minutes of the Certificate Course (Bee Keeping)

Meeting of the department Committee of the Certificate Course in Bee Keeping of the Department of Zoology, S.N. College, Kollam was held on 9/11/2019 in the department staff room at 3:45 pm.

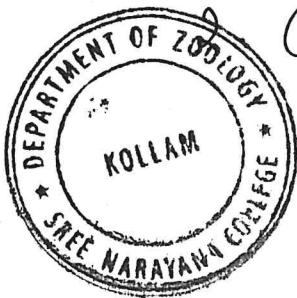
Members Attended


Dr. Shimudeen Schib	Asst. Professor, HOD
Dr. B.T. Sulekha	Asst. Professor
Dr. B. Hari	Asst. Professor
Dr. S. Sheeba	Asst. Professor
Dr. S. Jisha	Asst. Professor
Dr. Bindhy V. Binu	Asst. Professor (on Contract)

Agenda: To conduct examinations and issue certificates.

Decision: 1. Review of the course after examination

Certificate issue.




Dr. SULEKHA B.T.
Associate Professor & Head
P.G. & Research Dept. of Zoology
S.N. College, Kollam-691001

Minutes of the Certificate Course (Ornamental Fish Culture)

Meeting for the Certificate Course by department Committee (Ornamental Fish Culture), Department of Zoology, S.N. College, Kollam was held on 2/9/2018 in the department staff room at 3:45pm

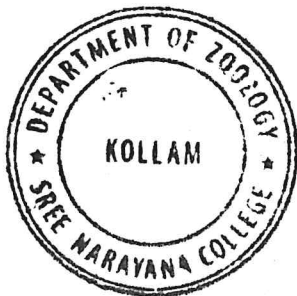
Members Attended

Dr. Srinudeen Srib	Asst. Professor, HOD
Dr. B.T. Sulekha	Asst. Professor
Dr. B. Haris	Asst. Professor
Dr. S. Sheela	Asst. Professor
Dr. S. Fisher	Asst. Professor
Dr. Bindhy V.	Asst. Professor (On Contract)

Agenda: Fixation of Date of Board of Studies Meeting

Decisions Taken: Members of the Board of Studies are fixed:

! - Syllabus approved.



Sulekha
Dr. SULEKHA B.T.
Associate Professor & Head
P.G. & Research Dept. of Zoology
S.N. College, Kollam-691001

SREE NARAYANA COLLEGE, KOLLAM

Department of Zoology

Certificate Course in Ornamental fish culture

Assessment test 2018-2019

Maximum Marks: 25

Duration 30 minutes

Answer all questions. Each question carries 5 marks

(5X5=25)

1. Briefly explain breeding of ornamental fish with reference to live bearer species.
2. Write notes on health management in Ornamental Fish Farming
3. Explain aquarium plant propagation.
4. Write notes on the importance of aerators, filters and lighting.
5. Briefly explain rearing of live bearers

Table with columns for student names, dates, and a grid for attendance. The grid has 30 rows and 25 columns for dates. The top row of the grid contains the number of hours attended for each student.

Signature of Teacher

Dr. SULEKHA ET Associate Professor & Head

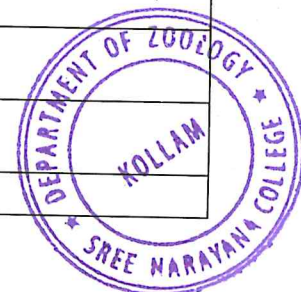


Sl. No.	Name of student	Date	9/10	10/10	11/10	12/10	13/10	14/10	15/10	16/10	17/10	18/10	19/10	20/10	21/10	22/10	23/10	24/10	25/10	26/10	27/10	28/10	29/10	30/10	No of Hours Attended	
1.	APALYA DAS.M.		+	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	1	
2.	AKHILNATH A.		+	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	1
3.	ANU RAS B.		+	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	1
4.	BABITHA BABU		+	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	1
5.	KAVYA KRISHNAN		+	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	1
6.	MANISHA. V.		+	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	1
7.	NOUFIA. N.		+	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	1
8.	RESHMA MUKUNDAL		+	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	1
9.	VARSHA JAYAN		+	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	1
10.	ABHIRAM S.S.		+	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	1
11.	AKHIL KRISHNAN R		+	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	1
12.	AMMU S.		+	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	1
13.	AMRUTHA A.S.		+	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	1
14.	ANANDHU LAB BR.		+	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	1
15.	ANUSREE VISAYAN.		+	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	1
16.	APARNA SASI		+	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	1
17.	ARCHA GOPAN		+	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	1
18.	ARCHA S.S.		+	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	1
19.	AKHIRA AR.		+	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	1
20.	AKHIRA SR.		+	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	1
21.	DIVYA V.		+	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	1
22.	FEBA JOHN		+	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	1
23.	JAYAKRISHNAN S.		+	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	1
24.	JITHENDRA .S.		+	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	1
25.	PRANAV. S.P.		+	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	1
26.	PREEETHI PRAKASH		+	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	1
27.	SAHUL.S.		+	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	1
28.	VARSHA SUBEER		+	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	1
29.	VISHNU PRIYA. M.		+	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	1
30.	VISHNU RAS		+	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	1

Signature of Teacher: Dr. Sulekha B.T.
 Signature of HOD: Dr. Sulekha B.T.
 DEPARTMENT OF FOOD

Sree Narayana College Kollam
Certificate Course in Ornamental fish culture 2018-2019
Mark List

Sl No	Candidate Code	Name of the student	Marks obtained/25
1	25016132001	AHALYA DAS M	23
2	25016132002	AKHILNATH A	17
3	25016132003	ANJITHA CHANDRAN A	19
4	25016132004	ANU RAJ B	24
5	25016132005	ANUROOPA S	18
6	25016132006	ATHUL M PRABHASH	18
7	25016132007	BABITHA BABU	21
8	25016132008	KAVYA KRISHNAN	24
9	25016132009	MANISHA V	24
10	25016132011	RESHMA MUKUNDAN L	20
11	25016132012	REVATHY C	18
12	25016132013	VARSHA JAYAN	20
13	25016132014	ABHIRAM SL	18
14	25016132015	AKHIL KRISHNAN R	17
15	25016132011	RESHMA MUKUNDAN L	25
16	25016132012	REVATHY C	25
17	25016132013	VARSHA JAYAN	19
18	25016132014	ABHIRAM SL	23
19	25016132015	AKHIL KRISHNAN R	23
20	25016132028	GREESHMA. M	22
21	25016132029	JAYAKRISHNAN S	21
22			19



Sree Narayana College Kollam
Certificate Course in Ornamental fish culture 2018-2019
Mark List

	25016132030	JITHENDRA S	
23	25016132031	MANJARI J	18
24	25016132032	MEENAKSHY PANICKER	23
25	25016132033	MEKHA JYOTHI	24
26	25016132034	NIKHIL DEV S	21
27	25016132044	SOORYA SURESH	20
28	25016132035	NIRMMAL N	19
29	25016132036	PARVATHY S	24
30	25016132042	SARANYA R	23

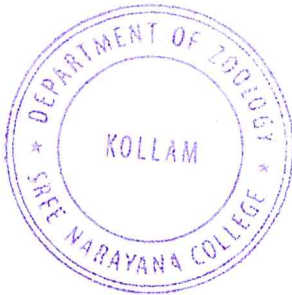


Dr. SULEKHA B.T
Associate Professor & Head
P.G.& Research Dept.of Zoology
S.N.College, Kollam-691001

Department of Zoology

Report of Ornamental fish culture (2018- 2019)

- Application was invited for the course on 10/9/2018
- 30 Candidates applied for the course
- 30 Of them were selected
- Classes were conducted on a on line offline mode. Classes commenced on 30/10/2018
- Exams were conducted on online mode on 3/1/2019
- Results were published on 4/1/2019
- Certificates were distributed on 8/2/2019




Dr. SULEKHA B.T
Associate Professor & Head
P.G.& Research Dept.of Zoology
S.N.College, Kollam-691001


Principal
Sree Narayana College
Kollam





SREE NARAYANA COLLEGE KOLLAM
DEPARTMENT OF ZOOLOGY
CERTIFICATE COURSE IN ORNAMENTAL FISH CULTURE

This is to certify that Mr./Ms./Mrs.....*Ann Raj B*.....Department of.....
S.R.S.R. Jy.....has successfully completed Certificate Course in Ornamental
Fish Culture during the Academic Year.....*2018-2019*.....

Binu

Course Coordinator

A. N. N.

Principal



SREE NARAYANA COLLEGE KOLLAM

DEPARTMENT OF ZOOLOGY

CERTIFICATE COURSE IN ORNAMENTAL FISH CULTURE

This is to certify that Mr./Ms./Mrs. *Manisha V*.....Department of.....
Zoology.....has successfully completed Certificate Course in Ornamental

Fish Culture during the Academic Year.....*2018-2019*.....

Ben

Course Coordinator

ANN

Principal



SREE NARAYANA COLLEGE KOLLAM

DEPARTMENT OF ZOOLOGY

CERTIFICATE COURSE IN ORNAMENTAL FISH CULTURE

This is to certify that Mr./Ms./Mrs. *Varsha Jayan*.....Department of.....
Zoology.....has successfully completed Certificate Course in Ornamental

Fish Culture during the Academic Year.....*2018-2019*.....

Binu

Course Coordinator

A. U. N.

Principal



SREE NARAYANA COLLEGE KOLLAM

DEPARTMENT OF ZOOLOGY

CERTIFICATE COURSE IN ORNAMENTAL FISH CULTURE

This is to certify that Mr./Ms./Mrs. Ammy. S......Department of.....
Zoology.....has successfully completed Certificate Course in Ornamental

Fish Culture during the Academic Year.....2018-2019.....

Bink

Course Coordinator

Ammy

Principal



SREE NARAYANA COLLEGE KOLLAM

DEPARTMENT OF ZOOLOGY

CERTIFICATE COURSE IN ORNAMENTAL FISH CULTURE

This is to certify that Mr./Ms./Mrs. Archana S.D......Department of.....
Zoology.....has successfully completed Certificate Course in Ornamental
Fish Culture during the Academic Year.....2018-2019.....

Bink

Course Coordinator

A. V. V.

Principal