



SREE NARAYANA COLLEGE, KOLLAM
 NAAC Re-accredited with 'A' Grade, Atal 'A' Band Institution
 Affiliated to University of Kerala

**A GATEWAY TO ENTREPRENEURSHIP
 &
 SUSTAINABLE ECONOMY**

**CERTIFICATE COURSE IN
 APICULTURE**



എല്ലാത്തരം തേനിനും വിപണിയിൽ ആവശ്യക്കാരുണ്ടെങ്കിലും തേനിന് എപ്പോഴും ക്ഷാമം നേരിടാറുണ്ട്. ആവശ്യത്തിനുള്ള തേൻ കരളത്തിൽ തന്നെ ഉല്പാദിപ്പിച്ച് ഈ മേഖലയിൽ സ്വയം പര്യാപ്തത കൈവരിക്കുകയെന്നതാണ് ഈ പരിശീലനത്തിന്റെ ലക്ഷ്യം. ഇതിന്റെ ഭാഗമായി പ്രായോഗിക പരിശീലനത്തോടൊപ്പം തേനീച്ചകൃഷിയെ സംബന്ധിച്ചുള്ള ആറു മാസത്തെ പരിശീലന ക്ലാസിൽ പങ്കെടുക്കാൻ സന്നദ്ധതയുള്ള വിദ്യാർത്ഥികൾ ഉടൻ ബന്ധപ്പെടുക..



Department of
 Zoology

Course duration:
 6 months

Qualification:
 +2 pass

30 seats available

Apply by
 4th December 2020

Candidates can apply by
 using the following link

[https://forms.gle/w7cDixh
 exc7svTDJ6](https://forms.gle/w7cDixhexc7svTDJ6)

Contact : 9495079217 /
 9895953110

PG and Research Department of Zoology

CERTIFICATE COURSE IN APICULTURE

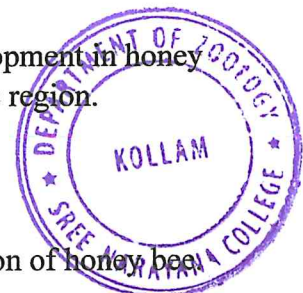
The aim of the course is to “Encourage entrepreneurial skills in beekeeping and to uplift their financial safety”. The certificate course in *Apiculture: A gateway to Entrepreneurship and Sustainable Economy*, offered by the research and postgraduate department of Zoology, Sree Narayana College, Kollam provides professional training and awareness to encourage entrepreneurial skills in beekeeping with a Zoology background. This mission could be achieved through nurturing of young minds by developing skills in beekeeping. The interdisciplinary curriculum is designed to achieve career goals for those who may be opting apiculture as a remedy for youth unemployment. They can start this business unit at minimal funds. The certification helps the beekeeper to seek any financial help from any bank, non-governmental or governmental agencies. The department has collaboration with Kerala state horticultural products development corporation (HORTICORP), Poojapura, Thiruvananthapuram.

OBJECTIVES OF THE COURSE

- Impart education about modern beekeeping and build human resource in the beekeeping sector.
- Diversification of apiculture to increase income of the farmers.
- To develop strategies for management of bee colonies round the year for income generation.
- To give a better knowledge to the community about various techniques of Bee keeping and honey processing and its marketing to make them self sustainable.
- To formulate guidelines for an appropriate technology development in honey production, utilization and preparation of a honey flora of the region.

RELEVANCE AND OUTCOME OF THE COURSE

- Maintain ecological balance in nature by way of domestication of honey bee



- Develop entrepreneurial skills in beekeeping.
- Build human resource in the beekeeping sector.
- Generate employment opportunities in Apiculture to the unemployed youth and women for rural development.
- Undertake research and development [R&D] in Apiculture.
- Encourage the new generation to maintain their security and stability.
- Help to conserve the natural resources

**OUTLINE OF SYLLABUS OF THE COURSE WITH WORKLOAD SYLLABUS –
APICULTURE: A GATEWAY TO ENTERPRENEURSHIP AND SUSTAINABLE
ECONOMY**

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

THEORY-(15 hours)

Unit 1. Introduction to Apiculture –Scope, Importance (1 Hr)

- History of bee keeping: Definition, Bee keeping in India, Traditional and Modern bee keeping.
- Apiculture development in India, institutions involved

Unit 2. Species of Indian Honey bees (1.5 Hr)

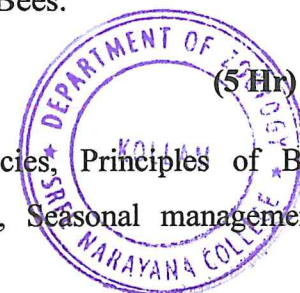
- Different species of honey bees,
- Species and Sub-Species of Hive Bees, *Apis dorsata*, *Apis florea*, *Meliopona* and *Trigona* spp.

Unit 3.Habits and behavior of honeybee (2 Hr)

- Queen, Drones and worker bees-modification of worker bee
- Swarming behavior of Honey bees, dances of Honey Bees.

Unit 4. Honey bee Culture (5 Hr)

- Bee keeping: Selection of apiary site and bee species, Principles of Bee Management, Bee keeping equipment, Queen rearing, Seasonal management, Supplementary Feeding, Economics of bee keeping



- Apiary-Bee-flora (Bee Pasturage): Introduction to Bee flora, Qualities of a good bee flora, Collection and preservation of bee Pasture, Important honey flow sources in India
- Bee keeping equipment and types
- Bee hive, Types of Bee hive
- Enemies of honey bee: Predatory wasps, Wax moth, Ecto parasitic mites, other bee enemies, Diseases and their control
- Honey extraction and processing: Handling of bee colonies and manipulation for honey production.
- Processing and value addition of honey.

Unit 5. Economic importance of Apiculture

(2.5 Hr)

- Economic value of commercial bee keeping'
- Honey: Composition of Honey, Uses of Honey, Honey as food, Medicine and other uses.
- Bees wax and uses: Extraction, purification and value addition of bee wax.
- Bee pollen and uses.
- Bee venom: composition and medical uses

Unit 6. Marketing strategies

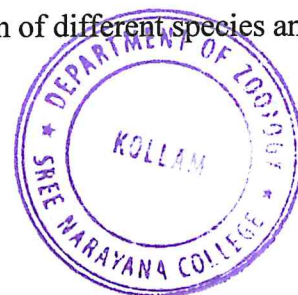
(3 Hr)

- Marketing aspects of bee products.
- Role of Government and Non-Government agencies in promoting apiculture in Kerala.
- Present status and future scope of apiculture as small scale industry in Kerala.
- Present scenario and scope of apiculture.

PRACTICAL

(15 hours)

1. Study of the morphology of Honeybees and Identification of different species and classes of Honey bees
2. Study of different stages in life cycle of Honey bees.
3. Study of the behavior of Honeybees



4. Bee keeping unit - Handling of frames with colonies
5. Introduction of parts of Bee box - ISI 'A' type 'B' type & Tools used in Beekeeping
6. Colony inspection, maintenance - writing up of inspection report
7. Methods of Multiplication of Bee Colonies

ONSITE JOB TRAINING

Management of *Apis cerana* / *Apis mellifera*

Every student will go for onsite job training considering the following Aims:

Procurement of Equipments and Colonies, Building up of the colonies, Management of colonies during scarcity, Extraction of honey, Honey Flow management.

MODALITY OF ASSESSMENT

Term End Theory Assessment – There will be three theory papers of 50 marks each and three practical papers of 50 marks each.

Suggested Field Visits

Field visits are to be organised to facilitate students to have first-hand experience and exposure to technology / production / functioning of an organisation / unit or witness a relevant activity. Each student must make at least 02 (Two) such visits to the units/markets/public aquarium out of 2 to 3 such visits organised by the college.

- Visit to one of the units with one or multiple activities such as, Honey bee Keeping / Honey Processing / Honey Marketing.
- Visit any production units such as, Honey Processing Unit or any Food industry.

Suggested Topics for Entrepreneurial Skill Development

1. Setting and Maintenance of Bee keeping unit.
2. Setting and Maintenance of Honey Processing unit.
3. Breeding and Multiplication of various bees.
4. Propagation of bee plants.
5. Preparing a proposal for starting a bee keeping and honey processing unit to a Bank or

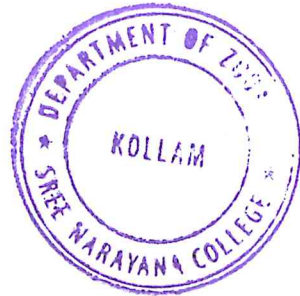


Government Authorities.

REFERENCES:

Reference Books

- Prospective in Indian Apiculture - R.C.Mishra
- Rearing queen bees in India - M.C. Suryanarayana
- Bee Keeping in India - G. K.Ghosh
- Technology and value addition of Honey - Dr. D. M. Wakhle and K. D.Kamble.
- ABC & XYZ of Bee culture - A. I. Root
- The beginner's bee book By Ted Hooper
- A guide to keeping Bees in the city by Craig Hughes
- Indian Bee Journal - All India Bee Keeping Association
- Asian Bee Journal



Turhalharajil
Principal
Sree Narayana College
Kollam



BOARD OF STUDIES MEMBERS (2020-2021)

**DEPARTMENT OF ZOOLOGY
SREE NARAYANA COLLEGE, KOLLAM**

CERTIFICATE COURSE IN APICULTURE

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

BOARD OF STUDIES FOR CERTIFICATE COURSE IN APICULTURE

Members:

Dr Harshini Sarojini, Research Scientist, Department of Surgery, University of Louisville, Kentucky, USA

Dr B Reshmi, Assistant Professor, Department of Zoology, S. N. College, Cherthala

Dr Rohini Krishna M V, Assistant Professor, Department of Zoology, TKM College of Arts and Science, Kollam

Dr Jasin Rahman V K, Assistant Professor, Department of Zoology, TKM College of Arts and Science, Kollam

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

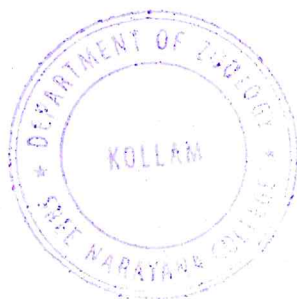
Dr B Hari, Assistant Professor, Department of Zoology, S. N. College, Kollam


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 Divya T Dharan, Assistant Professor, Department of Zoology, S. N. College, Kollam

Dr Divya P S, 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

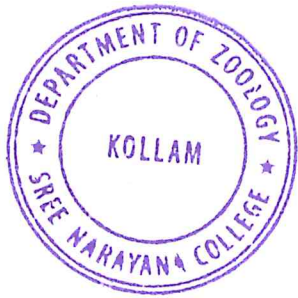
Sree Narayana College Kollam


Department of Zoology

Certificate Course in Apiculture 2020-2021

Time table

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

SREE NARAYANA COLLEGE, KOLLAM
DEPARTMENT OF ZOOLOGY

List of teachers who are handling classes for the certificate course (2020-2021)

1. Dr B T Sulekha (HOD Department of Zoology, Sree Narayana College, Kollam)
2. B Sunil (Regional, Manager HortiCorp, Mavelikara)
3. Dr Sheeja V U (Assistant Professor, Department of Zoology, Sree Narayana College, Kollam)



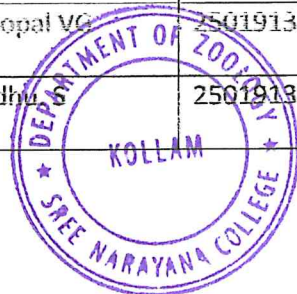

Dr. SULEKHA B.T
Associate Professor & Head
P.G. & Research Dept. of Zoology
S.N. College, Kollam-691001

Sree Narayana college, Kollam

Certificate course -Apiculture- 2020-2021

List of students opted the course

SL.NO.	NAME	CANDIADTE CODE	NAME OF THE COURSE SELECTED	DEPARTM ENT (which offers the course)
1	Anandu.S	25019132002	Certificate course in apiculture	Zoology
2	Apoorva Rani	25019132004	Certificate course in apiculture	Zoology
3	Fathima Navas	25019132008	Certificate course in apiculture	Zoology
4	Neethu D	25019132010	Certificate course in apiculture	Zoology
5	Rakesh RB	25019132014	Certificate course in apiculture	Zoology
6	Renjitha .L	25019132015	Certificate course in apiculture	Zoology
7	Sarang R Raj	25019132018	certificate course in apiculture	Zoology
8	Sooraj S S	25019132020	certificate course in apiculture	Zoology
9	Subhalakshmi.S	25019132021	certificate course in apiculture	Zoology
10	Aadi Krishnan U A	25019132023	certificate course in apiculture	Zoology
11	Aarathy.S	25019132024	certificate course in apiculture	Zoology
12	Abhin A	25019132025	Certificate course in apiculture	Zoology
13	Adhitya Mahendra	25019132026	Certificate course in apiculture	Zoology
14	Akash S	25019132027	Certificate course in apiculture	Zoology
15	Amal S	25018132028	Certificate course in apiculture	Zoology
16	Anandhu.A	25019132031	Certificate course in apiculture	Zoology
17	Arif A R	25019132034	Certificate course in apiculture	Zoology
18	Babitha Sreedhar	25019132037	Certificate course in apiculture	Zoology
19	Keerthana B S	25019132040	certificate course in apiculture	Zoology
20	Keerthi Gopal VG	25019132041	certificate course in apiculture	Zoology
21	Krishnendhu	25019132042	certificate course in apiculture	Zoology

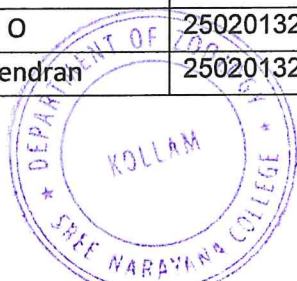


Sree Narayana college, Kollam

Certificate course -Apiculture- 2020-2021

List of students opted the course

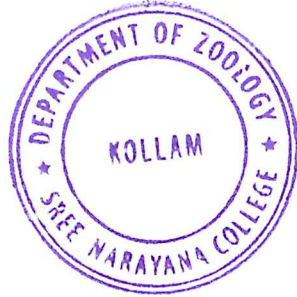
22	Midhun M	25019132045	certificate course in apiculture	Zoology
23	Muhsina Shihab	25019132046	Certificate course in apiculture	Zoology
24	Nanditha S	25019132047	Certificate course in apiculture	Zoology
25	Nandu N	25019132048	Certificate course in apiculture	Zoology
26	Rajasree R S	25019132049	Certificate course in apiculture	Zoology
27	Saranya R	25019132051	Certificate course in apiculture	Zoology
28	Shijila P S	25019132052	Certificate course in apiculture	Zoology
29	Sneha S	25019132053	Certificate course in apiculture	Zoology
30	Sreelesh S	25019132055	Certificate course in apiculture	Zoology
31	Sreepriya P S	25019132056	Certificate course in apiculture	Zoology
32	Vikshaya MR	25019132058	Certificate course in apiculture	Zoology
33	Yadan Manohar	25019132061	certificate course in apiculture	Zoology
34	Devika Rajesh	25019132062	certificate course in apiculture	Zoology
35	Shanto Shajan	25019132063	certificate course in apiculture	Zoology
36	Sreelekha A	25019132064	certificate course in apiculture	Zoology
36	Kavya S	25020132039	Apiculture	Zoology
37	Mahima T S	25020132040	Apiculture	Zoology
38	Fathima A	25020132035	Apiculture	Zoology
39	Sandra S	25020132049	Apiculture	Zoology
40	Safa faizal	25020132047	Apiculture	Zoology
41	Suryalekshmi S	2502013207	Apiculture	Zoology
42	Thapasya Sangeeth P V	25020132011	Apiculture	Zoology
43	Silpa.S	25020132014	Apiculture	Zoology
44	Ayanaprem R	25020132005	Apiculture	Zoology
45	Gadha.S	25020132008	Apiculture	Zoology
46	Sneha.S.Binu	25020132016	Apiculture	Zoology
47	Rajasekharan N	25020132041	Apiculture	Zoology
48	Anamika Darsan	25020132027	Apiculture	Zoology
49	Vyshnavi J O	25020132052	Apiculture	Zoology
50	Devan surendran	25020132006	Apiculture	Zoology




Sree Narayana college, Kollam
Certificate course -Apiculture- 2020-2021

List of students opted the course

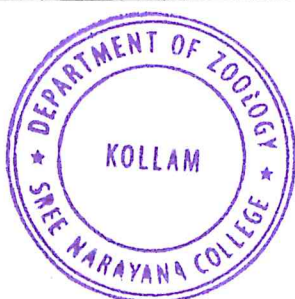
51	Shiva priya J	25020132050	Apiculture	Zoology
52	Nidhin. R	25020132042	Apicultute	Zoology




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

Sree Narayana college, Kollam
Certificate course -Apiculture- 2020-2021
Student List

SI No	Name	Candidate code	E-Mail ID	Mobile number
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2	GOURI RAJ B R	13020132053	gourirajbr123@gmail.com	7736841961
3	Silpa.S	25020132014	silpasiva187@gmail.com	9778048248
4	Safa faizal	25020132047	safa2faizal@gmail.com	9567517525
5	Adithya.B	25020132022	adithyab_zoo20@snckollam.ac.in	9544519219
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15	Mahima T. S	25020132040	mahimats68@gmail.com	9778296377
16	SURYALEKSHMI.S	2502013207	suryalekshmi76@gmail.com	9747846186
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24	KEERTHANA. B. S	25019132040	keerthanabiju968@gmail.com	8590111248
25	Nanditha.s	25019132047	nandithasuma2001@gmail.com	8129249427
26	Sreelekha.A	25019132064	sreelekha9801@gmail.com	7736458445
27	APOORVA RANI	25019132004	Apoorva Rani	9496536965
28	Sneha S	25019132053	snehasana2001@gmail.com	8078481770
29	Krishnendhu. S	25019132042	kichukrishna392@gmail.com	8590079926
30	Saranya .R	29032019151	saranyaanathan619@gmail.com	8590064541
31	Aarathy S	25019132024	aarathyshibu@gmail.com	8089474254
32	Adithya Mahendra	25019132026	adithyamahendra2@gmail.com	9400713324
33	RENJITHA. L	25019132015	lalitharenjitha@gmail.com	8086808770



SREE NARAYANA COLLEGE, KOLLAM

Department of Zoology

Certificate Course in Apiculture

Assessment test 2020-2021

Maximum Marks 50

Duration 45 minutes

Choose the correct answer

(25x2=50)

1. How long does a worker bee live in the summer?

- (a) about 2 weeks
- (b) about 2 months
- (c) about 4 months
- (d) about 6 months

2. What is varroa?

- (a) a fungus
- (b) a bacterium
- (c) an insect
- (d) an arachnid mite

3. Where are the most varroa usually found?

- (a) in the cells of developing workers
- (b) in the cells of developing queens
- (c) in the cells of developing drones
- (d) on the adult bee

4. Where is the surplus honey stored in the bee colony?

- (a) under the offspring or brood nest
- (b) above the brood nest
- (c) in the brood nest
- (d) in front of the brood nest

5. What does the bee use to orientate itself when flying during overcast weather without sunshine?

- (a) 3 simple eyes
- (b) the 2 compound eyes
- (c) antennae
- (d) legs

6. How many worker bees make up about 1 kilo?

- (a) 32,000 bees
- (b) 24,000 bees
- (c) 17,000 bees
- (d) 11,000 bees

7. What colour can the honey bee not see?

- (a) Red
- (b) Blue
- (c) Green
- (d) Yellow

8. How many segments are there in the abdomen of the worker bee?

- (a) 2
- (b) 4
- (c) 6
- (d) 8

9. For how long does a worker bee live in the summer?

- (a) For 2 weeks
- (b) For 2 months
- (c) For 4 months
- (d) For 6 months

10. The development of a male bee (drone) takes how long?

- (a) 16 days
- (b) 19 days
- (c) 22 days
- (d) 24 days

11. How many queens usually live in a bee colony?

- (a) 1
- (b) 2
- (c) 3
- (d) 4

12. How many days does the egg stage last?

- (a) 2
- (b) 3
- (c) 4
- (d) 5

13. How many wings does a bee have?

- (a) 2
- (b) 3
- (c) 4
- (d) 5

14. How does the bee carry the pollen back to its colony?

- (a) In its body
- (b) On its front legs
- (c) On its middle legs

(d) On its rear legs

15. Which organ prevents the nectar collected, being passed through into the bee's digestive system in order that it can be regurgitated back at the hive?

- (a) Honey bladder
- (b) Gut
- (c) Proventriculus valve
- (d) Gullet

16. What colour is the bee's blood?

- (a) Red
- (b) White
- (c) Clear
- (d) Black

17. What does pollen consist of mainly?

- (a) Carbohydrates
- (b) Protein
- (c) Fat
- (d) None of the three

18. *Apis dorsata* is used to refer to

- (a) Little bee
- (b) Indian bee
- (c) European bee
- (d) Rock bee

19. The honey bee is of greatest use to mankind as:

- (a) It is of medicinal benefits
- (b) Helps in cross-pollination
- (c) We get honey from them
- (d) None of these

20. Nature of honey is

- (a) Acidic
- (b) Alkaline
- (c) Neutral
- (d) Turns basic after a few days

21. Honey is

- (a) Nectar of a flower
- (b) Nectar stored in the honey sac
- (c) Nectar mixed with saliva and stored in the honey sac
- (d) Nectar and water sucked by honey bee

22. The bee carries the pollen back to its colony on:

- (a) Its body
- (b) Its middle legs
- (c) Its front legs
- (d) Its rear legs

Answer the following

- 23. Name a few equipment used in Apiculture
- 24. Name few species of honey bees commonly reared in India
- 25. Give a few uses of honey

Minutes of the Certificate Course in Apiculture.

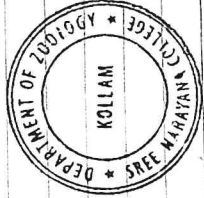
Meeting of the department committee of the certificate course in Apiculture of the Department of Zoology, S.N. College Kollam was held on 28/11/19 in the department staff room at 3:30pm

Members

- 1. Dr. B.T. Sulekha HOD Department of Zoology
- 2. Dr. B. Hare Asst. Prof "
- 3. Dr. Sheeba S.J. Associate Prof. Dept. of Zoology
- 4. Dr. Jisha S. " "
- 5. Miss. Nisha V.S. Assistant Prof. Dept of Zoology

Agenda: Fixation of date of board of studies Decisions

- 1. It was decided to fix the members of board of studies
- 2. Approval of the syllabus



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

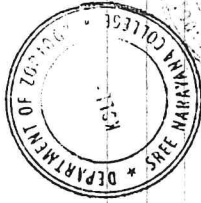
NOTICE

All Board of Studies members of Certificate Course in Apiculture are requested to attend a meeting on 28.11.2019 at 3:30 pm.

Agenda: Fixation of date of board of studies

CO-Ordinator Certificate Course in Apiculture

Date: 28/11/2019 Kollam



Minutes of the Certificate course in Apiculture

Meeting of the department committee of the certificate course in Apiculture of the Department of Zoology, S.N. College, Kollam was held on 26/11/19 in the department staff room at 3.30 pm.

Members

- 1. Dr. B. T. Sulekha HOD Dept of Zoology
- 2. Dr. B. Hari Ass. Prof. Dept of Zoology
- 3. Dr. Sheeba. S Associate Prof. Dept of Zoology
- 4. Dr. Jisha. S "
- 5. Mrs. Misra VS Assistant Prof. Dept. of Zoology

Agenda: Invite applications and commence the course.

- 1. Announcement for inviting applications
- 2. Date for the commencement of the course.



Handwritten signature of Dr. Sulekha B.T.

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

NOTICE

All Board of Studies members of Certificate Course in Apiculture are requested to attend a meeting on 26/11/19 at 3.30 pm.

Agenda: Application Invitations
Commencement of course

CO-Ordinator

Certificate Course in Apiculture

Date: 26/11/19

Kollam



NOTICE

All Board of Studies members of Certificate Course in Apiculture are requested to attend a meeting on 12/5/20 at 3:30 pm.

Agenda: Examinations date

CO-Ordinator

Certificate Course in Apiculture

Date: 12/5/20

Kollam



Minutes of the Certificate course in Apiculture

Meeting of the department committee of the certificate course in Apiculture of the Department of Zoology SN College, Kollam was held on 12/5/2019 at the department staff room at 3:30 pm.

Members

- 1. Dr. B.T. Sulekha HOD Dept of Zoology
- 2. Dr. B. Hari Assoc Prof. Dept of Zoology
- 3. Dr. Shaeba.S.J. Associate Prof. Dept. of Zoology
- 4. Dr. Jisha.S. "
- 5. Mrs. Nisha.V.S. Assistant Prof. Dept of Zoology

Agenda: To conduct examinations and issue certificates

- 1. It was decided to review the course and conduct examination.
- 2. Certificates to be issued to the successful candidates.



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

NOTICE

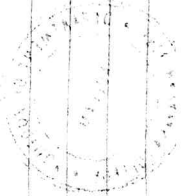
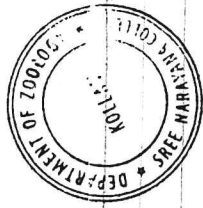
All Board of Studies members of Certificate Course in Apiculture are requested to attend a meeting on 23/11/18 at 3.30 pm.

Agenda: Fixation of date for board of studies meeting

CO-Ordinator
Certificate Course in Apiculture

Date: 23/11/18

Kollam



Minutes of the certificate course in Apiculture

Meeting of the department committee of the certificate course in Apiculture of the Department of Zoology, S.N. College, Kollam was held on 23/11/18 in the department staff room at 3.30 pm.

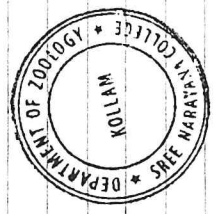
Members

1. Dr. B.T. Sulekha ⁱⁿ HOD Dept of Zoology
2. Dr. B. Hani ⁱⁿ Asst. Prof. Dept of Zoology
3. Dr. Sheeba . S ⁱⁿ " "
4. Dr. Jisha . S ⁱⁿ " "
5. Dr. Divya . T. Tharan ⁱⁿ Asst. Prof. Dept of Zoology
6. Dr. Shreya . YU ⁱⁿ Assistant Prof. Dept of Zoology
7. Dr. Divya . PS ⁱⁿ " "

Agenda: Fixation of date for the board of studies

1. It was decided to fix the members of studies
2. Approval of the syllabus

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



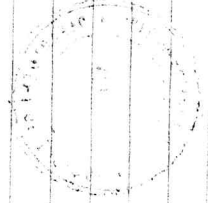
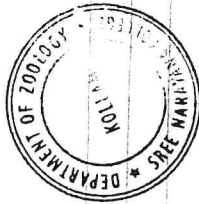
NOTICE

All Board of Studies members of Certificate Course in Apiculture are requested to attend a meeting on 14/12/20 at 3.30 pm.

Agenda: Finalisation of application
Commencement of course

CO-Ordinator
Certificate Course in Apiculture

Date: 14/12/20
Kollam



Minutes of the Certificate Course in Apiculture

Meeting of the department committee of the certificate course in Apiculture of the Department of Zoology S.N. College, Kollam was held on 14/12/20 in the department staff room at 3.30 pm.

Members

- 1. Dr. B.T. Sulekha HOD Dept. of Zoology
- 2. Dr. B. Hari Assoc. Prof. Dept. of Zoology
- 3. Dr. Sheeba.S Associate Prof. Dept. of Zoology
- 4. Dr. Jisha.S "
- 5. Dr. Divya.T. Dharaan Assis. Prof. Dept. of Zoology
- 6. Dr. Shreya VU Assistant Prof. Dept. of Zoology
- 7. Dr. Divya P.S "

Agenda: Finalise applications and commence the
Decisions

- 1. Announcement for writing applications
- 2. To decide a date for the commencement of the course.



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

Sree Narayana college, Kollam
Certificate course -Apiculture- 2020-2021

Result

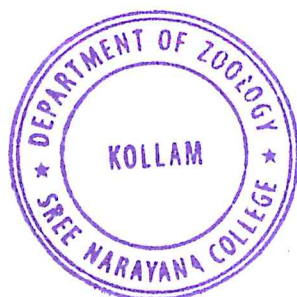
Sl No	Name	Candidate code	E-Mail ID	Result
1	Devan Surendran	25020132006	devan3050@gmail.com	Pass
2	GOURI RAJ B R	13020132053	gourirajbr123@gmail.com	Pass
3	Silpa.S	25020132014	silpasiva187@gmail.com	Pass
4	Safa faizal	25020132047	safa2faizal@gmail.com	Pass
5	Adithya.B	25020132022	adithyab_zoo20@snckollam.ac.in	Pass
6	N RAJASEKHARAN	25020132041	rajasekharann123@gmail.com	Pass
7	FATHIMA A	25020132035	fathimasalam812@gmail.com	Pass
8	Prajeesh. R	25020132013	Prajeesh040533@gmail.com	Pass
9	Shiva priya J	25020132050	shivapj2002@gmail.com	Pass
10	GADHA.S	25020132008	gadhasanthilal16@gmail.com	Pass
11	Ayana prem R	25020132005	ayanapremr_zoo20@snckollam.ac.in	Pass
12	SANDRA S	25020132049	sandrasurendran680@gmail.com	Pass
13	SIVAPRIYA. P	25020132015	sivapriyap2020@gmail.com	Pass
14	Sneha S Binu	25020132016	snehasbinu_zoo20@snckollam.ac.in	Pass
15	Mahima T. S	25020132040	mahimats68@gmail.com	Pass
16	SURYALEKSHMI.S	2502013207	suryalekshmi76@gmail.com	Pass
17	ANAMIKA DARSAN	25020132027	anamika05aami@gmail.com	Pass
18	P V Thapasya Sangeeth	25020132011	thapasyasangeeth@gmail.com	Pass
19	VYSHNAVI J O	25020132052	Vyshnavijo2002@gmail.com	Pass
20	NIDHIN. R	25020132042	nidhinraju21@gmail.com	Pass
21	SUBHALAKSHMI.S	25019132021	subhalakshmisubhash@gmail.com	Pass
22	Neethu.D	25019132010	neethud445@gmail.com	Pass
23	Anaina A S	25020132026	anainaajikumar17@gmail.com	Pass
24	KEERTHANA. B. S	25019132040	keerthanabiju968@gmail.com	Pass
25	Nanditha.s	25019132047	nandithasuma2001@gmail.com	Pass
26	Sreelekha.A	25019132064	sreelekha9801@gmail.com	Pass
27	APOORVA RANI	25019132004	Apoorva Rani	Pass
28	Sneha S	25019132051	snehasana2001@gmail.com	Pass
29	Krishnendhu. S	25019132042	kichukrishna392@gmail.com	Pass
30	Saranya .R	2903201915	saranyaanathan619@gmail.com	Pass
31	Aarathy S	25019132024	aarathyshibu@gmail.com	Pass
32	Adithya Mahendra	25019132023	adithyamahendra2@gmail.com	Pass
33	RENJITHA. L	25019132025	lalitharenjitha@gmail.com	Pass

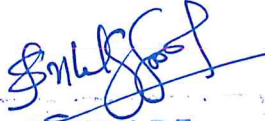


Sulekha B.T
Dr. SULEKHA B.T
Associate Professor & Head
P.G.& Research Dept.of Zoology
S.N.College, Kollam-691001

Sree Narayana college, Kollam
Certificate course -Apiculture- 2020-2021
Mark List

SI No	Name	Marks obtained /50
1	Devan Surendran	20
2	GOURI RAJ B R	46
3	Silpa.S	26
4	Safa faizal	44
5	Adithya.B	40
6	N RAJASEKHARAN	44
7	FATHIMA A	40
8	Prajeesh. R	46
9	Shiva priya J	50
10	GADHA.S	46
11	Ayana Prem R	40
12	SANDRA S	40
13	SIVAPRIYA. P	38
14	Sneha S Binu	36
15	Mahima T. S	44
16	SURYALEKSHMI.S	46
17	ANAMIKA DARSAN	44
18	P V Thapasya Sangeeth	48
19	VYSHNAVI J O	44
20	NIDHIN. R	46
21	SUBHALAKSHMI.S	44
22	Neethu.D	48
23	Anaina A S	42
24	KEERTHANA. B. S	42
25	Nanditha.S	34
26	Sreelekha.A	42
27	APOORVA RANI	38
28	Sneha S	40
29	Krishnendhu. S	42
30	Saranya .R	40
31	Aarathy S	42
32	Adithya Mahendra	44
33	RENJITHA. L	44




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

No of Hours Attended	15/2	16/2	17/2	18/2	19/2	20/2	21/2	22/2	23/2	24/2	25/2	26/2	27/2	28/2	29/2	30/2
Prasad	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Silpa S	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Safa Faizal	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Adelthiya B	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
N Rajasekharan	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Fathima A	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Prayesh R	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Shiva Priga J	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Grachha S	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Ayana Prem R	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Sandeep S	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Sivapriya P	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Sneha S Binu	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Mahima T S	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Swayalekshmi S	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Anamika Darsan	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
PV Thapsaya Sangeetha	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Vyshnavi D	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Nidhin R	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Subhalakshmi S	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Neethu D	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Anaina AS	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Keerthana BS	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Nanditha S	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Sneleka A	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Apoorva Rani	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Sneha S	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Kaishrendhu S	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Saranya R	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X



Signature of Teacher

Signature of Teacher

REGISTER

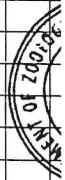
Month(s) February - May 2021 No. of Instructional Hours 30 hrs

No. of Hours Attended	5/6	5/7	5/8	5/9	5/10	5/11	5/12	5/13	5/14	5/15	5/16	5/17	5/18	5/19	5/20	5/21	5/22	5/23	5/24	5/25	5/26	5/27	5/28	5/29	5/30	
1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
3	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

ATTENDANCE

Name of Course Certificate Course - Apiculture Teacher(s) Dr. Sheeja VU

Sl No	Name of student	Date	Hour	5/6	5/7	5/8	5/9	5/10	5/11	5/12	5/13	5/14	5/15	5/16	5/17	5/18	5/19	5/20	5/21	5/22	5/23	5/24	5/25	5/26	5/27	5/28	5/29	5/30
31	Aasathy S			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
32	Adithya Mahendra			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
33	Renjika L			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
34	Sreerajya P S			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X



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Handwritten signatures and initials in the right margin.

Signature of Teacher

Department of Zoology

Report of Apiculture Certificate course (2020- 2021)

There is always an increasing demand for the honey across the world. Still, most of the honey is being collected from the wild resources (forest) and a limited amount is produced through commercial units. In the scattered commercial units, due to less technical knowledge and poor infrastructure, the honey production is less. A great potential exists in this area, where we may establish this unorganized sector into an organized one for the betterment of the society. The certification in Bee Keeping course imparts education and technical knowledge about modern beekeeping.

The beekeeping sector has great potential and career scope in villages and urban areas. So, the course will help in empowering the farmers and youth human and building human resource in the beekeeping sector. The technical skills and knowledge gained will help the farmers to increase the income by the diversification of apiculture. Those wish to start the business, can develop their entrepreneurial skills in beekeeping. The course curriculum includes learning modules which incorporate in learning the basic of beekeeping, management of honey bee colonies, hive products and economics beekeeping. The students will also learn about the skills to open and reassemble a beehive, skills to construct and repair beehives, techniques to remove a honey crop from a hive, how to extract honey and managing pests and disease within a honey bee colony.

The class for the second batch of the certificate course offered by the Department of Zoology commenced on 15-2-2021 with the 33 students who had enrolled for the course. The programme comprised of a very brief inaugural function followed by the classes by Mr. B.Sunil, HortiCorp Regional Manager, an expert in beekeeping and holistic use of honey. The Course Co-ordinator Dr Sheeja V U welcomed the gathering and the HOD, Dr. B T Sulekha inaugurated the programme. Classes were engaged by Mr. B.Sunil and Dr Sheeja V U on the following days (15/2/21, 17/2/21, 22/2/21, 24/2/21, 9/3/21, 11/3/21, 15/3/21, 27/3/21, 26/4/21, 7/5/21, 9/5/21, 10/5/21, 12/5/21, 19/5/21, 24/5/21) In an online mode. Online practical classes with videos job were provided for the students under the guidance of Mr. B.Sunil and Dr Sheeja V U. Certificates were issued to all the 33 students who successfully completed the course, in a programme organized by the department.

Course outcome

The programme gave students a platform to understand bee biology and behaviour: Types of Bees, life cycle, handle beekeeping systems, tools and equipment needed for beekeeping, bee keeping systems/hives, installation of hives, beehive management and colony management all throughout the year. After completing the course, the students may start their career as a trained bee keeper.

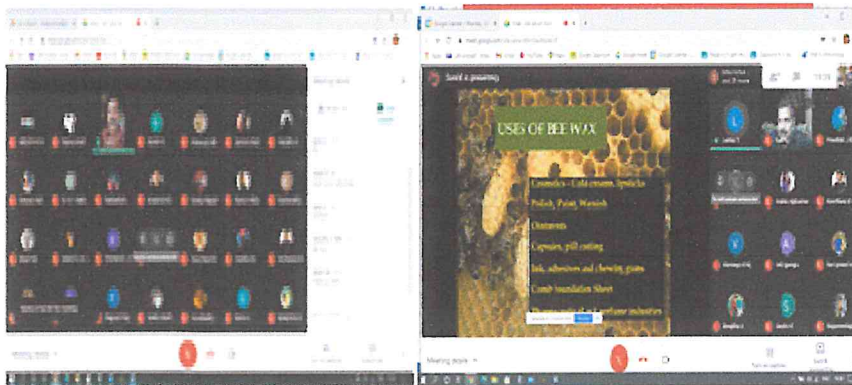


APCC02 (2020-2021)

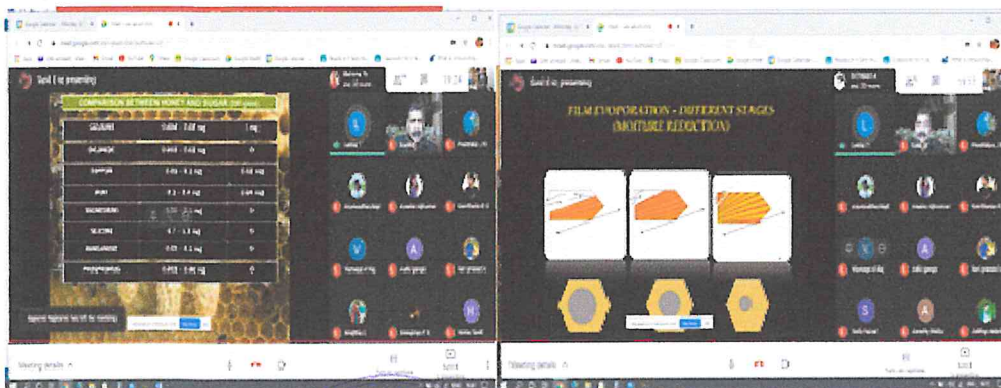


Apiculture class 15/2/2021.

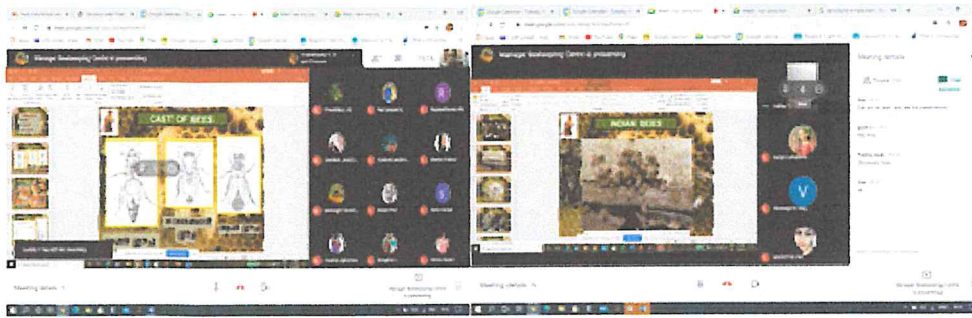
The first class of Apiculture 2020- 2021 was conducted on 15/2/2021 online at 7 pm. The inaugural class was by Mr. B.Sunil, Regional manager, HortiCorp, Mavelikara. A detailed introduction on Honey bee, honey, plant pollen was given. There was active participation from the student side.



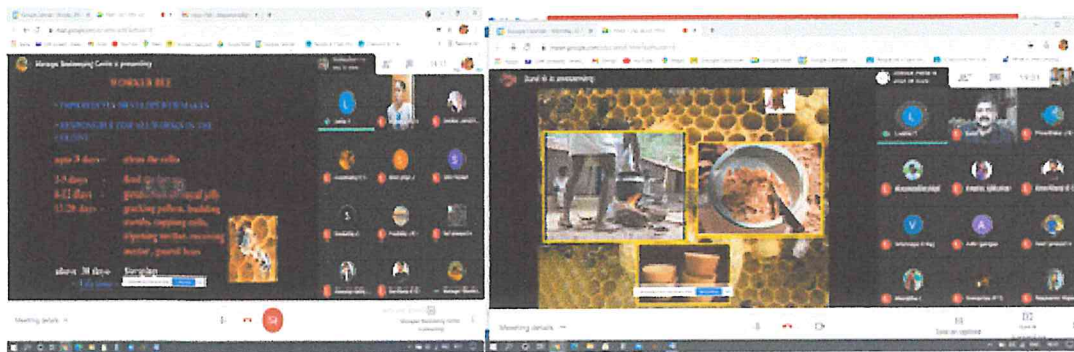
Apiculture class 22/2/2021



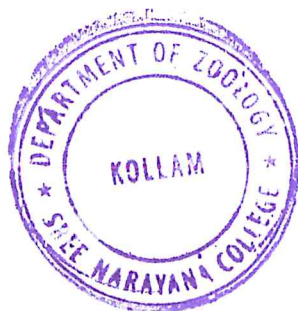
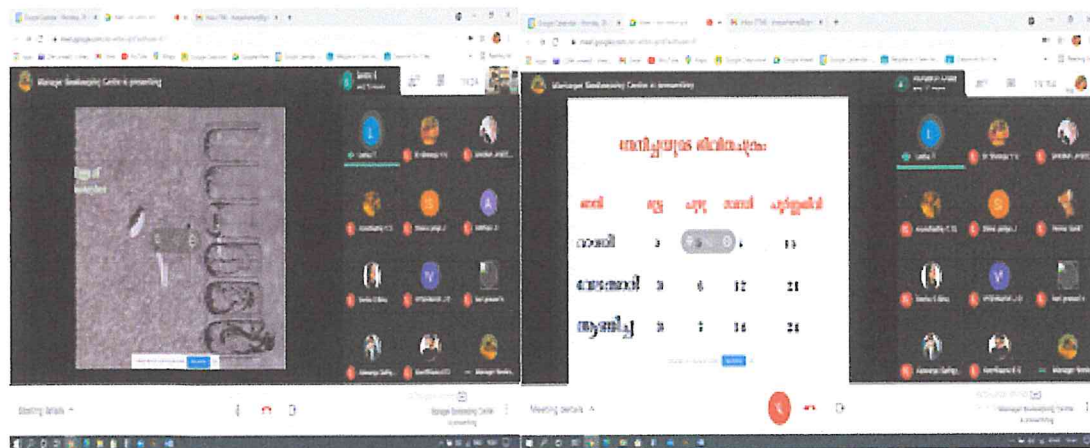
Apiculture class 11/3/2021



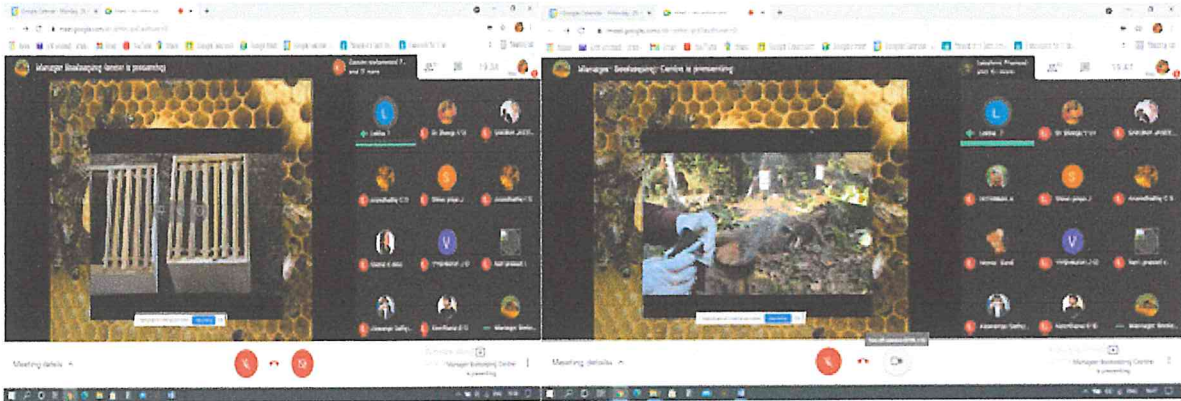
Apiculture class 26/4/2021



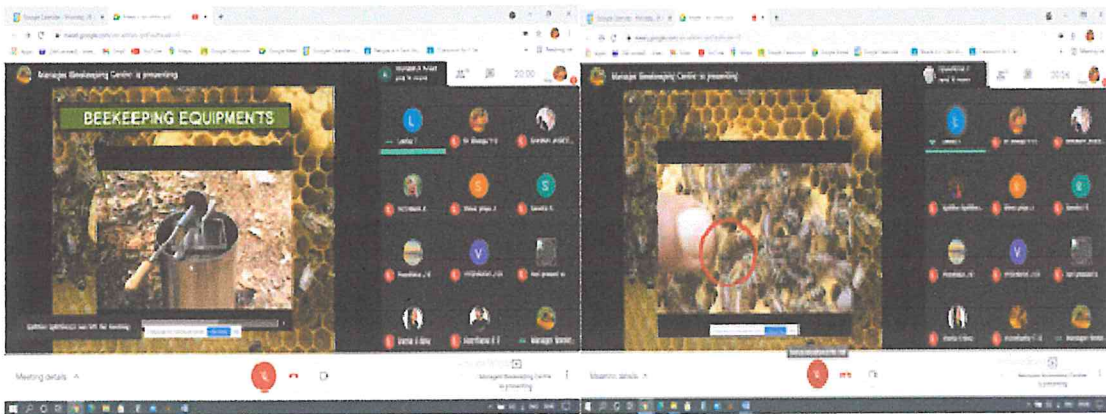
Apiculture class 9/5/2021



Apiculture class 12/5/2021



Apiculture class 24/5/2021



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

SREE NARAYANA COLLEGE, KOLLAM
NAAC Re-accredited with 'A' Grade, Atal 'A' Band Institution
Affiliated to University of Kerala



Certificate Course 2020-2021

Name of the course :

1. Name (Block letters) : SHIVA PRIYA - J
2. Sex : FEMALE
3. Age and Date of birth : 19, 21-05-2002
4. Religion : HINDU
5. Category : GENERAL
6. Name of the parent : JAYACHANDRAN - V. G
7. Address for communication : VALIYAZHIKAM, THEKKECHERI,
KANJAVELI PO, KOLLAM - 691602



8. E-mail ID : shivapj2002@gmail.com
9. Mobile number : 8129712068

Declaration

I ... SHIVA PRIYA - J do hereby declare that the statements made by me in the application are true to the best of my knowledge and can be verified when required.

Place : KOLLAM

Date :

Signature of the applicant

SREE NARAYANA COLLEGE, KOLLAM
NAAC Re-accredited with 'A' Grade, Atal 'A' Band Institution
Affiliated to University of Kerala



Certificate Course 2019-2020

Name of the course :

1. Name (Block letters) : MAHESH RAJ
2. Sex : MALE
3. Age and Date of birth : 23 - 09-10-1998
4. Religion : HINDHU
5. Category :
6. Name of the parent : RAJENDRAN. NAIR
7. Address for communication : Keerukuttiyal Veedu, Uliyakovil
PO Kollam - 19
PIN - 696019
8. E-mail ID : Maheshraj248 notout@gmail.com
9. Mobile number : 9497618725



Declaration

I Mahesh Raj do hereby declare that the statements made by me in the application are true to the best of my knowledge and can be verified when required.

Place : Kollam

Date :

Signature of the applicant

SREE NARAYANA COLLEGE, KOLLAM
NAAC Re-accredited with 'A' Grade, Atal 'A' Band Institution
Affiliated to University of Kerala



Certificate Course 2019-2020



Name of the course :

1. Name (Block letters) : NISARI PAL
2. Sex : FEMALE
3. Age and Date of birth : 20 23/01/2001
4. Religion : HINDU
5. Category :
6. Name of the parent : JAYA KUMARI
7. Address for communication :
Navami, Kizhakkanel
Mullanchamil road, Parippally P.
tvm district.
8. E-mail ID : nisari2001@gmail.com
9. Mobile number : 9497785012.

Declaration

I do hereby declare that the statements made by me in the application are true to the best of my knowledge and can be verified when required.

Place :

Date :

Signature of the applicant

SREE NARAYANA COLLEGE, KOLLAM
NAAC Re-accredited with 'A' Grade, Atal 'A' Band Institution
Affiliated to University of Kerala



Certificate Course 2020-2021

Name of the course :

1. Name (Block letters) : SREEPRIYA P.S
2. Sex : Female
3. Age and Date of birth : 21, 2nd Nov. 2000
4. Religion : Hindu
5. Category : Ezhava
6. Name of the parent : Pradeep K.
7. Address for communication : Sreenilayam,
Kadakkavoor P.O.
Thisuvananthapuram



8. E-mail ID : sreeprijasp2016@gmail.com
9. Mobile number : 8078071170

Declaration

I ..SREEPRIYA P.S..... do hereby declare that the statements made by me in the application are true to the best of my knowledge and can be verified when required.

Place :

Date :


Signature of the applicant

SREE NARAYANA COLLEGE, KOLLAM
NAAC Re-accredited with 'A' Grade, Atal 'A' Band Institution
Affiliated to University of Kerala



Certificate Course 2020-2021

Name of the course :

1. Name (Block letters) : AISWARIYA SUNIL
2. Sex : FEMALE
3. Age and Date of birth : 20 yrs , 04/05/2001
4. Religion : HINDHU
5. Category : EZHAVA
6. Name of the parent : SUNIL KUMAR. B
7. Address for communication : KALLUVILAKADA, NEDUNGOLAM (PO)
PARAVUR, KOLLAM.

8. E-mail ID : aiswariyasunil144@gmail.com.
9. Mobile number : 9746457144.

Declaration

I Aiswariya Sunil do hereby declare that the statements made by me in the application are true to the best of my knowledge and can be verified when required.

Place : Paravur

Date : 04/05/2021

Aiswariya Sunil

Signature of the applicant

SREE NARAYANA COLLEGE, KOLLAM
NAAC Re-accredited with 'A' Grade, Atal 'A' Band Institution
Affiliated to University of Kerala



Certificate Course 2020-2021

Name of the course :

1. Name (Block letters) : APOORVA RANI
2. Sex : Female
3. Age and Date of birth : 20, 5-03-2001
4. Religion : Hindu
5. Category : Nair
6. Name of the parent : Rani. M. L
7. Address for communication : Madhavam, Nedungolam, P.O.
Paravoor, Kollam

8. E-mail ID : Apoorvarani931@gmail.com
9. Mobile number : 9496536965

Declaration

I Apoorva Rani do hereby declare that the statements made by me in the application are true to the best of my knowledge and can be verified when required.

Place : Kollam

Date :

Tushar Haraji
Principal
Sree Narayana College
Kollam

Apoorva
Signature of the applicant





Sree Narayana College, Kollam

Affiliated to the University of Kerala

(Accredited by NAAC Grade 'A')

(ATAL 'A' Band Institution)

CERTIFICATE

This is to certify that *Mrs./Ms./Mrs. P V Thapasya Sangeetha*.....
Reg. No. *25020132011*..... Department of *Zoology*..... has successfully
completed certificate course in *Apiculture*.....

..... during *February*..... 2020 to *August*..... 2021.

Sheela

COURSE CO-ORDINATOR



[Signature]
PRINCIPAL



Sree Narayana College, Kollam

Affiliated to the University of Kerala

(Accredited by NAAC Grade 'A')

(ATAL 'A' Band Institution)

CERTIFICATE

This is to certify that *Mrs. Anamika Dasan*.....
has successfully
Reg. No. *25020132027*..... Department of *Zoology*.....
completed certificate course in *Apiculture*.....

..... during *February*..... 2020 to *August*..... 2021.

Sheela

COURSE CO-ORDINATOR



[Signature]
PRINCIPAL



Sree Narayana College, Kollam

Affiliated to the University of Kerala

(Accredited by NAAC Grade 'A')

(ATAL 'A' Band Institution)

CERTIFICATE

This is to certify that *Mrs. Vysnnavi J. O*.....
Reg. No. *25020132052*..... Department of *Zoology*..... has successfully
completed certificate course in *Apiculture*.....

..... during *February*..... 2020 to *August*..... 2021.



Sheela
COURSE CO-ORDINATOR

8.2
PRINCIPAL



Sree Narayana College, Kollam

Affiliated to the University of Kerala

(Accredited by NAAC Grade 'A')

(ATAL 'A' Band Institution)

CERTIFICATE

This is to certify that Mr./Mts./Mtrs. *Nichhin R*.....
 Reg. No. *25020132042*..... Department of *Zoology*..... has successfully
 completed certificate course in *Agriculture*.....

 during *February*..... 2020 to *August*..... 2021.



Sheela

COURSE CO-ORDINATOR

[Signature]

PRINCIPAL



Sree Narayana College, Kollam

Affiliated to the University of Kerala

(Accredited by NAAC Grade 'A')

(ATAL 'A' Band Institution)

CERTIFICATE

This is to certify that *Mrs. Subhalakshmi S*
Reg. No. *25019132021*..... Department of *Zoology*..... has successfully
completed certificate course in *Api culture*.....

..... during *February*..... 2020 to *August*..... 2021.

Sheela
COURSE CO-ORDINATOR



[Signature]
PRINCIPAL



Sree Narayana College, Kollam

Affiliated to the University of Kerala

(Accredited by NAAC Grade 'A')

(ATAL 'A' Band Institution)

CERTIFICATE

This is to certify that Mr./Ms./Mrs. *Neethu D*.....

Reg. No. *25019132010*..... Department of *Zoology*..... has successfully

completed certificate course in *A. Apiculture*.....

..... during *February*..... 2020 to *August*..... 2021.



Sheela
COURSE CO-ORDINATOR

Sheela
PRINCIPAL