

SREE NARAYANA COLLEGE

DEPARTMENT OF BIOTECHNOLOGY

DEPT. -LEVEL CERTIFICATE COURSE (2018 - 19)

MICROBIAL TECHNIQUES

Course Duration: 30 hours

SYLLABUS
[Total hours :30]

MICROBIAL TECHNIQUES

Course hours:30
THEORY (18 Hrs)

Module I

6 hrs

Scope and history of microbiology, Good Laboratory Practices (GLP), Good Laboratory Practices for Students, Microbial cell structure- Eukaryotic and prokaryotic cells, Gram positive and Gram negative bacteria, Structure of a bacteria (6HRS)

Module II

2hrs

Sterilization-concept of sterilization, methods of sterilization -dry heat, wet heat or steam, radiation, chemical and filtration.

Module III

4hrs

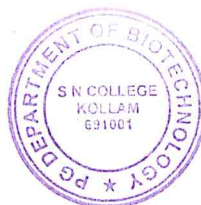
Culture media- types and uses, Bacterial Growth curve, factors affecting growth of microbes. Pure culture Methods: Direct plating, Serial dilution technique, Spread plate, streak plate, pour plate; slant culture and stab culture

PRACTICALS (18 hrs)

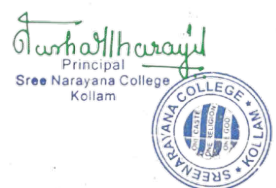
- Staining of bacteria- Simple staining, Gram staining, Acid fast staining, Negative staining. (5HRS)
- Pure culture methods (5 hrs)
- Sterilization (4hrs)
- Media preparation (4hrs)

Suggested Readings

1. Prescott's Microbiology by Joanne Willey, Kathleen Sandman and Dorothy Wood.
2. Microbiology- Laboratory, theory and application by Michael J. Laboffe.
3. Microbiology- a systems approach by Marjorie Kelly Cowan




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Assistant Professor
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DEPARTMENT OF BIOTECHNOLOGY
DEPT. -LEVEL CERTIFICATE COURSE (2018- 19)
MICROBIAL TECHNIQUES

Aim of the course

Aim of this course is to train students on the basic techniques of microbiology.

- **Relevance of the course**
- Microorganisms are extremely important in our everyday lives. Some are responsible for a significant proportion of the diseases affecting not only humans, but also plants and animals, while others are vitally important in the maintenance and modification of our environment. Still others play an essential role in industry, where their unique properties have been harnessed in the production of food, beverages and antibiotics. Scientists also have learned how to exploit microorganisms in the field of molecular biology, which makes an enormous impact both industrially and medically. Thus, the science of microbiology aims to gain and expand our fundamental understanding of microorganisms by studying their morphology, metabolism, physiology, reproduction and genetics. This is all how microbiology plays a significant role in the different sector.

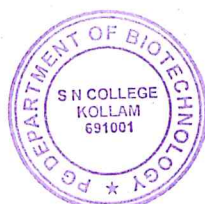
Objectives and expected outcome

- The course gives an idea for the maintenance of laboratory and the practices that should be accomplished in a laboratory.
- The course explains the isolation and screening techniques of microbes from different samples.

Expected Outcome

On completion of the course candidates will achieve the following objectives,

- A detailed knowledge of structure, function and application of microorganisms.
- Skills in handling microorganisms in the laboratory.
- An understanding of applications of microorganisms in the industry,



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health-care, environmental protection, food agriculture and research.

SREE NARAYANA COLLEGE
DEPARTMENT OF BIOTECHNOLOGY

DEPT. -LEVEL CERTIFICATE COURSE (2018 - 19)

MICROBIAL TECHNIQUES

BOARD OF STUDIES

Course Director: Dr. C Anitha Sanker (Principal)

Course Coordinator: Greeshma P

MEMBERS

1. **Smt. Greeshma P**-Course Co-ordinator; Assistant Professor of Biotechnology, SreeNarayana College, Kollam
2. **Dr. Prakash G Williams**- Asst Prof of Biotechnology, Bishop Moore college, Mavelikkara



Greeshma P
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Assistant Professor
Department Of Biotechnology
Sree Narayana College, Kollam-691001

Anitha Sanker
Principal
Sree Narayana College
Kollam



SREE NARAYANA COLLEGE
DEPARTMENT OF BIOTECHNOLOGY
DEPT. -LEVEL CERTIFICATE COURSE (2018- 19)
MICROBIAL TECHNIQUES

Notice

It is to inform all concerned that a meeting of the members of Board of Studies in the College level certificate programme on Microbial Techniques is been organized by the department of Biotechnology and will be conducted on 10/01/2019 at 11 am.

Agenda:

- Finalise the syllabus
- Course timetable

AUM

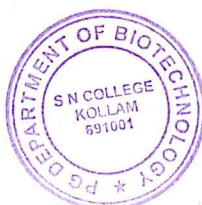
Smt. Greeshma P
Course Coordinator (Principal)

Dr. Anitha C Sanker

Members

1. Smt. Greeshma P
2. Dr. Nitha Anand
3. Dr. Sayi D S
4. Dr. Sujith S
5. Dr. Divya Balakrishnan
6. Dr. Prakash G Williams

- Assistant Professor
- Govt. Guest Faculty
- Govt. Guest Faculty
- Govt. Guest Faculty
- Govt. Guest Faculty
- Asst Prof of Biotechnology
Bishop Moore College.



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SREE NARAYANA COLLEGE
DEPARTMENT OF BIOTECHNOLOGY
DEPT. LEVEL CERTIFICATE COURSE (2018 - 19)
MICROBIAL TECHNIQUES

Notice

It is to inform all concerned that a meeting of the members of Board of Studies in the College level certificate programme on Microbial techniques organized by the department of Biotechnology will be conducted on 20/03/2019 at 3 pm.

Agenda:

- Release of result
- Distribution of course certificate

AUM

Greeshma P
Course Coordinator

Dr. Anitha C Sanker
Principal

Members

- | | |
|---------------------------|------------------------------|
| 1. Smt. Greeshma P | - Assistant Professor |
| 2. Dr. Nitha Anand | - Govt. Guest Faculty |
| 3. Dr. Saiy D S | - Govt. Guest Faculty |
| 4. Dr. Sujith S | - Govt. Guest Faculty |
| 5. Dr. Divya Balakrishnan | - Govt. Guest Faculty |
| 6. Dr. Prakash G Williams | - Asst Prof of Biotechnology |

Bishop Moore College.



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SREE NARAYANA COLLEGE
DEPARTMENT OF BIOTECHNOLOGY

DEPT. -LEVEL CERTIFICATE COURSE(2018 -19)

MICROBIAL TECHNIQUES

Minutes

A meeting of the members of the Board of Studies was conducted on 10/01/2019 at 11 am. Applications were invited for a 30 hr Department Level Certificate course, organized by the Dept of Biotechnology. Dr. Anitha C Sanker (Principal) was the course director and Smt. Greeshma P was the course coordinator. Dr. Prakash G Williams, Asst. Prof of Biotechnology, Bishop Moore College. Dr. Sujith S, Govt. guest faculty, Dr. Nitha Anand, Govt. Guest Faculty, Dr. Sayi D.S, Govt. Guest Faculty and Dr. Divya Balakrishnan, Govt. Guest faculty were the members of the committee. The syllabus and course timetable for the certificate course were finalized in the meeting.

The meeting ended by 12:30pm

AUM

Dr. Anitha C Sanker(Principal)

Smt. Greeshma P (Assistant Professor)

Dr. Nitha Anand (Govt. Guest Faculty)

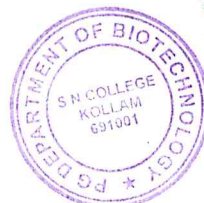
Dr. Sayi D S (Govt. Guest Faculty)

Dr. Sujith S (Govt. Guest Faculty)

Dr. Divya Balakrishnan (Govt. Guest Faculty)

Dr. Prakash G Williams (Asst Prof of Biotechnology)

Anitha C Sanker
Principal
Sree Narayana College
Kollam



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Assistant Professor
Department Of Biotechnology
Sree Narayana College, Kollam

Bishop Moore College)

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DEPARTMENT OF BIOTECHNOLOGY

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Minutes

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The meeting ended by 4:30pm.

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Dr. Dr. Anitha C Sanker (Principal)

Smt. Greeshma P (Assistant Professor)

Dr. Nitha Anand (Govt. Guest Faculty)

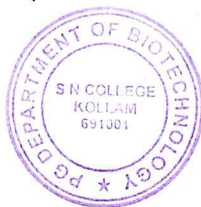
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Dr. Divya Balakrishnan (Govt. Guest Faculty)

Dr. Prakash G Williams (Asst Prof of Biotechnology Bishop Moore College)

Anitha C Sanker
Principal
Sree Narayana College
Kollam



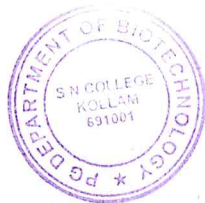
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SREE NARAYANA COLLEGE
DEPARTMENT OF BIOTECHNOLOGY
DEPT. -LEVELCERTIFICATE COURSE (2018 - 19)

MICROBIAL TECHNIQUES

List of Teachers handling Certificate course – Microbial Techniques

- | | | |
|-------------------------|---|---|
| 1. Greeshma P | - | Asst Prof of Biotechnology, SNC Kollam. |
| 2. Dr.Sujith S | - | Govt. Guest Faculty |
| 3. Dr.Nitha Anand | - | Govt. Guest Faculty |
| 4. Dr.Sayi D S | - | Govt. Guest Faculty |
| 5. Dr.DivyaBalakrishnan | - | Govt. Guest Faculty |




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SREE NARAYANA COLLEGE KOLLAM

CERTIFICATE COURSE 2018-19

Department:

BIOTECHNOLOGY

Name of Certificate course:

MICROBIAL TECHNIQUES

No. of students applied:

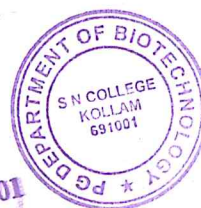
21

No. of students selected:

20

SL NO	Candidate code	Name of Student	Course		
1	24718132001	ABHIJITH SUDHEER	Biotechnology	Passed	<i>Abhi</i>
2	24718132002	ADITHYA A	Biotechnology	Passed	<i>Adithy</i>
3	24718132003	ALEENA K B	Biotechnology	Passed	<i>Aleena</i>
4	24718132004	ANJALI B R	Biotechnology	Passed	<i>Anjali</i>
5	24718132005	ARATHI P	Biotechnology	Passed	<i>Arathi</i>
6	24718132006	ASWANTH VIJAY	Biotechnology	Not Passed	<i>Aswath</i>
7	24718132007	ATHULYA RAJ	Biotechnology	Passed	<i>Athulya</i>
8	24718132008	BEEGAM NAZRIN	Biotechnology	Passed	<i>Beegam</i>
9	24718132009	BHAGYA LEKSHMY M S	Biotechnology	Passed	<i>Bhagya</i>
10	24718132010	LAKSHMI P R	Biotechnology	Passed	<i>Lakshmi</i>
11	24718132011	NANDHANA B	Biotechnology	Passed	<i>Nandhana</i>
12	24718132012	SOORYA NARAYANA MOORTHY N	Biotechnology	Passed	<i>Soorya</i>
13	24718132013	VRINDA BABU	Biotechnology	Passed	<i>Vrinda</i>
14	24718132014	AISWARYA LAL J B	Biotechnology	Passed	<i>Aiswarya</i>
15	24718132015	ANAKHA P	Biotechnology	Passed	<i>Anakha</i>
16	24718132016	ANANDHU AJAYAN	Biotechnology	Passed	<i>Anandhu</i>
17	24718132017	ANOOJ A S	Biotechnology	Passed	<i>Anooj</i>
18	24718132018	ANTONY BIJU VICTOR	Biotechnology	Passed	<i>Antony</i>
19	24718132019	ARYA SHA	Biotechnology	Passed	<i>Arya</i>
20	24718132020	BHOOMIKA S	Biotechnology	Passed	<i>Bhoomika</i>
21	24718132021	GAUTHAM S KUMAR	Biotechnology	Passed	<i>Gautham</i>

Greeshma P
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SREE NARAYANA COLLEGE KOLLAM

CERTIFICATE COURSE 2018-19

Department:

BIOTECHNOLOGY

Name of Certificate course:

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No. of students selected:

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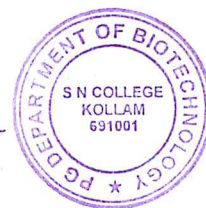
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GREESHMA.P

Assistant Professor

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Sree Narayana College, Kollam-691001



SREE NARAYANA COLLEGE KOLLAM

CERTIFICATE COURSE 2018-19

Department:

BIOTECHNOLOGY

Name of Certificate course:

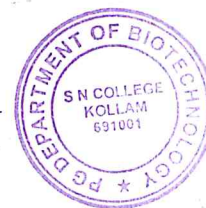
MICROBIAL TECHNIQUES

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SREE NARAYANA COLLEGE KOLLAM

CERTIFICATE COURSE 2018-19

MARKLIST

Department:

Name of Certificate course:

No. of students Passed

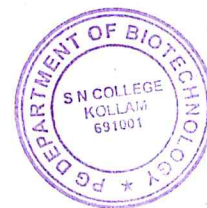
BIOTECHNOLOGY

MICROBIAL TECHNIQUES

20

SL NO	Candidate code	Name of Student	Att Marks	Test marks	Total	Sign
1	24718132001	ABHIJITH SUDHEER	10	40	50	<i>[Signature]</i>
2	24718132002	ADITHYA A	10	40	50	<i>[Signature]</i>
3	24718132003	ALEENA K B	10	40	50	<i>[Signature]</i>
4	24718132004	ANJALI B R	10	40	50	<i>[Signature]</i>
5	24718132005	ARATHI P	10	40	50	<i>[Signature]</i>
6	24718132007	ATHULYA RAJ	10	40	50	<i>[Signature]</i>
7	24718132008	BEEGAM NAZRIN	10	40	50	<i>[Signature]</i>
8	24718132009	BHAGYA LEKSHMY M S	10	40	50	<i>[Signature]</i>
9	24718132010	LAKSHMI P R	10	40	50	<i>[Signature]</i>
10	24718132011	NANDHANA B	10	40	50	<i>[Signature]</i>
11	24718132012	SOORYA NARAYANA MOORTHY N	10	35	45	<i>[Signature]</i>
12	24718132013	VRINDA BABU	10	30	40	<i>[Signature]</i>
13	24718132014	AISWARYA LAL J B	10	38	48	<i>[Signature]</i>
14	24718132015	ANAKHA P	10	40	50	<i>[Signature]</i>
15	24718132016	ANANDHU AJAYAN	10	40	50	<i>[Signature]</i>
16	24718132017	ANOOJ A S	10	40	50	<i>[Signature]</i>
17	24718132018	ANTONY BIJU VICTOR	10	36	46	<i>[Signature]</i>
18	24718132019	ARYA SHA	10	40	50	<i>[Signature]</i>
19	24718132020	BHOOMIKA S	10	40	50	<i>[Signature]</i>
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REPORT OF THE CERTIFICATE COURSE 2018-2019

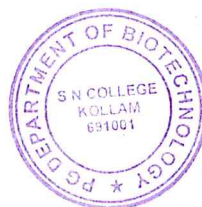
MICROBIAL TECHNIQUES

Department of biotechnology conducted certificate course, Microbial Techniques for the academic year 2018-2019. For the smooth functioning of the course a board of studies was formed including the Principal, College Level Certificate Course Coordinator, department level coordinator and faculties of the department. Department conducted meetings for preparing syllabus, title selection of the course, brochure preparation, project discussion and fixing examination date. Twenty-one students applied for the course and twenty students were selected for course. Twenty students completed the course. The classes were conducted on week days. The classes were handled by Greeshma P (Assistant Professor), Dr. Nitha Anand (Govt. Guest Faculty), Dr. Sayi D S (Govt. Guest Faculty), Dr. Divya Balakrishnan (Govt. Guest Faculty), Dr. Sija S L (Govt. Guest Faculty)

Outcome of the course

On completion of the course candidates will achieve the following objectives,

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- Skills in handling microorganisms in the laboratory.
- An understanding of applications of microorganisms in the industry, health-care, environmental protection, food agriculture and research.



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