

SREE NARAYANA COLLEGE
DEPARTMENT OF BIOTECHNOLOGY

DEPT. LEVEL CERTIFICATE COURSE (2017 - 18)

MICROBIAL TECHNIQUES

Course Duration: 30 hours

SYLLABUS
[Total hours :30]

MICROBIAL TECHNIQUES

Contact 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

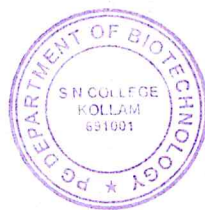
PRACTICALS

(18 hrs)

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

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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Principal
Sree Narayana College
Kollam



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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.

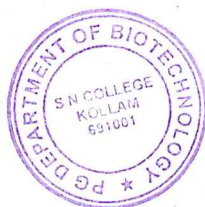
Objectives and expected outcome


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




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DEPT. -LEVEL CERTIFICATE COURSE (2017 - 18)

MICROBIAL TECHNIQUES

BOARD OF STUDIES

Course Director: Dr. K. Anirudhan (Principal)

Course Coordinator: Greeshma P

MEMBERS

1. Nimi Muraleedharan - Head, Department of Biotechnology
SN College, Kollam
2. Greeshma P - Course Co-ordinator; Assistant Professor of
Biotechnology, Sree Narayana College, Kollam
3. Dr Prakash G Williams - Assistant Professor of Biotechnology, Dept
Of Botany & Biotechnology, Bishop Moore
College, Mavelikkara



Greeshma P

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Anirudhan
Principal
Sree Narayana College
Kollam



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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 organised by the department of Biotechnology will be conducted on 10/01/2018 at 11 am.

Agenda:

- Finalise the syllabus
- Course timetable

Course Coordinator

Greeshma P




Dr. K. Anirudhan

(Principal)

Members

- | | | |
|-------------------------|---|---------------------|
| 1. Greeshma P | - | Assistant Professor |
| 2. Dr.Nitha Anand | - | Govt. Guest Faculty |
| 1. Dr.Sayi D S | - | Govt. Guest Faculty |
| 2. Dr.DivyaBalakrishnan | - | Govt. Guest Faculty |




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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 organised by the department of Biotechnology will be conducted on 20/03/2018 at 3 pm.

Agenda:

- Discuss the release of result
- Distribution of course certificate

Greeshma P



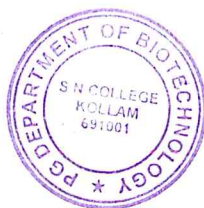
Course Coordinator




Dr. K. Anirudhan
Principal

Members

- | | | |
|-------------------------|---|---------------------|
| 1. Greeshma P | - | Assistant Professor |
| 2. Dr.Nitha Anand | - | Govt. Guest Faculty |
| 3. Dr.Sayi D S | - | Govt. Guest Faculty |
| 4. Dr.DivyaBalakrishnan | - | Govt. Guest Faculty |




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MICROBIAL TECHNIQUES
Minutes

A meeting of the members of the Board of Studies was conducted on 10/01/2018 at 11 AM. Applications were invited for a 30 hr Department Level Certificate course, organized by the Dept of Biotechnology. Dr. K. Anirudhan (Principal) was the course director and Greeshma P was the course coordinator. 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 are the members of the committee. The syllabus and course timetable for the certificate course were finalized in the meeting.

Dr. K. Anirudhan

Dr. Sujith S

Ms. Greeshma P

Dr. Nitha Anand

Dr. Sayi D S

Dr. Divya Balakrishnan

Anirudhan

Sujith

GP

Nitha

Sayi

Divya Balakrishnan



Greeshma P

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Dr. K. Anirudhan

Dr. Sujith S

Ms. Greeshma P

Dr. Nitha Anand

Dr. Sayi D S

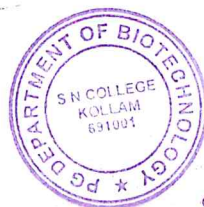
Dr. Divya Balakrishnan

Anirudhan

Sujith S
C.P

Nitha

Sayi D S
Divya Balakrishnan



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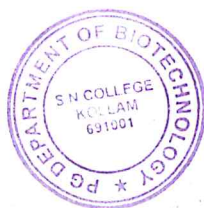



SREE NARAYANA COLLEGE
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DEPT. -LEVEL CERTIFICATE COURSE (2017 - 18)

MICROBIAL TECHNIQUES

- | | | |
|-------------------------|---|-----------------------------------------|
| 1. Ms. 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 2017-18

Department:

BIOTECHNOLOGY

Name of Certificate course:

MICROBIAL TECHNIQUES

No. of students applied:

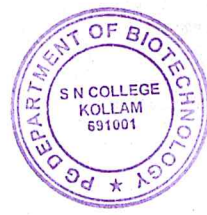
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No. of students selected:

20

SL NO	Candidate code	Name of Student	Course		Signature
1	24717132001	ANJANA M	Biotechnology	Passed	<i>Anand</i>
2	24717132002	ASWATHY V S	Biotechnology	Passed	<i>Ashwathy</i>
3	24717132003	AVANY V ROY	Biotechnology	Passed	<i>Avany</i>
4	24717132004	CHIPPY B	Biotechnology	Passed	<i>Chippy</i>
5	24717132005	DEEPIKA S BABU	Biotechnology	Passed	<i>Deepika</i>
6	24717132006	GOPIKA S	Biotechnology	Passed	<i>Gojika</i>
7	24717132007	HARISHMA KANNAN	Biotechnology	Passed	<i>Harishma</i>
8	24717132008	NEETHU KRISHNA	Biotechnology	Passed	<i>Neethu</i>
9	24717132009	PRANAV A	Biotechnology	Passed	<i>Pranav</i>
10	24717132010	SAANU R	Biotechnology	Passed	<i>Saanu</i>
11	24717132011	SURABHI M	Biotechnology	Passed	<i>Surabhi</i>
12	24717132012	SURYADEVI I	Biotechnology	Passed	<i>Suryadevi</i>
13	24717132013	ACHUTH B S	Biotechnology	Passed	<i>Achuth</i>
14	24717132014	ADARSH MOHAN	Biotechnology	Passed	<i>Adarsh</i>
15	24717132015	ADITHYA M	Biotechnology	Passed	<i>Adithya</i>
16	24717132016	AHJA N	Biotechnology	Passed	<i>Ahja</i>
17	24717132017	AJMAL A	Biotechnology	Passed	<i>Ajmal</i>
18	24717132018	AKHILA PRADEEP S	Biotechnology	Passed	<i>Akhila</i>
19	24717132019	AMAL KRISHNAN	Biotechnology	Passed	<i>Amal</i>
20	24717132020	ANAKHA GEORGE	Biotechnology	Passed	<i>Anakha</i>

[Signature]
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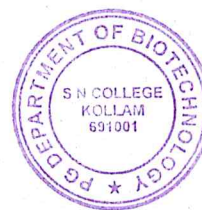
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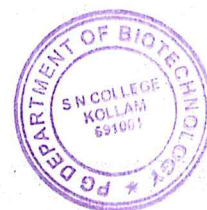
MICROBIAL TECHNIQUES

No. of students Passed

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1	24717132001	ANJANA M	Biotechnology	Passed	<i>Am</i>
2	24717132002	ASWATHY V S	Biotechnology	Passed	<i>AS</i>
3	24717132003	AVANY V ROY	Biotechnology	Passed	<i>AV</i>
4	24717132004	CHIPPY B	Biotechnology	Passed	<i>CB</i>
5	24717132005	DEEPIKA S BABU	Biotechnology	Passed	<i>DS</i>
6	24717132006	GOPIKA S	Biotechnology	Passed	<i>GS</i>
7	24717132007	HARISHMA KANNAN	Biotechnology	Passed	<i>HK</i>
8	24717132008	NEETHU KRISHNA	Biotechnology	Passed	<i>NK</i>
9	24717132009	PRANAV A	Biotechnology	Passed	<i>PA</i>
10	24717132010	SAANU R	Biotechnology	Passed	<i>SR</i>
11	24717132011	SURABHI M	Biotechnology	Passed	<i>SM</i>
12	24717132012	SURYADEVI I	Biotechnology	Passed	<i>SI</i>
13	24717132013	ACHUTH B S	Biotechnology	Passed	<i>AS</i>
14	24717132014	ADARSH MOHAN	Biotechnology	Passed	<i>AM</i>
15	24717132015	ADITHYA M	Biotechnology	Passed	<i>AM</i>
16	24717132016	AHJA N	Biotechnology	Passed	<i>AN</i>
17	24717132017	AJMAL A	Biotechnology	Passed	<i>AA</i>
18	24717132018	AKHILA PRADEEP S	Biotechnology	Passed	<i>AS</i>
19	24717132019	AMAL KRISHNAN	Biotechnology	Passed	<i>AK</i>
20	24717132020	ANAKHA GEORGE	Biotechnology	Passed	<i>AG</i>

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SREE NARAYANA COLLEGE KOLLAM

CERTIFICATE COURSE 2017-18

MARKLIST

Department:

Name of Certificate course:

No. of students Passed

BIOTECHNOLOGY

MICROBIAL TECHNIQUES

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SL NO	Candidate code	Name of Student	Att Marks	Test marks	Total	Sign
1	24717132001	ANJANA M	10	40	50	
2	24717132002	ASWATHY V S	10	40	50	
3	24717132003	AVANY V ROY	10	40	50	
4	24717132004	CHIPPY B	10	40	50	
5	24717132005	DEEPIKA S BABU	10	40	50	
6	24717132006	GOPIKA S	10	40	50	
7	24717132007	HARISHMA KANNAN	10	40	50	
8	24717132008	NEETHU KRISHNA	10	40	50	
9	24717132009	PRANAV A	10	40	50	
10	24717132010	SAANU R	10	40	50	
11	24717132011	SURABHI M	10	40	50	
12	24717132012	SURYADEVI I	10	30	40	
13	24717132013	ACHUTH B S	10	38	48	
14	24717132014	ADARSH MOHAN	10	40	50	
15	24717132015	ADITHYA M	10	40	50	
16	24717132016	AHJA N	10	40	50	
17	24717132017	AJMAL A	10	40	50	
18	24717132018	AKHILA PRADEEP S	10	40	50	
19	24717132019	AMAL KRISHNAN	10	40	50	
20	24717132020	ANAKHA GEORGE	10	40	50	

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REPORT OF THE CERTIFICATE COURSE 2017-2018

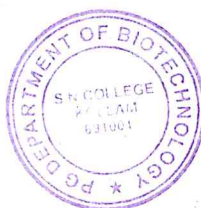
MICROBIAL TECHNIQUES

Department of biotechnology conducted certificate course, Microbial Techniques for the academic year 2017-2018. 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 students applied for the course and the same 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)

Outcome of the course

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.
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