

PVKN GOVT COLLEGE (A), CHITTOOR

DEPARTMENT OF MICROBIOLOGY

Proposal or certificate course in Microbiology lab techniques-

From

Dr. P.Sivaraagini

Lecturer in Microbiology

PVKN Govt College

To

The Principal

PVKN Govt College

Sir,

The department of Microbiology proposes to introduce a certificate course in Microbiology laboratory Techniques for second semester Microbiology students. Our Microbiology department is very much cognizant of growing needs of the students to gain skills in laboratory techniques. This will be a boon to young graduates to get employment in industry and promotes self employment. Keeping all these aspects in view, our department would like to start the above said course.

The details of the programme are as detailed below-

- 1) Name of the proposed course- Microbiological laboratory Techniques
- 2) Duration and timings of Course- 45 Hrs / 8:30am to 10 am
- 3) Proposed date of commencement- 01/02/23
- 4) Course fee- NIL
- 5) Number of students- 24

Date: 11/01/23

P. Sivaraagini  
Yours faithfully,  
Lecturer in Charge  
Dept. of Microbiology  
PVKN Govt Degree College  
CHITTOOR (DT.)

PVKN GOVT COLLEGE (A), CHITTOOR

DEPARTMENT OF MICROBIOLOGY

Circular

Date:- 20/01/23

His is to inform all the Microbiology students of second semester, first year that the Department of Microbiology proposes to start a certificate course in Microbiological laboratory techniques. The duration of the course is 30 days. Students need not pay any fee for the course. The course commences from 01/02/23. Interested students can register their names at Dr.P.Sivaraagini, Lecturer in Microbiology and Course coordinator.

COORDINATOR

  
PRINCIPAL

Copy circulated to students

Copy to notice board

Copy to file

PVKN GOVT COLLEGE (A), CHITTOOR

DEPARTMENT OF MICROBIOLOGY

Final report on certificate course in microbiology lab techniques-

The department of Microbiology has made a humble beginning to impart and enrich students with practical knowledge in lab techniques by conducting a course for duration of 30 days. The motto of the course is to impart hands on experience in lab techniques to students. The course was started on 01/02/23 and completed on 10/03/23. Twenty students have regularly attended the classes. After successful completion of the course, a valedictory function was conducted on 15/03/23. Our principal Dr. G. Ananda Reddy graced the occasion. In his opening remarks, principal insisted the students the need for certificate course. Certificates were distributed to students. Programme was closed with vote of thanks by P. Sivaraagini.

P. Sivaraagini  
Lecturer in charge  
Dept. of Microbiology  
PVKN, Govt. Degree College  
CHITTOOR (DT.)



PVKN GOVT COLLEGE (A), CHITTOOR

DEPARTMENT OF MICROBIOLOGY

FEEDBACK OF STUDENTS ON CERTIFICATE COURSE

SN	Reg No	Name of student	Feedback
1	230310501	AVULA HEMA SUDHA	Good - A. Hema sudha
2	230310502	A.RAJASEKHAR	
3	230310503	BEEDAM VENKATESH	Informative - Venkatesh
4	230310504	BODIREDDY MAMATHA	Excellent - B. Mamatha
5	230310505	C ZION JABASTI	
6	230310507	GALI VENKATESH	so beautiful support - G. Venkatesh
7	230310508	GOWRABOYANI THANUSRI	Excellent - G. Thanusri
8	230310509	KALAVAKUNTA GOWTHAM	
9	230310510	KARAGATTI SIVA VARA PRASAD REDDY	Nice - K. Gowtham
10	230310511	KOTHAPALLI VAMSI	
11	230310512	MARAKALAKUPPAM RAMYA	Good - M. Ramya
12	230310513	MAREPALLI DEVIPRASAD	Good - Prasad
13	230310514	MAREPALLI HIMABINDU	Good M. Himabindu
14	230310515	MOTURU REVATHI	Nice - M. Revathi
15	230310517	N SAGAR SHRAVAN	V. Good - Sagar
16	230310518	NAMPALLI BHANU	Excellent - N. Bhanu
17	230310519	NELLEPALLI KISHORE	
18	230310522	S ATHIYA FATHIMA	Good - S. Athiya
19	230310523	S BHARGAVI	Very Good - S. Bhargavi
20	230310525	S ROSHNI	Very Good - S. Roshni
21	230310526	SHAIK SUMIYA	
22	230310527	SYED IMRAN	
23	230310528	T SILPA	Good - T. Silpa
24	230310529	V BHARATH	

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DEPARTMENT OF MICROBIOLOGY  
REPORT ON STUDENTS PERFORMANCE

The performance of students in the tests conducted to access the knowledge gained by them was satisfactory. Most of them have crossed sixty percent marks. Nobody has failed and the practical skills were also enhanced. This observation has encouraged us to conduct even more number of certificate courses. They have gained sufficient skills to survive in private sector jobs.

P. Sivaraagini  
Lecturer in Charge  
Dept. of Microbiology  
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DEPARTMENT OF MICROBIOLOGY

MICROBIOLOGY LAB TECHNIQUES

I<sup>st</sup> LAB TEST

- 1) Magnification of simple microscope is
- 2) Magnification of compound microscope is
- 3) Types of electron microscope
- 4) Heavy metal used in staining for electron microscopy is
- 5) Motility of bacteria can be observed by method
- 6) Simple staining provides information regarding
- 7) Variants of differential staining are
- 8) Negative staining is used to observe
- 9) Solid medium was first formulated by
- 10) IMViC test is used to differentiate
- 11) Slant culture is used for
- 12) Stab culture is used for
- 13) Streak culture is used for
- 14) Inoculation loop is made up of
- 15) Semi-solid agar is used for cultivation of

EXPERIMENT

- I) Perform gram staining for given culture and report the result.

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DEPARTMENT OF MICROBIOLOGY  
MICROBIOLOGY LAB TECHNIQUES

II<sup>nd</sup> LAB TEST

- 1) A structure which triggers immune response is called
- 2) A structure which binds to foreign body is called
- 3) B-cells produce
- 4) Humoral immune response is mediated by
- 5) Cell mediated immune response is mediated by \_\_\_\_\_ cells
- 6) Function of macrophages is
- 7) Mention different types of macrophages
- 8) Primary lymphoid organs found in body are
- 9) Secondary lymphoid organs found in body are
- 10) Reaction between insoluble or particulate antigen and its antibody is called
- 11) Reaction between soluble antigen and its antibody is called
- 12) Neutralization reaction occurs in response to
- 13) Compliment fixation results in \_\_\_\_\_ of target cells
- 14) Physical agents used for sterilization are
- 15) Chemical agents used in sterilization are

EXPERIMENT

- I) Perform test to determine blood group of a person and report the result

P. Sivaraagini  
Lecturer in charge  
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**P.V.K.N. GOVT COLLEGE (A), CHITTOOR.**

**DEPARTMENT OF MICROBIOLOGY**

**CERTIFICATE**

This is to certify that Mr/Ms. N. BHANU, I B.Sc. Mi.C.Cs. has  
successfully completed the add-on course on "MICROBIOLOGY LAB TECHNIQUES".

He/She has secured Grade A in the course.

*P. Sivaragani*  
**COORDINATOR**

Lecturer in Charge  
Dept. of Microbiology  
P.V.K.N. Govt. Degree College  
CHITTOOR (DT.)

  
**PRINCIPAL**



PVKN GOVT COLLEGE (A), Chittoor  
MICROBIOLOGY LAB TECHNIQUES  
CERTIFICATE COURSE

COURSE COORDINATOR – P.Sivaraagini, Lecturer in Microbiology.

Course Description:

Microbiology Laboratory TECHNIQUES ( Six contact hours/week for 5 weeks).  
This course is designed for students in allied health programs. It includes preparing stained smears, culturing micro-organisms, conducting immunology experiments, performing tests to identify bacteria and fungi, and studying microbial growth control methods.

SYLLABUS:

- 1 Lab Procedures; Microscopy; Scientific Inquiry; Preparation of Microorganism Stains and Wet Mounts; Sampling Environments.
- 2 Bacterial Morphology, Structures, Motility; & Culture Techniques
- 3 Media Preparation; Bacterial Culture Characteristics & ID
- 4 Biochemical Characteristics; Mutations in Microbes
- 5 Fungi and Protozoa
- 6 Environmental Transfer of Organisms; Indigenous Flora; Culture Handling
- 7 Finish lab 6; Review for lab exam
- 8 – Exam Lab Exam I
- 9 Antigen-Antibody Reactions; Agglutination and Precipitation Techniques
- 10 Effect of Physical and Chemical Agents on Bacteria
- 11 Microbiology of the Respiratory Tract
- 12- Exam Lab Exam II

PVKN GOVT COLLEGE (A), CHITTOOR

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OBJECTIVES OF CERTIFICATE COURSE

1. Demonstrate safe practices in a microbiology laboratory.
2. Explain and correctly demonstrate use of the scientific method
3. Demonstrate proper usage, identify the parts/functions of the following microscopes: brightfield and stereoscopic.
4. Transfer living microbes using aseptic technique.
5. Demonstrate proficiency and use of the following in the laboratory: streak plate isolation technique; bacterial staining techniques; wet mounts; and proper culture handling.
6. Visually recognize and explain the macroscopic and microscopic characteristics of fungi, protozoa, and bacteria.
7. Understand and explain environmental factors that influence microbes.
8. Properly obtain, culture, identify, and explain microorganisms in environmental cultures.
9. Any other general practices of laboratory

PVKN GOVT COLLEGE (A), CHITTOOR / ATTENDANCE SHEET FOR MICROBIOLOGICAL LABORATORY TECHNIQUES

SN	Reg No	Name of student	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	230310501	AVULA HEMA SUDHA	1	a	1	1	1	a	1	1	1	1	1	a	1	1	1
2	230310502	A.RAJASEKHAR	1	1	a	1	1	a	1	1	1	1	a	1	1	1	1
3	230310503	BEEDAM VENKATESH	1	1	1	1	1	1	a	1	1	1	1	1	1	a	1
4	230310504	BODIREDDY MAMATHA	1	1	1	1	1	1	1	a	1	1	1	1	1	1	1
5	230310505	C ZION JABASTI	1	a	1	1	1	a	1	1	1	1	1	1	1	1	1
6	230310507	GALI VENKATESH	a	1	1	1	a	1	1	1	1	1	1	1	1	1	1
7	230310508	GOWRABOYANI THANUSRI	1	1	1	a	1	1	1	1	1	1	1	1	1	1	1
8	230310509	KALAVAKUNTA GOWTHAM	1	1	1	1	1	1	a	1	1	1	1	a	1	1	1
9	230310510	KARAGATTI SIVA VARA PRASAD REDDY	1	1	a	1	1	1	1	1	a	1	1	1	1	1	1
10	230310511	KOTHAPALLI VAMSI	1	1	1	1	1	1	1	a	1	a	1	1	1	1	1
11	230310512	MARAKALAKUPPAM RAMYA	1	1	1	1	1	a	1	1	1	1	1	1	1	1	1
12	230310513	MAREPALLI DEVIPRASAD	1	1	1	1	a	1	1	1	1	1	a	1	1	a	1
13	230310514	MAREPALLI HIMABINDU	1	1	1	1	1	1	a	1	1	1	1	a	1	1	1
14	230310515	MOTURU REVATHI	1	1	1	a	1	1	1	1	1	1	1	1	a	1	a
15	230310517	N SAGAR SHRAVAN	1	1	1	1	1	1	1	1	1	1	1	1	1	1	a
16	230310518	NAMPALLI BHANU	1	1	1	a	1	1	1	1	a	1	1	1	a	1	1
17	230310519	NELLEPALE KISHORE	1	a	1	1	1	1	1	a	1	1	1	1	1	a	1
18	230310522	S ATHIYA FATHIMA	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
19	230310523	S BHARGAVI	1	1	1	a	1	1	1	1	1	1	1	1	1	a	1
20	230310525	S ROSHNI	1	1	1	1	1	1	a	1	1	1	1	1	a	1	a
21	230310526	SHAIK SUMIYA	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
22	230310527	SYED IMRAN	1	1	1	1	1	1	1	a	1	1	1	a	1	1	1
23	230310528	T SILPA	1	1	1	a	1	1	1	1	a	1	1	1	1	1	1
24	230310529	V BHARATH	1	a	1	1	a	1	1	1	1	a	1	1	1	1	1

P. Sivarajini

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Dept. of Microbiology  
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3	230310503	BEEDAM VENKATESH	/	/	/	a	/	/	/	a	/	/	/	a	/	/	a
4	230310504	BODIREDDY MAMATHA	/	/	/	/	/	a	/	/	/	/	/	/	/	/	/
5	230310505	C ZION JABASTI	/	/	a	/	/	/	/	/	a	/	/	/	/	a	/
6	230310507	GALI VENKATESH	/	/	/	a	/	/	/	/	/	a	/	/	/	/	a
7	230310508	GOWRABOYANI THANUSRI	/	/	/	/	a	/	/	a	/	/	/	/	a	/	/
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10	230310511	KOTHAPALLI VAMSI	/	/	a	/	/	/	a	/	/	/	/	/	a	/	a
11	230310512	MARAKALAKUPPAM RAMYA	/	/	/	/	a	/	/	/	a	/	/	/	/	/	/
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14	230310515	MOTURU REVATHI	/	a	/	/	/	/	/	a	/	/	/	/	/	/	/
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17	230310519	NELLEPALLI KISHORE	a	/	/	/	/	/	/	/	a	/	/	/	/	/	/
18	230310522	S ATHIYA FATHIMA	/	/	/	a	/	/	/	a	/	/	a	/	/	/	/
19	230310523	S BHARGAVI	/	/	/	/	/	/	/	/	a	/	/	/	/	/	/
20	230310525	S ROSHNI	/	/	a	/	a	/	/	/	/	a	/	/	/	/	/
21	230310526	SHAIK SUMIYA	/	/	/	/	/	/	/	/	/	/	/	/	a	a	/
22	230310527	SYED IMRAN	a	/	/	/	/	a	/	/	/	/	/	a	/	/	/
23	230310528	T SILPA	/	/	/	/	/	/	/	/	a	/	/	/	/	/	/
24	230310529	V BHARATH	/	/	a	/	/	/	a	/	/	/	/	/	/	/	/

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