



Taranath Shikshana Samsthe
LAXMI VENKATESH DESAI COLLEGE, RAICHUR-584103.
Re-Accredited by NAAC with B Grade



Department of Biotechnology
Add-On Course Documents

Title: Basic Techniques

Academic Year:2021-22

S.No	Particulars
1	Declaration
2	Permission letter
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5	Notice
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7	Timetable
8	Attendance
9	Summary Report
10	Model certificate

Co-ordinator
Internal Quality Assurance Cell (IQAC)
Laxmi Venkatesh Desai College, RAICHUR-03.

PRINCIPAL
L.V.D. COLLEGE, RAICHUR



Taranath Shikshana Samsthe



LAXMI VENKATESH DESAI COLLEGE, RAICHUR-584103.

(Affiliated to Gulbarga University, Kalaburagi. Re-Accredited by NAAC with "B" Grade)

Dr.Venkatesh B. Devaru, M.Sc.,Ph.D.,MBA.
PRINCIPAL

Office of the Principal
Ph:(08532)-240286, 240707
Fax:+918532 240707
e-mail: lvdr cr@gmail.com
Website: www.lvdcollege.com

Date: 14/09/2021

TO WHOMEVER IT MAY CONCERN

This is to certify that, the college has introduced the Add_On/Certificate Course course on,"**BASIC TECHNIQUES**" with the duration of 30 hours introduced in 2021-22 The said programme is apart from the existing course curriculum.

Head of the Department

Principal

PRINCIPAL
L.V.D. College, RAICHUR.

Co-ordinator
Internal Quality Assurance Cell (IQAC)
Laxmi Venkatesh Desai College, RAICHUR-03.

Add on course 2
Feb '22.

To,
The Principal
LVD College,
Raichur.

Date: 14/09/2021

Respected Sir,

Sub: Request to permit to start Add on Course in the Department of Biotechnology.

As cited above I, the undersigned, **Smt Hemalatha S A**, Head of the Department of Biotechnology, would like to request you to permit to start Add On Course in Biotechnology with title "**Basic Techniques**" for the academic year 2021-22. The course may help the students to attain the basic skills in Biotechnology. The details of the course, duration, other required information is enclosed with this letter. And I am looking forward for your response.

Kindly do the needful,

Thanking you,

H.O.D.
Dept. of Biotechnology
L.V.D. College, RAICHUR.

Yours faithfully



Hemalatha S A
H.O.D.
Dept. of Biotechnology
L.V.D. College, RAICHUR.

permitted
15/09/2021
PRINCIPAL
L.V.D. College, RAICHUR-03.



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Office of the Principal
Ph:(08532)-240286, 240707
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e-mail: lvdrcr@gmail.com
Website: lvdcollege.org

Date: 17/09/2021

ORDER

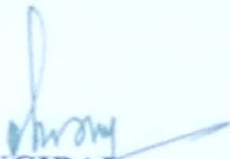
SUB: Meeting of Board of studies.

A meeting of the following BOS constituted is hereby convened on 27/09/2021 at 10:30 AM in the Department of Biotechnology, LVD College, Raichur.

Board of appointment of BOS members for Add - On Course Basic Techniques

1.	Smt. Hemalatha S A, Head of the Department. Department of Biotechnology. LVD College, Raichur.	Chairman
2.	Dr. Kamala Navaratna, Head of the Department. Department of Microbiology. LVD College, Raichur.	Member

The chairman and the members are requested to make it convenient to attend the BOS Meeting.


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Website: lvdcollege.org

Dr. Venkatesh B. Devaru, M.Sc.,Ph.D.,MBA.
PRINCIPAL

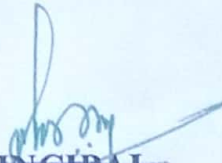
Date:17/09/2021

To,
Smt. Hemalatha S A,
Head of the Department.
Department of Biotechnology.
LVD College, Raichur.

Sub: Appointed as Chairman Board of Studies for Add-on Course in
Biotechnology.

Respected Sir,

With respect to the above cited subject you are appointed as a Chairman, Board of
Studies for Add-on Course in Biotechnology, Basic Techniques. Kindly accept and do
the needful.


PRINCIPAL
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L.V.D. College, RAICHUR-03.



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Fax: +918532 240707
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Website: lvdcollege.org


Date: 17/09/2021

To,
Dr. Kamala Navaratna,
Head of the Department.
Department of Microbiology.
LVD College, Raichur.

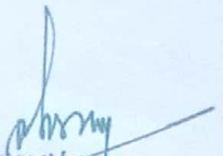
Sub: Request to act as a Member, Board of Studies for Add-on
Course in Biotechnology.

Respected Madam,

With respect to the above cited subject we the staff members of Department of Biotechnology request you to act as a Member, Board of Studies for Add-on Course in Biotechnology, Basic Techniques. Kindly accept and do the needful.


17/9/21
H.O.D.

Dept. of Biotechnology
L.V.D. College, RAICHUR.


PRINCIPAL
L.V.D. College, RAICHUR. 93.

Date:24/09/2021

To,
The Principal,
LVD College,
Raichur.

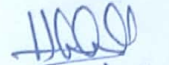
Respected Sir,

Sub: Acceptance to be Chairman of BOS.

With reference to the above cited subject Myself Smt Hemalatha S A, HOD Department of Biotechnology, LVD College, Raichur have received the letter of appointment as Chairman of BOS, for the Add-on Course – Basic Techniques to be conducted by LVD College , Raichur. I hereby accept your request as a BOS Chairman.

Thanking You

Yours truly,


24/9/21.

Hemalatha S A
LVD college
Raichur.

Date: 25/09/2021

To,
The Principal,
LVD College,
Raichur.

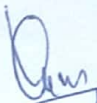
Respected Sir,

Sub: Acceptance to be Member of BOS.

With reference to the above cited subject, I **Dr. Kamala Navaratna**, Head of the Department, Department of Microbiology. LVD College, Raichur .have received the letter of request to be a Member of BOS, for the Add on Course – Basic Techniques to be conducted by LVD College, Raichur. I hereby accept your request as a BOS Member.

Thanking You

Yours truly,


25/9/2021

HEAD OF THE DEPARTMENT
of
MICROBIOLOGY

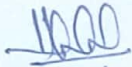
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LAXMI VENKATESH DESAI COLLEGE, RAICHUR.

DEPARTMENT OF BIOTECHNOLOGY

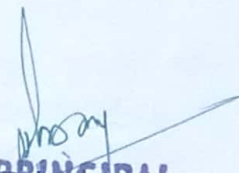
NOTICE

All the students of B.Sc. are hereby informed that as **ADD ON COURSE** will be held in the Department of Biotechnology entitled "**Basic Techniques**", interested students can take admission and get the benefit of the course. The course may start from 01/02/2022.

For more information regarding joining to the course may contact Smt. Hemalatha S. A., HOD, Department of Biotechnology, LVD College, Raichur.



H.O.D.
Dept. of Biotechnology
L.V.D. College, RAICHUR.



PRINCIPAL
Principal
L.V.D. College, RAICHUR-03.


TSS
Laxmi Venkatesh Desai College, Raichur
Department of Biotechnology

Title of the course: Basic Techniques

Course outcome:

At the end of course student will be able to:

1. Student are able to understand basics of biochemistry , instrument handling in biochemistry lab and learn quantitative and qualitative methods of biochemistry 2. Learn basics of microbiology understand good laboratory practices , understand basic principles of instruments, student enable to differentiate gram positive and gram negative bacteria , learn the microbiological media preparation and serial dilution technique .
2. Student learn basics of molecular biology understand the concentrations of the reagents , able to prepare buffer solutions , attain the skill of extraction of DNA and perform electrophoresis and quantitative estimation of DNA.
3. Student understand basics of natural product research attain the knowledge of herbal medicine and learn extraction, preparation of standardized extracts ,gain knowledge of phytochemicals, able to perform qualitative phytochemical analysis of herbal extracts and check their antimicrobial activity and separate the phytochemicals by TLC method .


U.D.
Dept. of Biotechnology
L.V.D. College, RAICHUR

TSS
Laxmi Venkatesh Desai College Raichur
Department of Biotechnology

Title of the course: Basic Techniques .

Course outcome: Students are able to understand the Basic concepts of Biotechnology, learn methods and skills in Biotechnology, attain perfection in the laboratory skills such as reagent preparation, handling of equipments, and learn techniques in Molecular biology.

Syllabus

32hrs

Unit 1

Biochemistry: Basic of biochemistry, good laboratory practices (GLP) basic instrument handling, Concept of basic calculation, Micropipette handling, determination of iodine number of lipids, find saponification value in fats/oils, classification of carbohydrates, qualitative analysis of carbohydrates, Biuret reaction for detection of peptide bond, principle of DNS reagent, principle SOP and application of Colorimeter, pH meter, Spectrophotometer, Quantitative estimation of Carbohydrate by DNS method, quantitative estimation of protein by Biuret method, standard graph, preparation and data interpretation.

12 hrs

Unit 2

Microbiology : Basics of microbiology, good laboratory practices, media preparation, overview and types of sterilization techniques, basic principles SOP and applications of instruments (autoclave, pH meter, Laminar air flow, incubator, microscope), Classification of bacteria on the basis of gram staining, types of media, solid and liquid media preparation, serial dilution technique, isolation of bacteria from soil sample, isolation of bacterial colonies, Study of colony characteristics, gram staining technique for bacteria, motility check with hanging drop method, lacto phenol cotton blue staining for fungus, methylene blue reductase test for milk.

10 hrs

Unit 3

Molecular techniques: Basic of molecular biology, overview of genomic DNA, basic instrument handling, basic concept of molarity and normality, Micropipette handling (forward and reverse handling) principle and application of spectrophotometer, composition of buffers, extraction of DNA from onion/banana, extraction of genomic DNA from bacteria, extraction of genomic DNA from plant, electrophoresis technique, qualitative analysis of DNA –agarose gel electrophoresis, quantitative estimation of DNA.

5 Hrs

Unit 4

Natural product research: Basic concepts of natural product research, safety of herbal medicine, efficacy of herbal medicine general and safety rules in Lab, basic instrument handling, types of extraction, preparation of standardized extracts through maceration, introduction about phytochemicals, qualitative phytochemical analysis (saponin, tannin, flavonoid, alkaloids) of herbal extracts, media preparation and antimicrobial susceptibility tests (AST) of plant extract against bacteria, minimum inhibitory concentration test, basic of chromatography, TLC of crude extract, antioxidant potential analysis of bioactive extracts, in vitro anti inflammatory activity.

5 Hrs

References :

1. Practical Biochemistry by plummer.
2. Text book of Biochemistry by U Sathyanarayan.
3. Molecular cloning – A Laboratory Manual by Sambrook J and Maniatis, 3rd edition Cold Spring Harbor Laboratory Press.
4. Harborne J. B , "Phytochemical Methods: A Guide to Techniques of Plant Analysis." 2nd edition. Champmann and Hall Publishers, London, 1998.

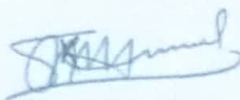
HOD,

Dept of Biotechnology



HOD,

Dept. of Biotechnology
L.V.D. College, RAICHUR,



PRINCIPAL

L.V.D. College, RAICHUR-03,



Taranath Shikshana Samsthe

FEB-1 - MAR-17 - 2022

LAXMI VENKATESH DESAI COLLEGE, RAICHUR

Basic Techniques,

Time Table with effect from FEBRUARY 2022 Class B.Sc Department BIOTECHNOLOGY Section _____ Room No. LAB

Time → Days ↓	8:30 am	9:30 am							
Mon	Add on Course — B.Sc —								
Tue	Add on course — B.Sc —								
Wed	Add on course — B.Sc —								
Thu	Add on course — B.Sc —								
Fri	Add on course — B.Sc —								
Sat	Add on course — B.Sc —								

H.S.D.
Head of Department RAICHUR

Name of the Staff : Hemalatha S.A

[Signature]
Principal
L.V.D. College, RAICHUR

Taranath Shikshana Samsthe
Laxmi Venkatesh Desai College, Raichur

Department of Biotechnology

Report of Add_On course

"Basic Techniques"

Title of add on course: Basic Techniques

Duration: 30 hours

Started on: 01/02/2022


Completed on: 17/03/2022

Name of the Faculty: Smt Hemalatha S. A.

Total No of students admitted: 28

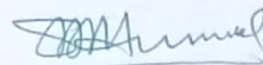
Total No of classes taken: 30

Total No of students benefited: 20



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LAXMI VENKATESH DESAI COLLEGE RAICHUR

(Re-Accredited by NAAC with 'B' Grade)

Certificate

This is to Certify that ~~Miss.~~ / Mr. Chaitanya Yadav
of Bsc : 2021-22 has completed the Certificate Course in
" Basic Techniques "

Conducted by the Department of Biotechnology from
01-02-2022 to 17-03-2022

H.O.D.

Dept. of Biotechnology
L.V.D. College, RAICHUR
Head of the Department



Principal

PRINCIPAL
L.V.D. College RAICHUR
Principal