

Taranath Shikshana Samsthe WI VENKATESH DESAI COLLEGE, RAICHUR-584103.





Department of Biotechnology Add-On Course Documents

Title: Basic Techniques Academic Year:2021-22

S.No	Particulars
1	Declaration
2	Permission letter
3	BOS Request Letter
5	Notice
6	Syllabus
7	Timetable
8	Attendance
9	Summary Report
10	Model certificate

Internal Quality Assurance Cell (IQAC).

Laxmi Venkatesh Desai College, RAICHUR-03.





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: lvdrcr@gmail.com

e-mail: lvdrcr@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

L.V.D. College, RAICHUR.

Co-ordinator

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

Add m 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

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

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



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: 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.

L.V.D. College, RAICHUR-03



LAXMI VENKATESH DESAI COLLEGE, RAICHUR-584103.

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

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

Ph:(08532)-240286, 240707

Fax:+918532 240707

e-mail: lvdrcr@gmail.com Website: lvdcollege.org

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,

PRINCIPAL

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.

L.V.D. College, RAICHUR-03



LAXMI VENKATESH DESAI COLLEGE, RAICHUR-584103.

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

Office of the Principal

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

Ph:(08532)-240286, 240707

Fax:+918532 240707 e-mail: lvdrcr@gmail.com

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.

171921 H.O.D.

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

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. Herralatha-S-A

LVD college Raichur,

Date: 25/09/2021

To, The Principal, LVD College, Raichur.

Respected Sir,

6

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,

HEAD OF THE DEPARTMENT of

MICROBIOLOGY

Taranath Shikshana Samsthe 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.

L.V.D. College, RAICHUR-03

H.O.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:

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 .



TSS Laxmi Venkatesh Desai College Raichur Department of Biotechnology

Title of the course: Basic Techniques .

Course outcome: Students areable 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

3

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, grams staining technique for bacteria, motility check with hanging drop method, lacto phenol cotton blue staining for fungus, methylene blue reductase test for milk.

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 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 HYS

Unit 4

100

6

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 phytochemicals, qualitative maceration, introduction about through 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 HYS

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, 3rdedition Cold Spring Harbor Laboratory Press.
- 4. Harborne J. B , "Phytochemical Methods: A Guide to Techniquesof Plant Analysis." 2nd edition. Champmann and Hall Publishers, London, 1998.

HOD,

Dept of Biotechnology

Dept. of a cleahnology L.V.D. College, RAICHUIL Taranath Shikshana Samsthe FEB-1- MAR-17-2022

Basic Techniques,

Time Table with	effect from FEBRU ARY 2010 Class	B,Sc	_Department B	COTECHNOLOGY	Section	Room N	o. LAB
Time →	8:30 am 9:30 am			,			
Mon	Add on Course B, S C						
Tue	Add on course B, Sc						
Wed	Add on course Bisc —						
Thu	Add. on wouse						
Fri	Add on course B.SC						
Sat	Add on course						

Head of Department RAICHUR.

Name of the Staff: Hemalatha S. A

L.V.D. College, RAICHUR

ಮಾನ		:	202 30	ನಗತಿ :	10	18	d	d	0	9	9	9	al	B	1
Roll No.	Admission No.	Date of Birth ಜಸ್ಯ ದಿನಾಂಕ	Name of the Student ವಿದ್ಯಾ ರ್ಥಿಯ ಹೆಸರು	Caste tsp3	100000011 1	Wyseleak 5	Mace 2018 3	Dr 288/84 4 4	5 (5 (ng) 80 s	4	2 88 80 F1 7	8 18 (19 898	0 19/03/33 3	15 8 8 8 08 10	NG06/6/10/11
		16	Dellika		P	A	P	A	P	A	p	0	P	P	P
		26	N. Bhaavari		P	P	A	P	P	A	P	A	P	P	P
		35	R Rekha		A	P	P	A	P	P	P	P	P	A	P
		46	Bhanath M		A	A	P	P	P	A	P	P	P	P	1
		SŁ	Rajashekhasi		P	P	A	P	P	P	A	P	P	P	P
		62	Shobha M		p	A	P	P	A	P	P	P	P	P	1
		76	Alshwarya Lakshmita		P	P	P	A	P	P	A	P	P	P	A
		86	chaitanya yadav		P	P	A	P	P	P	P	P	P	A	A
		92	Nethoravathi		A	P	P	P	A	P	P	P	P	P	F
		105	Sumeet A. Jeevangi	-	P	A	P	P	P.	A	A	P	A	P	-
	9	116	vishwanath H Maraddy		A	A	P	P	P	A	P	P	A	P	-
		126	Anil Kumaa		A	A	P	P	P	A	P	P	P	P	P
		138	vaishnavi nigyak		P	P	P	A	P	P	P	P	P	P	-
		126	Tanushaee SM		P	À	A	P	P	P	P	P	P	P	-
		154	Teuven?		A	P	A	P	P	P	P	P	P	P	À
-	-	165	Ятвена	_	P	P	A	P	P		A	P	A	P	P
-		176	M. Sharath		P	P	A	4	,		P	P	1	P	P
-		185	Tejashwini B Vastoral		P	A	P		,		A	P		P	P
-	-	198	Greesh		P	P	P		P	P	P	P	P	2	9
-	-	206	Saxaswate		P	P	A		-		P	P			P
-	-	शह	Vyasasia Joshi		A	P	P	-	-			P	P		A
-	-	286	Show Kuman palis		A	P	P	A		7	1	P		,	A
+		936	Sharee Myna		P	P	2	H		P	-	P			P
+		gue	R. Raghavendaa		P	P	P	P	0			2	_	P	P
+	+	252	nami tha	-	P	8	A	4	-	-		•	P	-	P
-	-	266	Manoj kuman		P	A	P	P			9	-	P	6	K
		348	Budaashan			-	a	4			P		8	2	4
-		989	N. S. Lavanya		P	P	A	1	A	A	P	P	9	P.	A
No. P	reser	nt Daily	y ದಿನವಹಿ ಹಾಜರಾದವರ ಸಂಖ್ <u>ರೆ</u>			+	+	+	-	+	+	+	1		
		-	egister ಪುಸ್ತಕದಲ್ಲಿರುವ ಒಟ್ಟು ಸಂಖ್ಯೆ		1		-	1	1	+	+	+	+	+	
			abstract in the beginning 1) Number at the	beginning	of th	e S	3) N	lo. le	ft di	urin	g the	e mo	onth		
	SC	-	Minorities Others Total ತಿಂಗಳ ಪ್ರಾರಂಭಲ್ಲಿದ್ದ					ಂಗಳಿನ						-	
ත්/Bo	ys		557 40,000,000	6		4) N	umb	er a	t the	ene	l of	the	mon	th

ಆರಂಭದಲ್ಲಿ	ಘೋಣ	ತ್ವಾರು.	Abstract in	n the be	ginning	1^,	Month	5) No. left during the month
	sc	ST	Minorities	Others	Total		ತಿಂಗಳ ಪ್ರಾರಂಭಲ್ಲಿದ್ದವರ ಸಂಖ್ಯೆ :	ತಿಂಗಳಿನಲ್ಲಿ ಶಾಲೆ ಬಿಟ್ಟವರ ಸಂಖ್ಯೆ :
riodo/Boys						2)	Admission during the month	4) Number at the end of the month
ಹೆಣ್ಣು/Girls						-	ತಿಂಗಳಿನಲ್ಲಿ ದಾಖಲಾದವರ ಸಂಖ್ಯೆ :	ತಿಂಗಳ ಅಂತ್ಯ ದಲ್ಲಿದ್ದವರ ಸಂಖ್ಯೆ :
ಒಟ್ಟು/Total					Pupus		ತರಗು	ಗುರುಗಳ ಸಹಿ / Class Teacher Signature

	****	20	H L	пе	SC	ho	01_		_			-	-		70		_	_	_	-				_				-	7117
Mo	nt	h	of	1	1	1		9	>	20	27	- 1	-	K	log	cak	22	0	22	CI	as	s :						-	
7000	239 0	300	1 3866	J C. 6	DI 586	10 S G B	229 A	2800	1388 C	D3 G	32 0	13 328 A	D 28 86	Dy CB	1 36	280	J- 6- C	Mari	೩೧	No. of days present	ತಾಜರಿದ್ದ ದಿನಗಳ ಸಂಖ್ಯೆ	Total No. of Atten-	from the beginning	lerie destroubod aba	025	ginal	class / promotion	ವಿದ್ಯಾರ್ಥಿಯು ನೊಟ್ಟ ನೊಡಲು	ತರಗತಿಗೆ ಸೇರಿದ ಅಥವಾ ಶೈಮೋಶನ್ ಆದ ತಾರೀಖು
8	0	9 33	0	0	1 6	2/2			2 3	2 32	2 28	8	2 8	3	2/33	33	13/22	17 325		days	Day	10. of	he beg	rdough	בופש לייו בייום בופכב	of ori	pron	कीं व	Meda Neda
88	25	-86	400	2	00	1	F	r.	3	OK		0	Ξ	02	17	15	19	_		, of	ಜರಿದ	otal N	om th	de sten	Sidne	Date of original	lass/	0.000	अवतक्षितं मेरवत म् सैकरबंशं एत
12 1	13	14	15	16	17	18	19	_	21	22	23	24	25		27	28		_	31	ž	8	I	4 4	10	1	_	a -0	1g	18
A	ρ	P	A	P	A	P	A	P	A	P	P	6	A	P	P	A	P	0			-			_			-	-	
PH	P	P	P	A	6	A	A	A	P	A	P	P	P	A	P	9		SN			-	_	-		-	8 1			
P	P	P	P	A	P	P	A	0	A	5	0	PP	A	P	A	9	PA	200				7		+				-	
P	P	2	A	10	9	H	1	0	P	9	12	P	P	P	P.	6		B											
01	0	0	0	0	0	6	1	A	0	0	P	0	A	0	P	0	P	المد											
DI		0	0	A	P	P	0	A	6	0	0	P	P	A	P	P	Δ	P		7.0									
PC	5	P	P	P	A	0	A	A	A	0	P	P	P.	P	P	P	P	كيل											
P	٥	D	A	p	P	0	P	P	0	P	p	P	A	P	P	P	P	B											
f) (2	P	P	A	P	p	p	P	p	A	p	P	P	P	A	P	A(188	-										
A	ρ	À	P	P	A	p	P	P	A	P	P	P	p	A	P	P	P	W)											
P	P	P	P	P	P	P	P	P	A	P	P	p	A	P	P	P	P	DK											
ρ,	À	P	A	P	P	p	A	P	P	P	P	P	P	P	D	P	P	Me				-	Slo	H	·-			_	
PA	A	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P		Sec.				8	lice		11	RY	7		200
PI	P	P	P	6	P	P	P	P	P	P	P	P	8	P	A	P		可能	-		+			_		_	-	S	, A
P	P	P	A	P	P	P	P	A	A	P	P	P	A	P	P	P	A	Agrico I		-	_	-		-	20		-		
A	P	P	P	8	A	A	P	1	A	P	P	P	P	P	0	P.	P P	der					7	B	Je.	7		-	-
PH	P	P	b	10	P	P	P	4	P	6	1	0	A	1	2	P	P	120	-			-	10	1	0-	1	22		
H	4	0	9	0	A	7	P	P	K	P	1	P	7	0	0	PP	P	A						d.).c	-6	no	'n	IV.
1	1	0	O	0	2	1	1	0	1	1	2	D	6	1	1	P	P	Be	-		De	P	- o	lle	ge	. B	AJC	HL	IR.
1		4	5	0	0	0	0	P	A	10	0	P	4	0	A	D	P	A STATE	-			1	, 0	,,,,			h		
1	A	0	0	0	0	0	0	A	0	0	P	D	10	P	0	P	A	G3	-				N	n	4		mel		
5 6		0	A	0	A	P	P	P	A	P	0	P	D	0	0	P	P	e	-			1	-	-	-	PA	-		
00	5	0	P	0	D	P	0	P	A	R	p	P	R	P	P	P	P	W.	1	L	٠٧.	Þ.						JR-	03
PI		0	ò	0	A	P	P	A	p	P	P	P	P	P	P	P	P	10	+										
PP		P	P	0	D	P	A	A	0	P	D	A	P	P	P	P	P.	0	1										
AF	2	P	p	P	P	P	A	A	P	P	A	P	A	P	P	P	P	0	1										
1	-				ľ																								
+	-																- 49					-		7	5		Pyro		
No.	nf	Sch	1001	wo	rkin	g da	vs	7)	Aver	age	atter	nden	ce d	urin	g the	mo	nth		840	3 174	n =0	100	20 1		het	ract	at 11	10.5	nd
				zoa!		0	-		Bork						9 44			-	30	4 w	SC		ಷ್ವಾರ ST			es C			Total

during the month ತಿಂಗಳಿನಲ್ಲಿ ಪುಸ್ತಕದಲ್ಲಿರುವ

(6) ಮತ್ತು (7)ರ ಶೇಕಡಾ ಸರಾಸರಿ :

ಮುಖ್ಯ ಗುರುಗಳ ಸಹಿ / Head Master Signature

ಹೆಣ್ಣು/Girls ಒಟ್ಟು/Total

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

H.O.D.

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

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







LAXMI VENKATESH DESAI COLLEGE RAICHUR

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



This is to Certify that Miss. / Mr	Chailanya Yadar	
of Bsc . 2021-22	has completed the Certifica	te Course in
"Basic Technique		
Conducted by the Department of	Biotechnology	from
01-02-2022 to 17-03-2022		DOM -
-14.0.D.	O.COLLA	PRINCIPAL

Dept. of Biotechnology L.V. Head of the Department



L.V.D. COURSE RAINER

Principal