

Shri Shivaji Education Society's Board for Higher Education Vidyanagar Karad.





YASHWANTRAO CHAVAN COLLEGE OF SCIENCE, KARAD

CCD-01

B.Sc. II Biochemistry SHORT TERM COURSE

Chromatographic techniques in Biochemistry

2021-22

Index

Total Students: 23

Duration: 03 Months

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YASHWANTRAO CHAVAN COLLEGE OF SCIENCE, KARAD

UDISE Code - 27310207715

Index No. J 21.02.002

Reacredited B** Level by NAAC, Bangalore

AN ISO 9001-2015 CERTIFIED COLLEGE REG. NO.: RQ91/5237

Department of chemistry &

B.Sc. II Biochemistry

Certificate course In "Chromatographic techniques in Biochemistry"

Year 2021-2022

Board of Studies (BOS)

Date: 16/11/2021

Certificate Course in "Chromatographic techniques in Biochemistry" is going to start in the department of Chemistry, YashwantraoChavan College of Science, Karad. Following committee is constituted for syllabus framing of the said course

Board of Studies (BOS) members

Sr No	Name of the Member	Designation	Sign
1	Principal Dr. S. B. Kengar	Chairman	and a
2	Prof. Dr. S. H. Burungale	Head of the	Brown
		Department	The Man
3	Mrs.N.R.Panwal	Course	NDD
		Coordinator	(B)







II Be One with the downtrodden and the underprivileged II Shri Shivaji Education Society Karad, Board For Higher Education's

Vidyanagar, KARAD - 415 124 Dist. Satara (Maharashtra) **27** 02164 - 271356, 271357 e-mail: prinyccsk@gmail.com

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Reacredited B** Level by NAAC, Bangalore

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Department of Chemistry & **B.Sc. II Biochemistry**

Year 2021-2022 Syllabus Approved Letter

Date: 16/11/2021

The IQAC Committee has approved the syllabus of the short term course to be conducted by the Department of Chemistry.

Sr. No.	Name of The Course	Type of The Course
1	Chromatographic techniques in	Short Term Course
	Biochemistry	

Course Co-ordinator

Principal Yashwantrao Chavan College of Science, Karad

Yashwantrao Chavan College Yashwantrao Cha Department of Cho

Science, Karad

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YASHWANTRAO CHAVAN COLLEGE OF SCIENCE, KARAD. Department of chemistry B.Sc. II Biochemistry "Chromatographic techniques in Biochemistry" Syllabus

Unit-1

Introduction to chromatographic techniques:-	(10)
1. Definition of chromatography.	
2. Types of chromatography.	
3. Application of chromatography.	

Unit-2

Biochemical technique	(10)
1. Development of chromatograms.	
2. Principle and working of paper chromatography.	
3. Types of Ion exchangers.	
4. Principle and working of Ion exchange chromatography.	

List of practicals:-

- 1. Paper chromatographic separation and identification of Copper and Nickel.
- 2. Paper chromatographic separation and identification of Cobalt and Nickel.
- 3. Estimation of Magnesium/Zinc by Ion-exchange method.
- 4. Estimation of sodium by Ion-exchange method.

YashwantraoChavanCollegeofScience,KaradD epartmentofChemistry&

B.Sc. II Biochemistry

ShorttermCourse-ChromatographicTechniquein Biochemistry(2021-22)

Course Code	ShortTerm CCD-01 Course:	Chroma	ntographicTechniqueinBiochemistry	
Prepared by	Mrs.NehaR.Panwal Date 2021-2022		2021-2022	
TargetGro	up:B.Sc.II(Biochemistry)			
Pre- requisites	 Basic(10+2)knowledgeofsciencefaculty Goodanalyticalskills. Basicknowledgeregardinglaboratoryconcepts. 			
CourseOut	CourseOutcomes			
Attheendo	fthecoursethestudentsshouldbeableto:			
CO1	Enablestheseparationand identification of components.			
CO2	Enablesthepurification of components.			
CO3	Helpsinqualitativeandquantitativeanalysis.			
CO4	Learningandcoherentunderstandingofpaperandionexchangechromatography.			



Department of Chemistry
Yashwantrao Chemistry
Science, Karad

YASHWANTRAO CHAVAN COLLEGE OF SCIENCE, KARAD.

Department of Chemistry & B.Sc. II Biochemistry Notice

Date: 16/11/2021

All the Students of the B. Sc. II are hereby informed that the Department of BioChemistry is going to run a short term course entitled as "chromatographic techniques in Biochemistry" Interested Candidates enroll their names to Mrs. N.R.Panwal course Co-ordinator on or before 30th November 2021.

CHEMISTRY Scient

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YASHWANTRAO CHAVAV COLLEGE OF SCIENCE, KARAD Department of Chemistry B.Sc. II Biochemistry

Short Term Course

"Chromatographic techniques in Biochemistry"

Year 2021 - 2022

Date: 28 /11/2021

All the students those who are enrolled their names for this course are hereby informed that their theory lecture is going to start from 1^{st} Dec. 2021. All concerned should note and follow

CHEMISTRY CHEMISTRY SCIENT

YASHWANTRAO CHAVAV COLLEGE OF SCIENCE, KARAD Department of Chemistry B.Sc. II Biochemistry

Short Term Course

"Chromatographic techniques in Biochemistry"

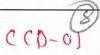
Year 2021 - 2022

Name of the Enrolled Students

Date: 01/11/2022

Sr no	Roll No	Name of student	Student sign
1	2406	BADEKAR SHUBHAM PRASHANT	Gp Badekar
2	2407	CHAUGHULE ARIYAN RAJKUMAR	ARCHAUGUE
3	2408	DHEB RUPALI NATHURAM	RNP
4	2409	GURAV VISHWAMBAR SUNIL	AG.
5	2410	HANKARE PARUSHURAM ANIL	PAH.
6	2411	JADHAV SHREYASH RAJESH	SRJadhav
7	2412	JADHAV SURAJ DILIP	Spradhau
8	2413	JADHAV SWETA SHSHIKANT	<u> </u>
9	2414	JADHAV TEJASVINI SUDHAKAR	T.S. Jahan
10	2415	JAGTAP VAISHANAVI SANJAY	Os Tagtap.
11	2416	JAMBHALE SANSKRUTI SUBHASH	188
12	2417	KARAPE DHANSHRI MAHADEV	KDM
13	2418	LOHAR VISHAL BHAGWAT	rishal
14	2419	MALAVE PRANALI VAMAN	RM
15	2420	MANE KALYANI DHANAJI	Knurk
16	2421	NALAWADE PRATIKSHA RAJENDRA	murel

CHEMISTR



17	2422	PATIL MAYURESHWAR HANMANT	MPalit
18	2423	POL RUTUJA SUBHASH	2 dula!
19	2424	SALUNKHE PRANITA SANJAY	Zusel
20	2425	SALUNKHE PRATHMESH VAMAN	P.V.S
21	2426	SAPKAL SANIKA DHANAJI	4.500
22	2427	SAPKAL SUPRIYA SANJAY	sure ja
23	2428	SHEWALE PRYANKA KASHINATH	p.k.s.



YASHWANTRAO CHAVAN COLLEGE OF SCIENCE, KARAD.

Department of Chemistry & B.Sc. II Biochemistry

Certificate course In "Chromatographic techniques in Biochemistry"

Year 2021-2022

1. Class B. Sc. II

2. Duration of the Course 3 Months

3. Capacity 23

4. No. of Students Enrolled 23

CHEMISTR'

Karad

5. Theory Examination : Last week of February.

First week of March 6. Practical Examination

Course Co-ordinator

IQAC Coordinator

HOD

Co-ordinator, Internal Quality Assurance Cell (IQAC), Yashwantrao Chavan College

of Science, Karad

Head

Department of Chemistry Yashwantrao Chavan College of

Science, Karad

YASHWANTRAO CHAVAV COLLEGE OF SCIENCE, KARAD Department of Chemistry B.Sc. II Biochemistry

Short Term Course

"Chromatographic techniques in Biochemistry"

Year 2021 - 2022 Theory Time Table

Dec. 2021 to Jan.2022

Lect. Time	WED	THU
0.40.10.20	G30	G30
9.40-10.30	NRP	NRP

Feb. 2022 Practical Time

Lect. Time	SAT
8.50- 9.40	NRP
9.40- 10.30	

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Department of Chamistry
Yashwan Chavan College of

Science, Karad

YASHWANTRAO CHAVAV COLLEGE OF SCIENCE, KARAD Department of Chemistry& B.Sc. II Biochemistry

Short Term Course

"Chromatographic techniques in Biochemistry"

Year 2021 - 2022

Question Paper

Q.1) Multiple Choice Qu	estions :-	(Marks:30)
1. Chromatography is	a physical method that	is used to separate and analyse
a) Simple mixtures	b) Compl	lex mixtures
c) Viscous mixtures	d) Metal	s
2. In chromatography, th	ne stationary phase can be .	supported on a solid.
a) Solid or liquid	b) Liquid	or gas
c) Solid only	d) Liquid	only
3.In chromatography, w	nich of the following can th	ne mobile phase be made of?
a) Solid or liquid	b) Liquid	or gas
c) Gas only	d) Liquid	only
4.Chromatography cann	ot be used to purify volatile	e substances
a) True		
h) False		

5.Ion exchange chromatography is	based on the
----------------------------------	--------------

A. electrostatic attraction B. electrical mobility of ionic species

C. adsorption chromatography

D. partition chromatography

6.Chromatography cannot be used to separate delicate products.

a) True

b) False

7.In which of the following type of paper chromatography does the mobile phase move horizontally over a circular sheet of paper?

a) Ascending paper chromatography

b) Descending paper chromatography

c) Radial paper chromatography

d) Ascending – descending chromatography

8.Which of the following types of chromatography involves the process, where mobile phase moves through the stationary phase by the influence of gravity or capillary action?

- a) Column Chromatography
- b) High Pressure Liquid Chromatography
- c) Gas Chromatography
- d) Planar Chromatography

9. Which of the following is used as a spraying reagent in paper chromatography?

- (a) Concentrated hydrochloric acid solution
- (b) Sodium chloride solution
- (c) Ninhydrin solution
- (d) Copper sulphate solution

10.Which of the follow	wing is not a development technique in paper chromatography?
(a) High-Pressure Liqu	id Chromatography
(b) Ascending Chroma	itography
(c) Descending Chrom	atography
(d) Two-Dimensional	Chromatography
11. The pattern on the	e paper in Paper chromatography is called
(a) Chroma	(b) Chromatograph
(c) Chroming	(d) Chromatogram
12.What is the size of	the spot in paper chromatography?
(a) 1 - 2 mm	(b) 2 - 5 mm
(c) 6 - 8 mm	(d) 7 - 8 mm
13 In anion exchange	chromatography,
(A)the column conta bind	ains negatively charged beads where positively charged proteins
(B)the column conta bind	ains positively charged beads where negatively charged proteins
(C) the column conta depending on their n	ins both positive and negatively charged beads where proteins bind et charge
(D) all of these	

14 Chromatography is generally used for the separation of mixtures based on the differences in their

A Shape

B Size

C Structure

D All Of Above

15. Ion-exchange chromatography is used for the separation of

A) polar molecules

B)non polar molecules

C) non polar molecules

D) both of above

YASHWANTRAOCHAVAVCOLLEGEOFSCIENCE,KARAD

DepartmentofChemistry &

B.Sc. II Biochemistry

ShortTermCourse

 $\hbox{\it ``Chromatographic techniques in Biochemistry''}$

Year2021-2022 Practical Exam

Marks-40

Q-1) Paper chromatographic separation and identification of Copper and Nickel. (20)

Q-2) Estimation of sodium by Ion-exchange method. (20)



YashwantraoChavan College of Science, Karad Department of Chemistry&

B.Sc. II Biochemistry

Short term Course -Chromatographic techniques in Biochemistry" (2021-22) Mark list

Roll. No.	Name of Student	Mid-course exam (Out of 30)	Final Exam (Out of 30)	Practical Exam (Out of 40)	Total (Out of 100)
2406	BADEKAR SHUBHAM PRASHANT	22	24	40	86
2407	CHAUGHULE ARIYAN RAJKUMAR	23	25	40	88
2408	DHEB RUPALI NATHURAM	21	24	40	85
2409	GURAV VISHWAMBAR SUNIL	21	24	40	85
2410	HANKARE PARUSHURAM ANIL	26	26	40	92
2411	JADHAV SHREYASH RAJESH	25	29	40	94
2412	JADHAV SURAJ DILIP	25	28	40	93
2413	JADHAV SWETA SHSHIKANT	21	26	40	87
2414	JADHAV TEJASVINI SUDHAKAR	21	25	40	86
2415	JAGTAP VAISHANAVI SANJAY	21	22	40	83
2416	JAMBHALE SANSKRUTI SUBHASH	20	22	40	82
2417	KARAPE DHANSHRI MAHADEV	24	22	40	86



2418	LOHAR VISHAL BHAGWAT	19	25	40	84
2419	MALAVE PRANALI VAMAN	21	26	40	87
2420	MANE KALYANI DHANAJI	21	18	40	79
2421	NALAWADE PRATIKSHA RAJENDRA	23	20	40	83
2422	PATIL MAYURESHWAR HANMANT	21	25	40	86
2423	POL RUTUJA SUBHASH	22	21	40	83
2424	SALUNKHE PRANITA SANJAY	19	22	40	81
2425	SALUNKHE PRATHMESH VAMAN	25	23	40	88
2426	SAPKAL SANIKA DHANAJI	25	24	40	89
2427	SAPKAL SUPRIYA SANJAY	23	20	40	83
2428	SHEWALE PRYANKA KASHINATH	25	23	40	81



Y a shwantra o Chavan College of Science, Karad

DepartmentofChemistry&

B.Sc. II Biochemistry

Short term Course - Chromatographic Technique in Biochemistry (2021-2022)

CO attainment

Average Attainment	TargetAtta inmentleve 1	Remark
3	Level5	Targeta chieved

Course code	CourseTitle	% of students above60 % of Final exammarks	Level ofattainme ntFinalexa m	80% ofattainment Level in Finalexam (I)	% of studentsabove 80 % ofmid-course exammarks	Level ofattainme nt	20% ofattainme ntLevel inmid- courseexa m (II)	Attainment ofcourse(I+ II)
Shortterm	Chromatographic Technique inBiochemistry	95.00	3	2.4	75.00	3	0.6	3

By using below attainment levels 1,2,3 for the Percent ofstudents in B					
	Forinternalexam				
Level	Lessthan60%ofstudentsscoringmorethanaveragemar ks				
Level 2	60%- 80%ofstudentsscoringmorethanaveragemarks				
Level 3	morethanequalto 80% of students scoring morethana verage marks				



Programme outcomelev el	TargetAt tainment
Level1	0.5-1.0
Level2	1.0-1.5
Level3	1.5-2.0
Level4	2.0-2.5
Level5	2.5-3.0

Head

Yashwantrao (havan College of Science, Karad

YASHWANTRAO CHAVAV COLLEGE OF SCIENCE, KARAD Department of Chemistry B.Sc. II Biochemistry

Short Term Course

"Certificate Course in Chromatographic techniques in Biochemistry"

Year 2021 - 2022

Sr. No.	Criteria	Excellent	Good	Average	Poor
1.	Curriculum	10			
	Content	10	13		
2.	Gratification				
	about	13	10		
	Lecture				
3.	Gratification				
	about	10	13		
	Practical				
4.	Hands on	12	11		
	Training	12	- 11		
5.	Knowledge				
	get from the	11	12		
	course				
6.	The course				
	if beneficial	10	13		
	for Students				
	and Parents				



Departmen of Chemistry
Yashwai College of
Science, Karad

(20)

YASHWANTRAO CHAVAV COLLEGE OF SCIENCE, KARAD

Department of Chemistry &

B.Sc. II Biochemistry

Short Term Course - "Chromatographic techniques in Biochemistry"

Year 2021-22

Attendance Dec-2021

Roll. No.	Name of Student	4/12/21	5/12/124	11/12/21	12/12/21	17/12/21	१४ विश	1011	, ,	28/2/21
2406	BADEKAR SHUBHAM PRASHANT	Sp Badekan	EPBAdekan	Preglekon	Ep Badekar	GPBodekar	Spradekon	Epsadekar	ErBagres	SP Badokan
2407	CHAUGHULE ARIYAN RAJKUMAR	AR/Hause	ARCHAINS.	PRCHUS	pachial	ARCHUM	PROHUM	RREHIN	Propun	Pactur
2408	DHEB RUPALI NATHURAM	RNP	RND	RND	RND	RND	R.H.D	R.N.D	RND	RND.
2409	GURAV VISHWAMBAR SUNIL	QQ.	QQ.	00.	QL.	QQ.	QQ.	QL.	QJ.	QQ.
2410	HANKARE PARUSHURAM ANIL	PAH	BAH	BAH	Part,	B ir	BAH	"		PAH,
2411	JADHAV SHREYASH RAJESH	SKJadhav	SRTadha	SRIANLON	ZBIAGYAN	SRIgolhan	SRJadhan	SRJadhau	SRJadhau	SRIadhan
2412	JADHAV SURAJ DILIP	EDTadhav	Epizadha	(City adhor	Spradhav	Dradhas	@ Tadhan	GDT adha	Stradha	Spalla
2413	JADHAV SWETA SHSHIKANT	GeT.	GI,	BSI	GCI,	gai.	QI.,	<u>EST .,</u>	BST,	geri
2414	JADHAV TEJASVINI SUDHAKAR			ed T.S. Jac	A STATE OF THE PARTY OF THE PAR			V 100 MODELLO V		
2415	JAGTAP VAISHANAVI SANJAY	Paragrap	Osraglup	Ostasla.	Wragtap	Ustastap	Octaglap	CHOOSE CH	1-0	Wetagla
2416	JAMBHALE SANSKRUTI SUBHASH	133	J88/	988	788	<u> 138</u>	788	738	138	138



2417	KARAPE DHANSHRI MAHADEV	KDKI	KDM	KDM	KDM	KDM	KDM	KDM	KDWT	KDM
2418	LOHAR VISHAL BHAGWAT	Bred.	Oddredi	(Blad)	Made	is of	College	33/	That I	a Joseph
2419	MALAVE PRANALI VAMAN	RIN	BIM	BM	RUP	BM	82/	But	BAR	87/
2420	MANE KALYANI DHANAJI	Knure	Knew	Knielly	Kmure	Kmell	Knowl	Knuse	Yound	KINCIAC
2421	NALAWADE PRATIKSHA RAJENDRA	Bul	Roed	Paul	Paul	Paux	Paul	Roese	Rust	Paul
2422	PATIL MAYURESHWAR HANMANT	Mal	MPLOS	-MAch	mproll	MPatil		mpali	madil	mpull
2423	POL RUTUJA SUBHASH	Rheid	Zuhita	2 duly	Zulan Col	Ritura!	Quetagas	Danie	Diguid.	Milde.
2424	SALUNKHE PRANITA SANJAY	Zust	Sugl	Seed	Soul	Sest	Jest	Seese	Seel	Seal
2425	SALUNKHE PRATHMESH VAMAN	PVS	rus	PVS	P.Y.S	P.VS	P.YS	P.Y.S	P.V.S	PNS
2426	SAPKAL SANIKA DHANAJI	632×40×	459/2	358×1	agistal	33820	23 20	4337	Jan Long	232 0
2427	SAPKAL SUPRIYA SANJAY	Supery	guze)	Jure 149	engett	and com	Guralta	guelta	engelya	agella
2428	SHEWALE PRYANKA KASHINATH	P.K.S	P.K.S	P. k.S	P.K.S	P.K.S	P.KS	P.K.S	P.K.S	P.K.S



YASHWANTRAO CHAVAV COLLEGE OF SCIENCE, KARAD

Department of Chemistry

B.Sc. II Biochemistry

Short Term Course - "Chromatographic techniques in Biochemistry"

Year 2021-22

Attendance Jan-2022

Roll. No.	Name of Student	3 1 22	4/1/22	10/1/22	-11/1/22	17/1/22	18/1/22	24/1722		
2406	BADEKAR SHUBHAM PRASHANT	SpBadeker	EPBodeker	CPBalekgr	30 Rade Year	SpRodokoo	38 Brighton	El Brago Cauc	6PBadeker	SP Baddkops
2407	CHAUGHULE ARIYAN RAJKUMAR	PRCHard	PROMI	A Borry	Prou	Prew	PROM	DROY	BROWN	BROW
2408	DHEB RUPALI NATHURAM	R.N.P	RIND	RIMP	RIND	R.N.D	R.MD	RND	RIND	R.N.D
2409	GURAV VISHWAMBAR SUNIL	QQ.	QQ.	QQ.	Q.	Q.	QQ.	Qs.	QQ.	Q.
2410	HANKARE PARUSHURAM ANIL	PAK	Pan	PAN.	PAN	BAN.	Pan	Pan	PAN_	Chi
2411	JADHAV SHREYASH RAJESH	SKTadhay	SRTadhan	skiadþar	spradhav	skradhan	SRJadhan	setadhan	SRJadhay	Stadhan.
2412	JADHAV SURAJ DILIP	SDTadha	Soladhaw	Dradhav	Sprillian	Spradhan	Dadhan	Sadhau	Stradbay	GDT adha
2413	JADHAV SWETA SHSHIKANT	BI,	SET,	Chavan	Colle	BSI,	get.		<u>Ger</u>	B i
2414	JADHAV TEJASVINI SUDHAKAR	T.S. Jada	1.5.20	15 Taday	15190 CO	TSTOON	Tstada	T.S. Jadan	De	partment wantrao C

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2415	JAGTAP VAISHANAVI SANJAY	1879gtap	Word ap	aragtap.	Worldand	Quagtar	Wastag	@Tagtap	Wastap	Gragtag
2416	JAMBHALE SANSKRUTI SUBHASH	J88 3	133	<u>188</u>	788	738	733	J39	788	788
2417	KARAPE DHANSHRI MAHADEV	KDM	KDM	KOM	KDKI	RDIA	KDW	KDW	KDW	KDWT
2418	LOHAR VISHAL BHAGWAT	May	The	iskal	ished	J. Sale	Sol I	No.	E POP	istali
2419	MALAVE PRANALI VAMAN	BM	BM.	BM	RM	BM	BM	Bal	BM	BAT
2420	MANE KALYANI DHANAJI	Voure	Vment	Konen	Keneine	Knew	Bonen	Knew	Knune	Kmene
2421	NALAWADE PRATIKSHA RAJENDRA	Paris	Provd	Panel	Paul	fruit	Pausl	Panele	Bush	Beerle
2422	PATIL MAYURESHWAR HANMANT	Madil	Athen	HPall	- MAPUH	12 Pal 1	14Reb11			MPCUI
2423	POL RUTUJA SUBHASH	David!	Quitula!	Detripo!	Delie V.	Zytnijet.	Zuturg	250°	Quild?	23019 .
2424	SALUNKHE PRANITA SANJAY	Surer	Sul	Sene	gord	Suse	Sur	Seegl	Seed	Seed
2425	VALVIALA	Falunthe	1	P. YS	P.VS	P.YS	P.YS	p.us	P.V8	P.48
2426	SAPKAL SANIKA DHANAJI	8. S. aplat	Sarkol	3. Sapla	6-5:8tal	2.SE Lay	08xx al	13240	Sistar.	2000
2427	SAPKAL SUPRIYA SANJAY	wild	gring	GREEKS	W Color	GREET	surell 9	surilla	Strifts	and off a
2428	SHEWALE PRYANKA KASHINATH	P.K.S	P. F. S	and College	P.K.S	P.4.S	P.KC	P.KS	P.KS	P.KS

YASHWANTRAO CHAVAV COLLEGE OF SCIENCE, KARAD

Department of Chemistry

B.Sc. II Biochemistry

Short Term Course - "Chromatographic techniques in Biochemistry"

Year 2021-22

Attendance Feb-2022

Roll. No.	Name of Student	7/2/22	8/2/22	14/2/22	16/2/22	21/2/22	22/2/22	28/2/22	29/2/22	03/3/22
2406	BADEKAR SHUBHAM PRASHANT	EP Badekerr	Spradekn	Parleker	Spadekar	Greatekon	spendekan	Spadekan	Badekan	Epsalekgn
2407	CHAUGHULE ARIYAN RAJKUMAR	BRELEUS	ARow	DRAW	Eppere	ARous	DRum	BR GW	ARemen	Jehn
2408	DHEB RUPALI NATHURAM	RHP	RND	RND	R.ND	RND	RIND	RIN.D	RND	RND
2409	GURAV VISHWAMBAR SUNIL	QQ.	QQ.	QQ.	Q.	QS.	QQ.	QQ.	QJ.	Q.J.
2410	HANKARE PARUSHURAM ANIL	PAVI	Pan	OAn,	Ban'	BBH.	BOH.	BOH"		Pan,
2411	JADHAV SHREYASH RAJESH	SRJadhav	SRTadhai	skradhar	s s s s s s s s s s s s s s s s s s s	SRJadhu	SKradhay	SRIADAN	SRJadha	SRIAHAN
2412	JADHAV SURAJ DILIP	Dradhav	Spidha	Corazhar	Edradhan	- Stadhan	Gotalhon	Diadhav		EDTAGHAN
2413	JADHAV SWETA SHSHIKANT	SET	B.I.	BEL	(BEL	Gci	हर्बे	GST.		B Ì
2414	JADHAV TEJASVINI SUDHAKAR	T.s. Lodo	170	XS	7.5.3	1.9	8.85 rad as	1.51000	5.55 adar	5.51 adal
2415	JAGTAP VAISHANAVI SANJAY	OB Sagta	P CHE	MISTRY	of Brog tap	Utagtap	vergetap	Bagtap	0'	epartmen

Department of Chemistry
Yashwantrao Chavan College of
Science Karad

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Short Term Course CERTIFICATE OF COMPLETION

	hat Mr./Miss. Mane			
of Class B.Sc. IF	Biochemishhas Completed	d Short Term	Course (3 Months) in	"Chromatographic
	Biochemistry ".			ted by the department of
Chemishy	during the academic y	ear 20 21 - 20	122	
	A Strand Strand Strand Strand			9/1

IQAC Co-ordinator

Estd.:

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of Class B. SC. II. Biochemishy has Completed Short Term Course (3 Months) in "Chromatographic dechriques in Chromatography Biochemishy" conducted by the department of them is by during the academic year 2021 - 2022	This is to certif	y that Mr./Miss. Pe	1 Rutuja Subhash		
Hechniques in Chromatography Biochemistry" conducted by the department				2 (3 Months) in	Chromatogra phic
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Course Co-ordnator

Head of the Department

IQAC Co-ordinator

Principal

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This is to certify that Mr./Miss. Gurar Yishwambhar S	Bunil
of Class B.SC. IL Biochemistry has Completed Short Term Course (3	Months) in "Chromatographic.
techniques 9n Biochemistry.	conducted by the department of
Chemistry during the academic year 2021 - 2022	9/1



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Short Term Course Certificate of Completion

This is to certij	fy that Mr./Miss.	Jagtap Vaishnavi Sanja	w the second sec
of Class B-8c. L.	Biochemistry has	Completed Short Term Co	ourse (3 Months) in "Chromatographic
	Biochemistry ".		conducted by the department o
Chemistry	during the a	cademic year 2021 - 2022	

Course co-ordnator

Head of the Department

IQAC Co-ordinator

Principal -

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This is to certify	that Mr./Miss. Sapkal Banika	Dhanaji	
of Class Bisc. I. B	has Completed Short Te	rm Course (3 Months) in _	"Chromatographic
	Biochenishy"	conducte	ed by the department of
Chemismy	during the academic year 2021.	- 2029	
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IQAC Co-ordinator

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	0 11	Quantus	Samay		
This is to certi	fy that Mr./Miss. Sapkal	Supriya	1100		
of Class B.Sc. 11.	Biochemistry has Complete	d Short Tern	n Course (3 Mo	onths) in(Chromatographic
techniques in					y the department of
Chemistry	during the academic y	jear 20 21 -	2023		
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IOAC Co-ordinator

Head of the Department

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Short Term Course Certificate of Completion

This	is to certify	that Mr./l	Hiss. Salunkhe	Prathmes	r Vaman	
of Class	BSc. II	Biochemist	ny has Completed She	ort Term Course	(3 Months) in	"Chromatogra.
Phic	techniqu	ies in	Biochemis my "		conduct	ted by the department of
			ng the academic year			

Course Co-ordnator

Head of the Department

IQAC Co-ordinator

Principal

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Short Term Course CERTIFICATE OF COMPLETION

This is to certify that Mr./Miss. Jadhav Shreyo	ish Rajesh
of Class B.S. I. Biochemistry has Completed Short Term (Course (3 Months) in Chromatogra-
phic techniques in Biochemishy".	conducted by the department of
Chemis my during the academic year 2021 - 20	12
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Short Term Course Certificate of Completion

This is to d	certify that Mr./Miss. Karape Dh	ianshri	Mahader
of Class B.Sc.	II-Biochemishy has Completed Short	Term Course	(3 Months) in Chromatographic
techniques	in Biochemistry		conducted by the department of
Chemistry	during the academic year 20.	21 - 20 22	

Course Co-ordnator

Head of the Department

IQAC Co-ordinator

Principal

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Short Term Course CERTIFICATE OF COMPLETION

This is to certify	that N	4 r ./Miss	Shewale	Priyanka	Kaehinath	
of Class B.Sc. I	Bioch	nemishyhas	Completed Sh	ort Term Course	(3 Months) in _	Chromatographic
techniques		The state of the s				ed by the department of
Chemistry			The second of the second of	20 21 - 20 22		