R. C. Patel Educational Trust's
R. C. Patel Arts, Commerce and Science College
Shirpur-425405, Karvand Naka, Dist.- Dhule (Maharashtra)
E-mail - principal@rcpasc.ac.in

Affiliated to: K. B. C. North Maharashtra University, Jalgaon-425001

Self Study Report (SSR): 2024 (4th Cycle)

Criteria - 1
Curricular Aspects

Key Indicator – 1.2
Academic Flexibility

Metric No. – 1.2.1 (QnM)

Number of Certificate/Value added courses offered and online courses of MOOCs, SWAYAM, NPTEL etc. where the students of the institution have enrolled and successfully completed during the last five years)

Submitted to
National Assessment and Accreditation Council, Bangalore

R. C. Patel Educational Trust's
R. C. Patel Arts, Commerce and Science College
Karvand Naka, Shirpur 425405, Dist - Dhule, Maharashtra
☎: (02563) 299328
E-mail: principal@rcpasc.ac.in

President
Hon. Bhupeshbhai Patel

Principal
Dr. D. R. Patil

Date: 15/06/2024

Declaration

This is to declare that, the information, reports, true copies of the supporting documents, numerical data etc. submitted in these files is verified by Internal Quality Assurance Cell (IQAC) and it is correct as per the office record.

This declaration is for the purpose of NAAC accreditation of the HEI for the 4th cycle assessment period 2018-19 to 2022-23.

Place: Shirpur

Date: 15/06/2024

Dr. Sandip P. Patil
IQAC Co-ordinator
IQAC Coordinator
R. C. Patel Educational Trust's
R. C. Patel Arts, Commerce and Science College
Shirpur, Dist.-Dhule (M.S.) 425405

R. C. Patel Arts, Commerce and Science College Shirpur ★ R. C. Patel Educational Trust's

Dr. D. R. Patil
IQAC Chairman & Principal
PRINCIPAL
R. C. Patel Educational Trust's
R. C. Patel Arts, Commerce and Science College
Shirpur, Dist.-Dhule (M.S.) 425405

R.C. Patel Arts, Commerce and Science College, Shirpur

Certificate Course Syllabus, Attendance, Mark sheet and Sample Certificate

INDEX

College Name : R.C.Patel Arts, Commerce & Science College, Shirpur

Title of the Course : Certificate Course in textile Chemistry

Aims/objectives of the Course : To aware the students about Textile chemistry, their applications & career in textile industries.

Duration of Course : 1 Year

Fees structure : 1000/

Course structure : Paper-I- Applied Chemistry for Textile Industries

Paper-II- Applied Chemistry of dyes & Auxiliaries

Paper-III- Lab Course

Eligibility for admission : Diploma course in Textile chemistry

Skeleton of Course :

Sr. No.	Paper	Name of the subject	Theory/ Practical Course	Teaching Hrs	Max. Marks Allotted			Passing			Credit
					External	Internal	Total	External	Internal	Total	
1	Paper-I	Applied Chemistry for Textile Industries	Theory	90	60	40	100	24	16	40	6
2	Paper-II	Applied Chemistry of dyes & Auxiliaries	Theory	90	60	40	100	24	16	40	6
3	Paper-III	Lab course	Practical	120	60	40	100	24	16	40	6

Minimum Staff : 03

Mode of examination : Internal & External (Theory & Practical)

Details of Syllabus : Enclose the syllabus copy

R.C.Patel Art's, Commerce & science College, Shirpur

CTC- 101- Applied Chemistry for Textile Industries

Paper- I THEORY Contact Hrs- 90

1. **Elementary Chemistry:** **(10 Hrs)**

   Concept of atom, atomic number, isotopes & isobars, molecular weight & equivalent weight, compounds & mixtures.

2. **Concepts in volumetric analysis:** **(20 Hrs)**

   Oxidizing & reducing agents, units of concentration, molarity, normality, formality, numerical, standard solutions, types.

3. **Acids & bases:** **(20 Hrs)**

   Arrhenius theory, Lewis theory & Lowry-Bronsted theory, properties & uses of acids & bases.

4. **Water:** **(10 Hrs)**

   Sources of water, impurities in water, hardness of water, temporary hardness, permanent hardness & effects.

5. **pH & pOH:** **(10 Hrs)**

   Introduction, concept, definition, calculation of pH value of acid, bases. Determination of pH by colorimetric method.

6. Industrial visit. **(20 Hrs)**

REFERENCE BOOKS:

1. Analytical chemistry by G. D. Chritian
2. Physical chemistry by Atkins.
3. Vogel's Textbook of Quantitative chemical analysis- Jeffry, Basset.

For office use only Application for the course – CTc Acad. Year: 22-23

R. C. Patel Educational Trust's

R.C. Patel Arts, Commerce and Science College

Shirpur, Dist – Dhule, M.S. 425 405
(NAAC Accredited Institute)

To,
The Principal
R. C. Patel Arts, Commerce and Science College,
Shirpur

Sir,

I wish to get admitted to as a student for the Certificate Course of textile chemistry

Ahirrao Harshada chandrashekhar
(Name and Signature of Candidate)

PARTICULARS OF CANDIDATE

1. Name in full (Surname first) : Ahirrao (Surname) Harshada (Name) chandrashekhar (Father's/Husband's Name)
2. Address for correspondence : Tarhadi, tal -shirpur, dist- dhule
3. Email Id :
4. Ph.No./Mobile No. : 9325326005
5. Father's/Husband's name with address : chandrashekhar Bhatu Ahirrao Tarhadi, tal - shirpur, dist - dhule
6. Sex (Male/Female) : Female
7. Nationality : Indian
8. Date of birth (dd/mm/yyyy) : 08-04-2004
9. Put the tick (✓) mark(s) in the appropriate box(es) applicable in your case.

SC	ST	DT	NT-1	NT-2	NT-3	SBC	OBC	OPEN	P.H.	D.S.P
							✓			

P.H. : Physically handicapped ; D.S.P. : Ward of Defense Service Person

R. C. Patel Educational Trust's

R. C. Patel Arts, Commerce & Science College, Shirpur

(Affiliated to the K.B.C. North Maharashtra University, Jalgaon)

STATEMENT OF MARKS

Certificate course in Textile Chemistry

Examination Held in May -2023

Student Name: **Patil Devyani Dipak**

College Name: **R.C.Patel Arts Commerce and Science College, Shirpur**

Seat Number: **CTC 03**

Paper Code	Paper Name	AM	Credit (Max.)	Marks Obtained
CTC- 101	Applied chemistry for textile industries	TH	6	94
CTC -102	Applied chemistry of dyes and Auxiliaries	TH	6	87
CTC-103	Lab Course	PR	8	95

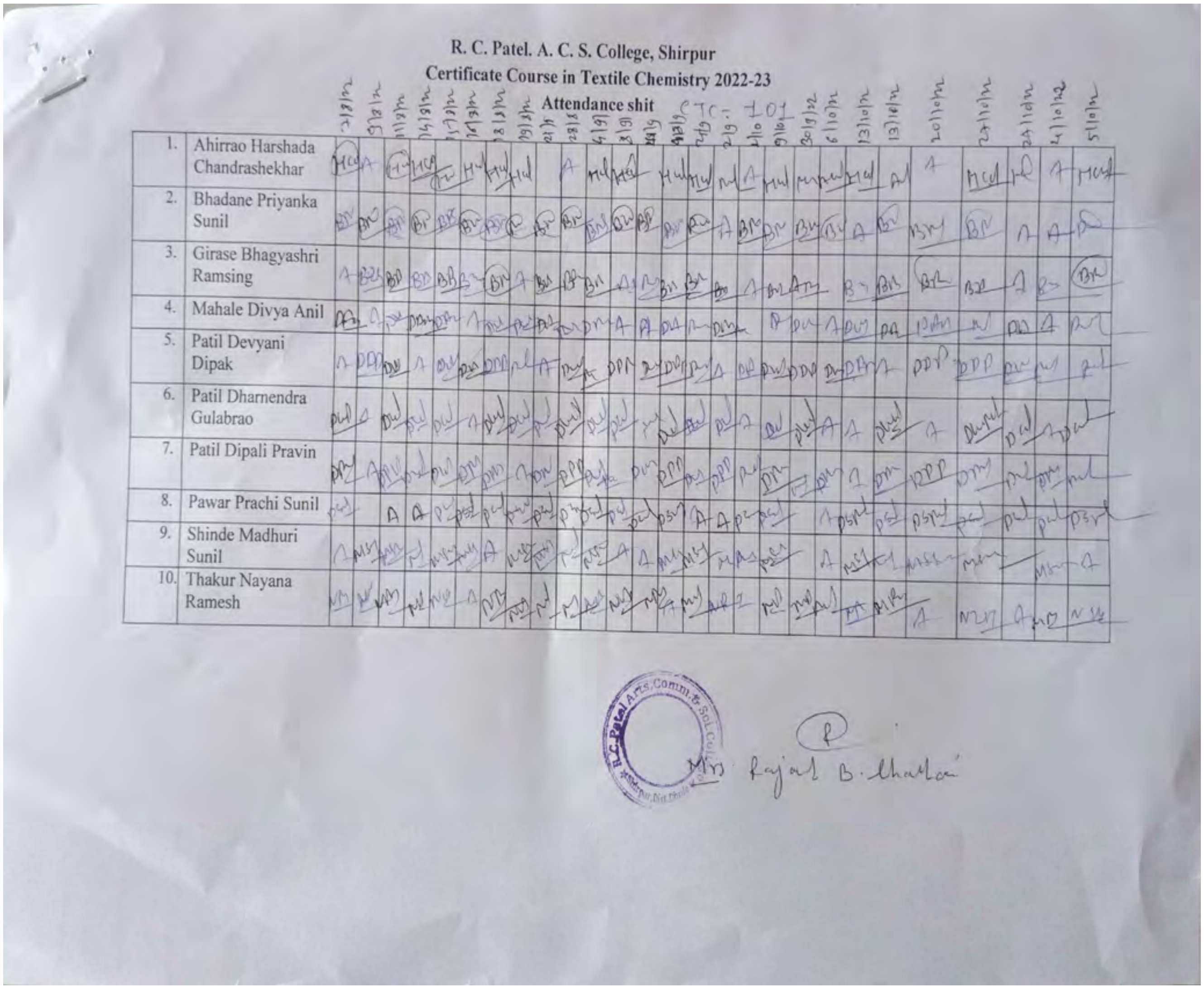
Result: **Pass** CGPA: **6.15** Grade: **O**

R.C.PATEL ARTS,COMM.AND SCI.COLLEGE SHIRPUR

Co-ordinator

Abbreviations:

AM: Assessment Methods, **P:** Pass, **F:** Fail, **AB:** Absent, **RR:** Result Reserved, **TH:** Theory, **PR:** Practical, **O:** Outstanding Grade



R. C. Patel. A. C. S. College, Shirpur

Certificate Course in Textile Chemistry 2022-23

Attendance shit

No.	Name
1.	Ahirrao Harshada Chandrashekhar
2.	Bhadane Priyanka Sunil
3.	Girase Bhagyashri Ramsing
4.	Mahale Divya Anil
5.	Patil Devyani Dipak
6.	Patil Dharnendra Gulabrao
7.	Patil Dipali Pravin
8.	Pawar Prachi Sunil
9.	Shinde Madhuri Sunil
10.	Thakur Nayana Ramesh

Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

'A' Grade
NAAC Re-Accredited
(4th Cycle)

Jalgaon (M.S.), INDIA

We, the Board of Deans, Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

&

The Principal

R. C. Patel Arts, Commerce & Science College, Shirpur, Dist-Dhule

do, hereby, certify that,

Mr./Ms. Bhadane Priyanka Sunil

has pursued a course of study approved by the Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon and has passed the requisite examination held in June 2023 *with* 'A' *grade and found duly qualified for the award of*

Certificate in

Textile chemistry

Which is conferred on him / her on October 1st, 2023

In testimony whereof is set the seal and signatures of authorities.

Principal

Dean

College Name : R.C.Patel Arts, Commerce & Science College, Shirpur

Title of the Course : Diploma Course in textile Chemistry

Aims/objectives of the Course : To aware the students about Textile chemistry, their applications & career in textile industries.

Duration of Course : 1 Year

Fees structure : 1000/

Course structure : Paper-I- Chemistry of Polymers in Textile Industries

Paper-II- Chemistry of Fibres in Textile Industries

Paper-III- Lab Course

Eligibility for admission : Certificate course in Textile chemistry

Skeleton of Course :

Sr. No.	Paper	Name of the subject	Theory/ Practical Course	Teaching Hrs	Max. Marks Allotted			Passing			Credit
					External	Internal	Total	External	Internal	Total	
1	Paper-I	Chemistry of Polymers in Textile Industries	Theory	90	60	40	100	24	16	40	6
2	Paper-II	Chemistry of Fibres in Textile Industries	Theory	90	60	40	100	24	16	40	6
3	Paper-III	Lab course	Practical	120	60	40	100	24	16	40	6

Minimum Staff : 03

Mode of examination : Internal & External (Theory & Practical)

Details of Syllabus : Enclose the syllabus copy

For office use only | Application for the course – DTC | Acad. Year: 2022-23

R. C. Patel Educational Trust's

R.C. Patel Arts, Commerce and Science College

Shirpur, Dist – Dhule, M.S. 425 405
(NAAC Accredited Institute)

To,
The Principal
R. C. Patel Arts, Commerce and Science College,
Shirpur

Sir,

I wish to get admitted to as a student for the Diploma Course in Textile Chemistry

Sanjana
(Name and Signature of Candidate)

PARTICULARS OF CANDIDATE

1. Name in full (Surname first) : Bhamre (Surname) Sanjana (Name) Jitendra (Father's/Husband's Name)
2. Address for correspondence : Varwade Shirpur.
3. Email Id : bhamresanjana4@gmail.com
4. Ph.No./Mobile No. :
5. Father's/Husband's name with address : Bhamre Jitendra Nanu.
6. Sex (Male/Female) : Female
7. Nationality : Indian
8. Date of birth (dd/mm/yyyy) : 05/08/2003
9. Put the tick (✓) mark(s) in the appropriate box(es) applicable in your case.

SC	ST	DT	NT-1	NT-2	NT-3	SBC	OBC	OPEN	P.H.	D.S.P
							✓			

P.H. : Physically handicapped ; D.S.P. : Ward of Defense Service Person

R. C. Patel. A. C. S. College, Shirpur

Diploma Course in Textile Chemistry 2022-23

Attendance shit

	NAME / DATE	10/09/22	14/09/22	18/09/22	25/09/22	25/09/22	25/09/22	2/10/22	3/10/22	3/10/22	16/10/22	16/10/22	16/10/22	23/10/22	15/11/22	13/11/22	20/11/22	27/11/22	4/12/22	11/12/22	8/12/22	25/12/22	1/1/23	8/1/23	15/1/23	22/1/23	29/01/23	3/01/23
1.	Bhamare Sanjana Jitendra	Bhamre	Bhamre	Bhamre	Bhamre	Bhamre	Bhamre	A	Bhamre	Bhamre	Bhamre	Bhamre	Bhamre	Bhamre	Bhamre	Bhamre	A	Bhamre	Bhamre	Bhamre	Bhamre	Bhamre	Bhamre	Bhamre	Bhamre	A	Bhamre	Bhamre
2.	Bhosale Pawan Bhika																			A								
3.	Dhangar Shubham Hilal				A									A														A
4.	Jadhav Nilesh Kaniram	A																										
5.	Mahajan Archana Mahendra												A							A								
6.	Mande Esha Ashok			A								A															A	
7.	Patil Mahesh Aanandarao													A						A								
8.	Suryaawanshi Pravin Kishor											A					A											A

Ms. N. A. Borgaonkar

R. C. Patel Educational Trust's

R. C. Patel Arts, Commerce & Science College, Shirpur

(Affiliated to the K.B.C. North Maharashtra University, Jalgaon)

STATEMENT OF MARKS

Diploma in Textile Chemistry

Examination Held in May -2023

Student Name: **Bhamare Sanjana Jitendra**

College Name: **R.C.Patel Arts Commerce and Science College, Shirpur**

Seat Number: **DTC- 01**

Paper Code	Paper Name	AM	Credit (Max.)	Marks Obtained
DTC-101	Chemistry of Polymer in Textile Industries	TH	6	92
DTC-102	Chemistry of Fibres in Textile Industries	TH	6	89
DTC-103	Lab Course	PT	8	95

Result: **Pass** CGPA: **6.15** Grade: **O**

R.C.PATEL ARTS,COMM.AND SCI.COLLEGE SHIRPUR

Co-ordinator

Abbreviations:

AM: Assessment Methods, **P:** Pass, **F:** Fail, **AB:** Absent, **RR:** Result Reserved, **TH:** Theory, **PR:** Practical, **O:** Outstanding Grade

॥ अंतरी पेटवू ज्ञानज्योत ॥

Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

1990
'A' Grade
NAAC Re-Accredited
(3rd Cycle)

Jalgaon (M.S.), INDIA

We, the Board of Deans, Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

&

The Principal

R.C.Patel Arts, Commerce & Science College, Shirpur, Dist-Dhule

do, hereby, certify that,

~~Mr./Ms.~~ Bhamare Sanjana Jitendra

has pursued a course of study approved by the Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon and has passed the requisite examination held in June 2023 *with* 'O' *grade and found duly qualified for the award of*

Diploma in

Textile Chemistry

Which is conferred on ~~him~~ / her on October 1st, 2023

In testimony whereof is set the seal and signatures of authorities.

Principal

R.C.PATEL ARTS, COMMERCE AND SCIENCE COLLEGE SHIRPUR

Dean

KBCNMU

B Nº 000413

R.C.Patel Art's, Commerce & science College, Shirpur

ADC- 101- Polymers in Textile Industries

Paper- I THEORY

Contact Hrs- 90

1. **Fiber:** (10Hrs)

Fiber forming polymers and their requirement, chemistry of natural & synthetic fibrous polymer classification, requirements for fiber forming polymers, essential & desirable properties of textile fibers, essential properties, classification of fibers .

2. **Measurement of physical characteristics of cotton :** (20 Hrs)

viz. length, fineness, maturity, bundle strength, colour and foreign matter including principle, construction, operation, and calibration of the equipment in common use.

3. **Mechanical properties of fibres** (20 Hrs)

relation between structure and mechanical properties of fibres, Measurement of physical properties of man-made fibres i.e. length, denier, strength, elongation, modulus, work of rupture, crimp, spin finish, fibre quality index etc.

4. **Non-fibrous Polymers:** (20 Hrs)

Introduction, chemistry of Gum, Starch, Proteins, enzymes.

5. **Green chemistry:** (10 Hrs)

Introduction, importance & need, environmentally benign approaches in chemistry.

6. Preparation of Textile Industrial visit report. (10 Hrs)

REFERENCE BOOKS:

1. Polymer science- V. R. Gowarikar
2. Physical chemistry by Atkins.
3. Technology & Dyeing by Shenai.
4. Textbook of Polymer Science, Bill Meyer F.W., John Wiley and Sons, New York, 3rd Edition, 1984.

R. C. Patel Art's, Commerce & science College, Shirpur

ADC- 102- Chemistry in Textile Industries

Paper- I I THEORY

Contact Hrs- 90

1. **Surface active agents-** (20 Hrs)

   Definition, surface activity, wetting, leveling & dispersing, types, characteristics & textile application, theory of degeneracy.

2. **Oils:** (20 Hrs)

   Classification, sulphation, Saponification reaction, mineral oils, waxes, furnace gaseous fuels from petroleum & coal, LPG & CNG.

3. **Chemistry of Dyes & Colour Chemistry**: (15 Hrs)

   Fractional distillation of coal tar and its products, and their use in textile industry (3), Isolation of Xylene, Benzene, Toluene, Naphthalene and Anthracene,

4. **Unit organic process/operation**: (20 Hrs)

   sulphonation, nitration, amination and hydroxy compound

5. **Preparation of Textile visit report:** (15 Hrs)

TEXT/REFERENCE BOOKS:

1. Textile Fibres, Shenai V.A., Vol-1, Sevak Publications, Bombay, 3rd edition, 1991.
2. Textbook of chemistry for PUC (Vol- I & II)
3. Dyeing & chemical technology of Textile fibres- E. R. Trotman
4. Physical chemistry by Atkins.
5. Analysis of Chemicals- N. F. Desai.

R.C.Patel Art's, Commerce & science College, Shirpur

ADC- 103- Practical Course

Paper- III **LAB COURSE**

1. Dyeing of cotton hand with hot brand reactive dye.
2. Dyeing of cotton hand with vinyl sulphone reactive dye.
3. Dyeing of cotton hand with vat colors.
4. Dyeing of cotton hand with sulphur black.
5. Dyeing of cotton hand with naphthol color.
6. Determination of strength of formaldehyde solution.
7. Binary organic mixture.
8. Binary organic mixture.
9. Binary organic mixture.
10. Working on Microsoft Word.
11. Working on Chemdraw .
12. Working on Structure Analysis.
13. Introduction of Internet
14. To determine % of Acetic acid.
15. To determine solid content of dye fixing agents.
16. To determine solid & active content of softeners.

For office use only Application for the course – ADE Acad. Year: 2022-23

R. C. Patel Educational Trust's

R.C. Patel Arts, Commerce and Science College

Shirpur, Dist – Dhule, M.S. 425 405
(NAAC Accredited Institute)

To,
The Principal
R. C. Patel Arts, Commerce and Science College,
Shirpur

Sir,

I wish to get admitted to as a student for the Advanced Diploma course in Textile chemistry.

Koli Devyani Raju
(Name and Signature of Candidate)

PARTICULARS OF CANDIDATE

1. Name in full (Surname first) : Koli (Surname) Devyani (Name) Raju (Father's/Husband's Name)
2. Address for correspondence : Warwade Shirpur.
3. Email Id : devyanikoli2212@gmail.com
4. Ph.No./Mobile No. : 9822291316
5. Father's/Husband's name with address : Koli Raju Vishwas.
6. Sex (Male/Female) : Female.
7. Nationality : Indian.
8. Date of birth (dd/mm/yyyy) : 03/11/1998
9. Put the tick (✓) mark(s) in the appropriate box(es) applicable in your case.

SC	ST	DT	NT-1	NT-2	NT-3	SBC	OBC	OPEN	P.H.	D.S.P
						✓				

P.H. : Physically handicapped ; D.S.P. : Ward of Defense Service Person

List of Admitted Students for **"Advanced Diploma Course in Textile Chemistry"**

For the Academic Year 2022-23

Name of College: R. C. P. A.C. S. College, Shirpur
Name of Career Oriented Course: Advanced Diploma Course in Textile Chemistry
Academic Year: 2022-23
Intake Capacity: 60

Sr. No.	Name of Student	Gender	Category	Education Qualification	Year of passing	Presently admitted	Remark (if any)
1.	Chaudhari Ronak Pravin	Male	OBC	DTC*	2022	T. Y. B. Sc.	
2.	Deore Harshadip Bhagwan	Mmale	OBC	DTC*	2022	T. Y. B. Sc.	
3.	Gujar Raj Sunil	Male	OBC	DTC*	2022	T. Y. B. Sc.	
4.	Koli Devyani Raju	Female	SBC	DTC*	2022	T. Y. B. Sc.	
5.	Patel Durgesh Lokesh	Male	OBC	DTC*	2022	T. Y. B. Sc.	
6.	Patil Mayur Amol	Male	OBC	DTC*	2022	T. Y. B. Sc.	

*DTC = Diploma Course in Textile Chemistry

Certificate

This is to certify that the document regarding educational qualifications of the above students have been verified and found correct. The students mentioned in the list are eligible for the admission to the above mentioned course as per University Ordinance-181.

Co-ordinator
Mr. Kantilal A. Pawara

Principal
Dr. D. R. Patil

R. C. Patel Educational Trust's

R. C. Patel Arts, Commerce & Science College, Shirpur

(Affiliated to the K.B.C. North Maharashtra University, Jalgaon)

STATEMENT OF MARKS

Advance Diploma in Textile Chemistry

Examination Held in May -2023

Student Name: **Deore Harshdip Bhagwan**

College Name: **R.C.Patel Arts Commerce and Science College, Shirpur**

Seat Number: **ADC- 02**

Paper Code	Paper Name	AM	Credit (Max.)	Marks Obtained
ADC-101	Polymers in Textile industries	TH	6	95
ADC-102	Chemistry in Textile industries	TH	6	97
ADC-103	Lab Course	PT	8	97

Result: **Pass**

CGPA: **6.25**

Grade: **O**

R.C.PATEL ARTS,COMM.AND SCI.COLLEGE SHIRPUR

Co-ordinator

Abbreviations:

AM: Assessment Methods, **P:** Pass, **F:** Fail, **AB:** Absent, **RR:** Result Reserved, **TH:** Theory, **PR:** Practical, **O:** Outstanding Grade

॥ अंतरी पेटवू ज्ञानज्योत ॥

Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

1990
'A' Grade
NAAC Re-Accredited
(3rd Cycle)

Jalgaon (M.S.), INDIA

We, the Board of Deans, Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

&

The Principal

R. C. Patel Arts, Commerce & Science College, Shirpur, Dist-Dhule

do, hereby, certify that,

Mr./~~Ms.~~ Patel Durgesh Lokesh

has pursued a course of study approved by the Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon and has passed the requisite examination held in June 2023 *with* 'A' *grade and found duly qualified for the award of*

Advanced Diploma in

Textile Chemistry

Which is conferred on him /~~her~~ on October 1st, 2023

In testimony whereof is set the seal and signatures of authorities.

Principal

R.C.PATEL ARTS, COMMERCE & SCIENCE COLLEGE * SHIRPUR *

Dean

C No. 000180

R. C. Patel. A. C. S. College, Shirpur

Advanced Diploma Course in Textile Chemistry 2022-2023

ADC-101 Sem-II

Attendance shit

Sr.No.	Name of Students	3-08-22	4-08-22	5-08-22	6-08-22	10-08-22	11-08-22	12-08-22	13-08-22	17-08-22	18-08-22	19-08-22	20-08-22	23-08-22	24-08-22	26-08-22
1.	Chaudhari Ronak Pravin	CPP	CPP	CPP	CPP	CPP	CPP	CPP	CPP	CPP	CPP	CPP	CPP	CPP	CPP	CPP
2.	Deore Harshadip Bhagwan	DHB	DHB	DHB	DHB	DHB	DHB	DHB	DHB	DHB	DHB	DHB	DHB	DHB	DHB	
3.	Gujar Raj Sunil	GRS	GRS	GRS	GRS	GRS	GRS	GRS	GRS	GRS	GRS	GRS	GRS			GRS
4.	Koli Devyani Raju	KDR	KDR	KDR	KDR	KDR		KDR		KDR		KDR	KDR	KDR	KDR	
5.	Patel Durgesh Lokesh	DLP	DLP	DLP	DLP	DLP	DLP	DLP	DLP	DLP	DLP	DLP	DLP	DLP	DLP	DLP
6.	Patil Mayur Amol	MRP	MRP	MRP	MRP	MRP	MRP	MRP	MRP	MRP	MRP	MRP	MRP	MRP	MRP	MRP

Sr.No.	Name of Students	27-08-22	1-09-22	2-09-22	3-09-22	4-09-22	05-09-22	09-09-22	10-09-22	14-09-22	15-09-22	16-09-22	17-09-22	21-09-22	22-09-22	23-09-22
1.	Chaudhari Ronak Pravin	CPP	CPP	CPP	CPP	AB	AB	CPP	CPP	CPP	CPP	AB	CPP	AB	CPP	CPP
2.	Deore Harshadip Bhagwan	DHB	DHB	DHB	DHB	DHB	DHB	AB	DHB	DHB	DHB	DHB	AB	DHB	DHB	AB
3.	Gujar Raj Sunil	GRS	GRS	GRS	AB	AB	GRS	GRS	GRS	GRS			GRS	GRS	GRS	GRS
4.	Koli Devyani Raju	KDR	KDR	KDR	KDR	KDR	KDR	KDR	KDR	KDR	KDR	KDR	KDR	AB	KDR	KDR
5.	Patel Durgesh Lokesh	DLP	DLP	DLP	DLP	DLP	DLP	DLP	AB	DLP	DLP	AB	DLP	DLP	DLP	DLP
6.	Patil Mayur Amol		MRP	MRP	MRP	MRP	MRP	AB	MRP	AB	MRP	MRP	MRP	MRP	MRP	MRP

14.10.22

K.B.C. North Maharashtra University, Jalgaon

Ordinance 181

College

R. C. Patel Arts, Commerce and Science College, Shirpur

Certificate course in

Commerce for Textile Industry

Faculty

SCIENCE

Academic year

(2022-23)

Syllabus

Level of diploma	Graduate diploma
Eligibility	As per ordinance 181
Duration	1 Year
Total Credits	20 Credits

Course Structure

Paper No.	Old Subject Name	New Subject Name	Credits
CT 101	**Fundamental of Computer**	**Basics of Computer**	6 Credits
CT 102	**Communicative English**	**Business Communication**	6 Credits
CT 103	**Industrial visit Project viva**	**Project**	8 Credits

CT101 – Basic Computing

Topics	Lectures Allotted (in hrs.)
1.Introduction to computer system Definition of computer, History of computers Block Diagram of Computer, Types of computer, Neumann machine Input Devices: Keyboard, Mouse, Scanner 1.4 Output Devices: Monitor, Printer, Plotter Memory: Primary Memory, RAM, ROM, EPROM, PROM, Secondary Memory, Hard Disk, Pen Drive Definition: Data, Information, Algorithm, Flowchart, Program, Hardware, And Software: System Software, Application, Software, Firmware, Interpreter, compiler Programming Languages: High level, Middle Level, Low Level	**22**
2.Introduction CPU parts Motherboard, SMPS,USB device	**10**
3.Operating system WINDOWS 7, Ubuntu, Linux	**8**
4.Internet and networking LAN, WAN, MAN, WWW and MODEM	**10**
5.Applications Word Processor, spreadsheets, database management software, Multimedia development software (Internet)	**10**
6.Introduction to flow chart, Define symbols of flowchart, Examples	**10**
7. Computer Virus Computer Virus: Indication of virus infection Types of Viruses: Boot Sector Virus, Programs Virus, Macro Virus, Multipartite Virus, Polymorphic Virus, Worms, Malware: Spyware, Adware, Anti-Virus Computer Ethics: Hacking, Software Piracy, Spamming, Phishing	**10**
8.Windows Operating Environment Features of MS – Windows, Control Panel, Taskbar, Desktop, Windows Application, Icons, Windows Accessories, Notepad, Paintbrush.	**10**
Total	**90**

CT 103: Project

(Total lecture allotted 120)

Visit and Study any corporate office/department (textile industry) and Preparestudy report on it. Group size is maximum 2 students

Note-The student has to write a report based on the actual work undertaken during the industrial visit at the specific selected enterprise/ organization or sub system and get it certified by the concerned teacher that the Project report has been satisfactorily completed and submit TWO typed copies of the same to the co-coordinator of the certificate course.

Suggested Reading

1. Fundamentals of computers :V. Raja Raman
2. Computer Fundaments: P.K. Sinha
3. Computer Fundamentals (Architecture and Organization) -B. Ram
4. Microsoft Office 2000 – Vipra Computers
5. Digital Fundamentals - Floyd
6. Digital Principles and Applications - A. P. Malvina & D.P.Leach (TMH)
7. Communication skills : C. B. Gupta
8. Business English :Department of English University of Delhi

R. C. Patel. A. C. S. College, Shirpur

Certificate Course in Commerce for Textile Industry 2022-2023

Attendance sheet

Sr. No.	Name of Students
1.	Patil Krunal Santosh
2.	Patil Vishal Gulabrao
3.	Girase Divyesh Harpalsing
4.	Krunal Santosh Patil
5.	Patil Manish Mahendra
6.	Jadhav Swapnil lakheesing
7.	Khairnar Ritesh Shivaji
8.	Girase Pushpraj Sanjivsing
9.	Gavali Rupali Laxman
10.	Patil Gayatri Chandrakant
11.	Javheri Bhumika Santosh
12.	Magar Yashodip Vijay

R. C. Patel Educational Trust's

R. C. Patel Arts, Commerce & Science College, Shirpur

(Affiliated to the K.B.C. North Maharashtra University, Jalgaon)

STATEMENT OF MARKS

Certificate in Commerce for Textile Industry (CGPA Pattern)

Examination held in May 2023

Student Name : Patil Krunal Santosh

College Name : R. C. Patel Arts Commerce and Science College, Shirpur

Seat Number : 903333

Exam Centre : Shirpur (240051)

Paper Code	Paper Name	AM	Credits (Max.)	Marks Obtained
CCCTI 101	Basics of Computer	TH	6.0	85
CCCTI102	Communication English	TH	6.0	86
CCCTI 103	Lab Course	PR	8.0	85

Result: **Pass**

CGPA: **5.60**

Grade: **A**

R.C.PATEL ARTS,COMM.AND SCI.COLLEGE

Co-ordinator

Abbreviations:

AM: Assessment Methods, **P:** Pass, **F:** Fail, **AB:** Absent, **RR:** Result Reserved, **TH:** Theory, **PR:** Practical, **O:** Outstanding Grade

R.C.Patel Arts, Commerce & Science College, Shirpur

Department of History

Certificate Course on Cultural Heritage of India

2022-2023

Aim

- ✓ Cultural Heritage is a concept which offers a bridge between the past and the future with the application of particular approaches in the present. Due to its attached values for these groups or societies, cultural heritage is maintained in the present and bestowed for the benefit of future generations.

Course Objective

- ✓ To introduce the Cultural heritage of India
- ✓ Aware the importance and legacy of caves, forts, Fairs and festivals.
- ✓ To develop the interest and skill of tourism among the Student.

Course Outcomes

- ✓ Understand the Concept of Cultural Heritage of India.
- ✓ Study the various Cultural factors which influence the rich flow of Indian Culture.
- ✓ Appreciate & Adequate the rich Cultural heritage of India.

Duration of the course

- ✓ One week

Timing of the course

- ✓ Two Houses a day.

Eligibility Criteria

- ✓ For BA/B.Sc./B.Com Student.

Criteria for completion

- ✓ The student must have attended at least 80% of the lectures and completed all assignment

Syllabus

Cultural Heritage of India

Total period:- 15 **Credits:-02**

---

1 Culture Heritage: An Introduction

a Definition and meaning of culture and heritage

b Geographical features of India

c Social Consequences of Saint of India

d Characteristics of Indian Culture -

Continuity and Change, Variety and Unity, Secular Outlook. Universalism, Materialistic and Spiritualistic

2 Cultural Heritage of India

a Caves and forts in India –

Karle Caves, Bhaje Caves, Pandava Caves, Pitalkhore Caves, Kanheri Caves

Raigad, Pratapgad, Sinhagad, Shivneri, Daulatabad, Janjira

b India – Festivals and Pilgrimages

Gudi Padwa, Pola, Dussehra, Diwali, Holi, Rath Festival, Navratri Festival, Bhaldev, Gulabai Festival, Kanbai Festival, Shiv Jayanti Festival, Ganesh Festival, Jyotirlinga, Ashtavinayak, Shaktipeetha, Pandharpur

c World Heritage Sites in India

Ellora Caves, Elephanta Caves, Ajanta Caves, Victorian and Art Deco Ensemble of Mumbai, Chhatrapati Shivaji Maharaj Terminus

d Tour Report

Reference Book

- Pathak, A.S. (Edi 2009) Maharashtra: Land and its People, Gazetteers Department, Government of Maharashtra, Mumbai
- Karve Iravati (1951) Marathi Lokanchi Sanskruti, Deshmukh & Company, Pune
- The Cultural Heritage of India, Ramkrishana Mission Institute of Culture (9 Vol)

Admission Form

R.C.Patel Educational Trust's

R.C.Patel Arts Commerce and Science College Shirpur, Dist-Dhule,M.S. 425405

To,
The Principal
R.C.Patel Arts, Commerce and Science College, Shirpur

Sir,

I wish to get admitted to as Students for the -

Certificate Course on Cultural Heritage of India

PERTICULAR OF CANDIDATE

1	Name in Full (Surname First)	:	Koli Amruta Subhash
2	Father/Husband Name	:	Koli Subhash Shankar
3	Mother Name	:	Koli Namanta Subhash
4	Address for Correspondence	:	Shirpur
5	Mob. No.	:	8459406231
6	Email Id	:	askoli6231@gmail.com
7	Date of Birth	:	13/07/2001
8	Place of Birth	:	Shirpur
9	Category	:	SBC
10	Family Annual Income	:	60,000/-
11	Last qualified examination	:	SYBA
12	Marks obtained (out of total marks)	:	63%

I hereby declare that all statements made in this application to the best of my knowledge and beliefs are true, complete and correct. I understand that in the event of any information being found fouls of incorrect, my admission is able to be cancelled.

Date

Signature - KAS

Place Shirpur

Name of Student - Koli Amruta Subhash

Year of Course 2022-2023

Course Name: - Certificate Course on Cultural Heritage of India

Student Attendance with Signature

Sr. No	Student Name	Signature of Beneficial Student						
		16/1/2023	17/1/2023	18/1/2023	19/1/2023	20/1/2023	21/1/2023	23/1/2023
1	Pawara Umesh Parasing							
2	Bhil Suresh Rajendra							
3	Bhil Ajay Dhanraj							
4	Bhil Raj Ravindra							
5	Karan sukdeo Sisodia	K.S.Sisodia	K.S.Sisodia	K.S.Sisodia	K.S.Sisodia	K.S.Sisodia	K.S.Sisodia	K.S.Sisodia
6	Bura chhotu shiva							
7	Pawar Bhatu bubhash	BSP	BSP	BSP	BSP	BSP	BSP	BSP
8	Khairnar Bhushan Fulchand	B.S.K	B.F.K	B.F.K	B.F.K	B.F.K	B.F.K	B.F.K
9	Jadhav Hemangi Udayji	Jadhav	Jadhav	Jadhav	Jadhav	Jadhav	Jadhav	Jadhav
10	Mahale Tejas mukesh							
11	Kali Amrata Subhash	KAS	KAS	KAS	KAS	KAS	KAS	KAS
12	Mali Divya Pandhari							
13	Bafse Ashvini Rajendra							
14	patil Rupesh Gopal							
15	Patil Sagar Pradip							
16	Thakare Krishnayki							
17	Patil Laxman Gunwant	L.Patil	L.Patil	L.Patil	L.Patil	L.Patil	L.Patil	L.Patil
18	mahajan Jayesh Laxman							
19	Patil Harshal Vinod							
20	Lohar Harshada Yogendra							
21	Patil Divya Pankaj							
22	Deshmukh Purva Kantilal							
23	Wani Urvashi Sanjay							
24	Bhil Bharti Bhimsing							
25	Sonar Rohini Bhagwan							

Dr. R.A.Chaudhari
(Co-ordinator)

SHIRPUR * ARTS, COMM. AND SCIENCE COLLEGE * REGD.

Dr. D.R.Patil
(Principal)

R.C.Patel Educational Trust's

R.C.Patel Arts Commerce and Science College Shirpur, Dist-Dhule,M.S. 425405

Cultural Heritage of India

Tour Report - Ajanta Cave

Visits are always beautiful and fill a person's mind with joy and enthusiasm. But if that visit is educational, learning based, that provides us invaluable knowledge as well. On 4 February 2023, The history department organized the educational trip. Ajantha is a historical place at a distance of 160 km from Shirpur city. Seeing the magnificent historical caves, monuments and architecture here, it felt like we were in the historical times. The Ajanta Caves are generally agreed to have been made in two distinct phases; first during the 2nd century BCE to 1st century CE, and second several centuries later.

The Ajanta Caves are 29 rock-cut Buddhist cave monuments dating from the second century BCE to about 480 CE in the Aurangabad district of Maharashtra state in India. Ajanta Caves are a UNESCO World Heritage Site. Universally regarded as masterpieces of Buddhist religious art, the caves include paintings and rock-cut sculptures described as among the finest surviving examples of ancient Indian art, particularly expressive paintings that present emotions through gesture, pose and form. The caves were built in two phases, the first starting around the second century BCE and the second occurring from 400 to 650 CE, according to older accounts, or in a brief period of 460–480 CE according to later scholarship. The Ajanta Caves constitute ancient monasteries (Viharas) and worship-halls (Chaityas) of different Buddhist traditions carved into a 75-metre (246 ft) wall of rock. The caves also present paintings depicting the past lives [and rebirths of the Buddha, pictorial tales from Aryasura's Jatakamala, and rock-cut sculptures of Buddhist deities. Textual records suggest that these caves served as a monsoon retreat for monks, as well as a resting site for merchants and pilgrims in ancient India.[8] While vivid colours and mural wall paintings were abundant in Indian history as evidenced by historical records, Caves 1, 2, 16 and 17 of Ajanta form the largest corpus of surviving ancient Indian wall-paintings.

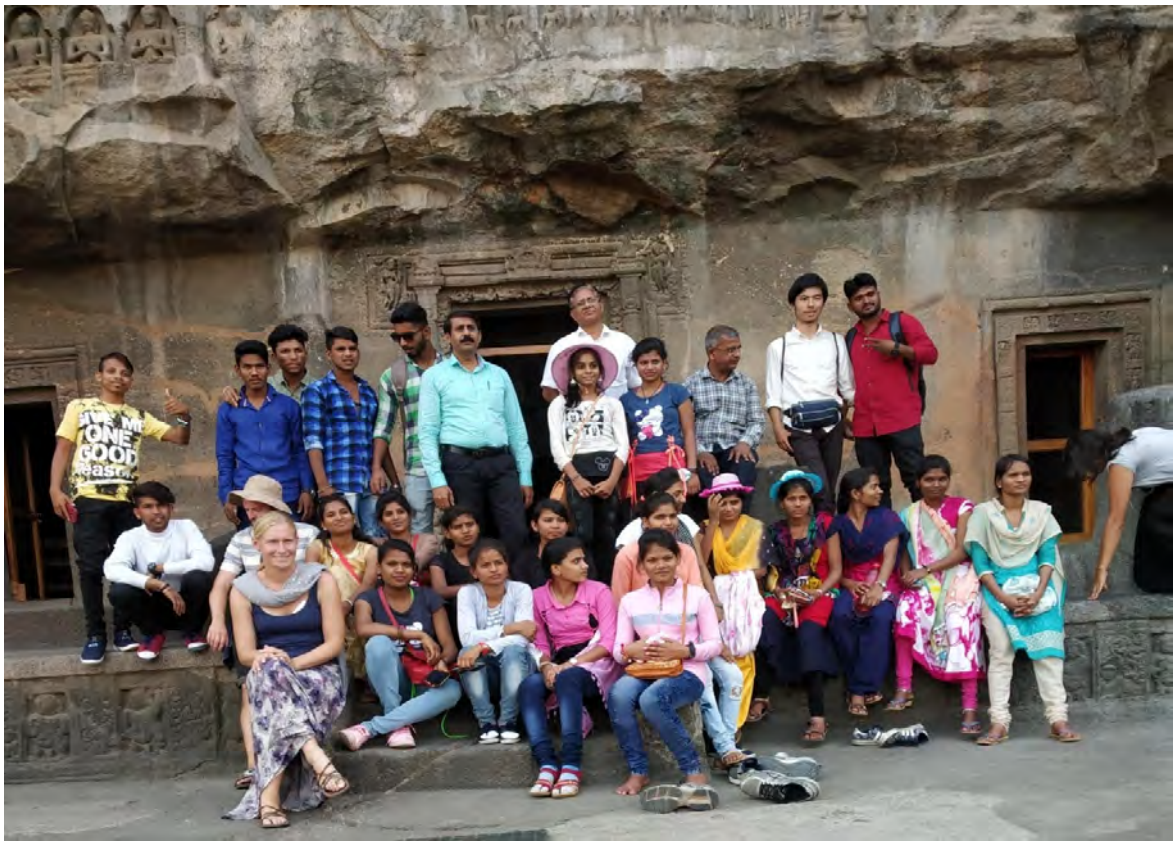
The Ajanta Caves are mentioned in the memoirs of several medieval-era Chinese Buddhist travellers. They were covered by jungle until accidentally "discovered" and brought to Western attention in 1819 by a colonial British officer Captain John Smith on a tiger-hunting party. The caves are in the rocky northern wall of the U-shaped gorge of the river Waghur, in the Deccan plateau. Within the gorge are a number of waterfalls, audible from outside the caves when the river is high.

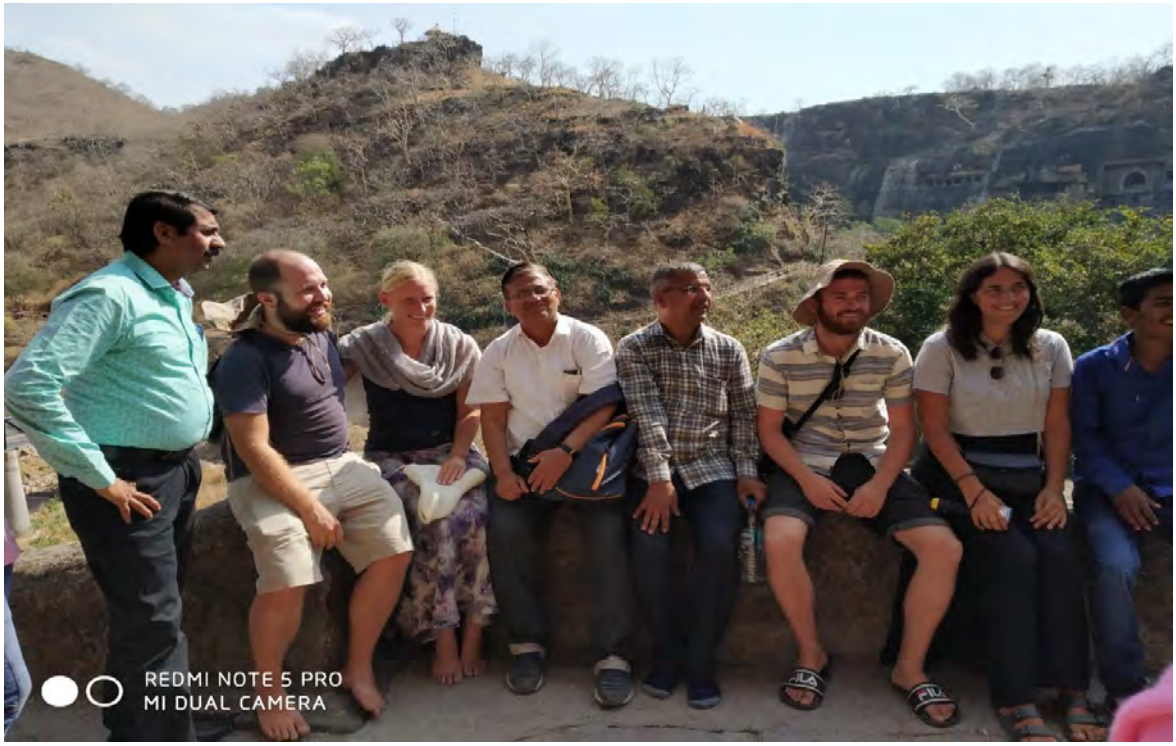
Throughout the day, various historical structures and monuments of Mandavgada were visited and photos were also taken. This historic visit gave us the knowledge of the history and culture of Mandavgada.

Signature - KAS

Name of Student - Koli Amruta Subhash

Ajanta Cave

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सा विद्या या विमुक्तये

R. C. Patel Arts, Commerce and Science College

Shirpur, 425405

Affiliated to KBC North Maharashtra University, Jalgaon (M.S.), India

R.C. PATEL EDUCATIONAL TRUST

CERTIFICATE

The Principal of R. C. Patel Arts, Commerce and Science College, Shirpur (M.S.) do hereby certify that, Mr. /Ms. Koli Amruta Subhash has pursued a Certificate course and passed the requisite examination held in May-2023 with O grade and found duly qualified. This certificate is awarded for successful completion of

Certificate Course

Cultural Heritage In India

Seal

Course Co-ordinator | Co-ordinator | Principal

Certificate No.: CC-01/20221I/2023/A

Kaviyatri Bahinabai Chaudhary North MaharashtraUniversity, Jalgoan

Ordinance 181

Name of College

R. C. Patel Arts, Commerce and Science College, Shirpur

Name of career-oriented course

Certificate Course in Latex for Everyone

Faculty

SCIENCE

Academic year

(2021-2022)

Kaviyatri Bahinabai Chaudhary North Maharashtra University, Jalgoan

Ordinance 181

College name	:	**R. C. Patel Arts, Science and Commerce College, Shirpur**
Title of the course	:	**Certificate Course in LaTeX for Everyone**
Aims/Objective of the course	:	**The aim of LaTeX for Everyone is to explore a document preparation system for high-quality typesetting, which is preferably used for technical/scientific papers writing for journals by researchers, engineers, and mathematicians at large.**
Duration of the course	:	**1 Year**
Fee's structure	:	**1000/-**
Course structure	:	**CCLTX 101: Getting Started** **CCLTX 102: Type Setting with LaTeX** **CCLTX 103: Lab course**
Eligibility for admission	:	**XII th Science**

Skeleton of course:

Sr No	Paper	Name of subject	Theory / Practical	Teaching hours	Maximum marks allotted			Passing			Credit
					External	Internal	Total	External	Internal	Total	
1.	CCLTX 101	Getting Started	Theory	90	60	40	100	24	16	40	6
2.	CCLTX 102	Type Setting with LaTeX	Theory	90	60	40	100	24	16	40	6
3.	CCLTX 103	Lab course	Practical	120	60	40	100	24	16	40	8

1. Minimum staff : 03

2. Mode of examination : Internal and external (Theory and Practical)

3. Detail syllabus : Syllabus copy

Topics	**Lectures allotted (in hrs)**
1. Fundamentals in LaTeX 1.1 Overview 1.2 Installation (Windows) 1.3 Define document class 1.4 Document information	*15*
2. *Programming in LaTeX* 2.1 Define document class 2.2 Provide document information 2.3 Create your first LaTeX document. 2.4 Defining Sections	*20*
3. *Paper Size and Margin* 3.1 Use packages 3.2 Define different paper sizes 3.3 Set margins 3.4 Customize headers and footers 3.5 Change page numbering style 3.6 Reset page number	**25**
4. *More on Page Formatting* 4.1 Set orientation 4.2 Add page breaks 4.3 Set footnotes 4.4 Format your document into 2/multicolumn	*30*
Total	**90**

CCLTX 102 ─ Type Setting with LaTeX

Topics	**Lectures Allotted** *(in hrs)*
1. Introduction to Type setting	
1.1 Simple type setting, Fonts, type size 1.2 The documents, The document class 1.3 Page style, Page numbering, formatting lengths 1.4 Parts of a document, dividing the document 1.5 Table of contents 1.6 Index and glossary.	*15*
2. *The Table of Contents*	
2.1 Index, Glossary, displayed text, Borrowed words **2.2** Poetry in type setting 2.3 Making list, Rows and Columns, Keeping Tabs, Tables.	**15**
3. *Type setting Mathematics*	
3.1 The basics, Custom commands 3.2 More on mathematics, Mathematics miscellany 3.3 New operators, the many faces of mathematics, Symbols. 3.4 Typesetting Theorems	*15*
4. *Housekeeping Several Kinds of Boxes*	
4.1 LR boxes 4.2 Paragraph boxes, Paragraph boxes with specific height, Nested boxes, Rule boxes **4.3** Floats: The figure environment, The table environment 4.4 Pointing to a page - the package various references, Pointing outside, Footnotes, and Margin pars, and Endnotes: Footnotes, Marginal notes, Endnotes, Bibliography	**15**
Total	*90*

CCLTX 103: Lab course

Lab work	*Periods allotted* **(in hrs)**
1. *Introduction*	*12*
1.1 About LaTeX software. 1.2 Different types of Online Software: Overleaf, LaTeX Base, Papeeria, Authorea. 1.3 Different types of Offline Software: Miktex, Texstudio, TeXnicCenter, TeXmaker, TeXworks.	
2. *Working with LaTeX software*	*18*
2.1 This topic introduces the learner to LaTeX, its installation, and different IDEs. 2.2 The learner creates the first document using LaTeX 2.3 Organizes content into sections using article and book class of LaTeX.	
3. *Styling Pages*	*15*
3.1 Different paper sizes, examines packages 3.2 Formats the page by setting margins, customizing header and footer, changing the page orientation 3.3 Dividing the document into multiple columns, the topic ends with reading different types of error messages.	
4. Formatting Content	**15**
4.1 This topic concentrates on formatting text (styles, size, and alignment). 4.2 Adding colors to text and entire page. 4.3 Adding bullets and numbered items.	
5. *Tables*	*15*
5.1 The topic starts by creating basic tables. 5.2 Adding simple and dashed borders. 5.3 Merging rows and columns. 5.4 Handling situations where a table exceeds the size of a page.	
6. *Images*	*15*
6.1 The sessions include add an image. 6.2 Explore different properties like rotate, scale, etc..	
7. Referencing and Indexing	**15**
7.1 The learner learns to add cross-referencing (refer to sections, table, images) 7.2 Add bibliography (references) and create back index.	
Total	*120*

References:

1. E. Krishnan and G. S. Krishna, (2003), Latex Tutorials A Primer, Indian TEX UsersGroup Floor III, SJP Buildings, Cotton Hills Trivandrum 695014, India.
2. A Document Preparation System Users Guide and Reference Manual by LeslieLamport. (II nd Edition 2009)
3. A Short Introduction to LaTeX A Book for Beginners by Firuza Karmali
4. Practical Guide to Latex Technology by Rani Joseph (December 2012)

References links:

1. https://www.overleaf.com/
2. https://latexbase.com/
3. https://papeeria.com/
4. https://www.authorea.com/

Admission fee paid
27-09-22

For office use only Application for the course – CCLTX Acad. Year: 2022-23

R. C. Patel Educational Trust's

R.C. Patel Arts, Commerce and Science College

Shirpur, Dist – Dhule, M.S. 425 405
(NAAC Accredited Institute)

To,
The Principal
R. C. Patel Arts, Commerce and Science College,
Shirpur

Sir,

I wish to get admitted to as a student for the Certificate Course in LaTex

For everyone

Sonawane Chetana Nitin
(Name and Signature of Candidate)

PARTICULARS OF CANDIDATE

1. Name in full (Surname first) : Sonawane (Surname) Chetana (Name) Nitin (Father's/Husband's Name)
2. Address for correspondence : 11[B], Dattatray Nagar, Shirpur, Dist :- Dhule ,
3. Email Id : sonawanechetana1105@gmail.com
4. Ph.No./Mobile No. : 8830226502
5. Father's/Husband's name with address : Nitin Bhagwan Sonawane 11[B], Dattatray Nagar, Shirpur
6. Sex (Male/Female) : Female
7. Nationality : Indian
8. Date of birth (dd/mm/yyyy) : 06/05/2002
9. Put the tick (✓) mark(s) in the appropriate box(es) applicable in your case.

SC	ST	DT	NT-1	NT-2	NT-3	SBC	OBC	OPEN	P.H.	D.S.P
							✓			

P.H. : Physically handicapped ; D.S.P. : Ward of Defense Service Person

Nov-Dec 2022

R.C.Patel ACS College, Shirpur.

Certificate Course of LaTeX for Everyone

Attendace CCLTX-101 Getting Started

Sr. No.	Name of Student	14-11	15-11	21-11	22-11	27-11	28-11	29-11	30-11	5-12	6-12	7-12	12-12	13-12	14-12	17-12
1	Patil Shreya Vipin	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
2	Patil Shreya Vishnu	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
3	Saner Sayali Balasaheb	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P
4	Patil Bhoneshwari Vedu	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P
5	Sonawane Chetana Nitin	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
6	Patil Premraj Basant	P	P	A	A	P	P	P	P	P	P	P	P	P	P	P
7	Patil Ruchita Kirankumar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
8	Marathe Pooja Rajkapoor	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P
9	Javale Shivam Ramdas	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
10	Patil Shubham Ravindra	P	A	P	P	P	P	P	P	P	P	A	P	P	P	P
11	Shirsath Suvarna Nimba	P	P	P	P	P	P	P	P	P	P	P	A	A	P	P
12	Rokade Bhagyashri Bhalchandra	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
13	Patil Shradhda Kiran	P	P	P	A	P	A	P	A	P	A	P	P	P	P	P
14	Jadhav Snehal Navnathsing	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P
15	Mali Nikita Sanjay	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
16	Gujarathi Shruti Sanjay	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
17	Mali Roshani Ram	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
18	Rajput Rakhi Rajendra	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P
19	Tawade Aarti Sunil	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
20	Patil Jinal Sanjay	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P

JAN-2023

R.C.Patel ACS College, Shirpur.

Certificate Course of LaTeX for Everyone

Attendace CCLTX-101 Getting Started

Sr. No.	Name of Student	19-12	20-12	21-12	26-12	27-12	28-12	2-01	3-01	04-01	9-01	10-01	11-01	23-01	24-01	25-01
1	Patil Shreya Vipin	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P
2	Patil Shreya Vishnu	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P
3	Saner Sayali Balasaheb	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
4	Patil Bhoneshwari Vedu	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P
5	Sonawane Chetana Nitin	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P
6	Patil Premraj Basant	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P
7	Patil Ruchita Kirankumar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
8	Marathe Pooja Rajkapoor	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P
9	Javale Shivam Ramdas	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P
10	Patil Shubham Ravindra	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
11	Shirsath Suvarna Nimba	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P
12	Rokade Bhagyashri Bhalchandra	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P
13	Patil Shradhda Kiran	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
14	Jadhav Snehal Navnathsing	P	P	A	P	P	P	A	P	P	P	A	P	P	P	P
15	Mali Nikita Sanjay	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
16	Gujarathi Shruti Sanjay	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
17	Mali Roshani Ram	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P
18	Rajput Rakhi Rajendra	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
19	Tawade Aarti Sunil	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
20	Patil Jinal Sanjay	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P

Nov-Dec 2022

R.C.Patel ACS College, Shirpur.

Certificate Course of LaTeX for Everyone

Attendace CCLTX-102 Type Setting with LaTeX

Sr. No.	Name of Student	10-11	11-11	12-11	17-11	18-11	19-11	24-11	25-11	26-11	01-12	02-12	03-12	08-12	09-12	10-12
1	Patil Shreya Vipin	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P
2	Patil Shreya Vishnu	P	A	P	P	P	P	P	P	P	P	A	P	P	P	P
3	Saner Sayali Balasaheb	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P
4	Patil Bhoneshwari Vedu	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P
5	Sonawane Chetana Nitin	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P
6	Patil Premraj Basant	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P
7	Patil Ruchita Kirankumar	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P
8	Marathe Pooja Rajkapoor	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P
9	Javale Shivam Ramdas	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
10	Patil Shubham Ravindra	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
11	Shirsath Suvarna Nimba	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A
12	Rokade Bhagyashri Bhalchandra	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P
13	Patil Shradhda Kiran	P	P	P	P	P	P	P	P	A	P	P	P	P	P	P
14	Jadhav Snehal Navnathsing	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P
15	Mali Nikita Sanjay	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P
16	Gujarathi Shruti Sanjay	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P
17	Mali Roshani Ram	P	P	P	P	P	P	P	P	P	P	P	P	A	P	P
18	Rajput Rakhi Rajendra	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P
19	Tawade Aarti Sunil	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
20	Patil Jinal Sanjay	P	P	P	P	P	P	P	A	P	P	P	A	P	P	P

Jan-2023

R.C.Patel ACS College, Shirpur.

Certificate Course of LaTeX for Everyone

Attendace CCLTX-102 Type Setting with LaTeX

Sr. No.	Name of Student	15-12	16-12	17-12	22-12	23-12	24-12	29-12	30-12	31-12	5-01	06-01	7-01	12-01	13-01	16-01
1	Patil Shreya Vipin	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P
2	Patil Shreya Vishnu	A	P	P	P	A	P	P	A	A	P	P	P	P	P	P
3	Saner Sayali Balasaheb	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
4	Patil Bhoneshwari Vedu	A	A	P	P	A	A	A	P	P	P	P	P	P	P	P
5	Sonawane Chetana Nitin	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
6	Patil Premraj Basant	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
7	Patil Ruchita Kirankumar	P	P	P	P	P	P	P	A	P	P	P	P	P	P	P
8	Marathe Pooja Rajkapoor	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P
9	Javale Shivam Ramdas	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P
10	Patil Shubham Ravindra	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
11	Shirsath Suvarna Nimba	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P
12	Rokade Bhagyashri Bhalchandra	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
13	Patil Shradhda Kiran	P	P	P	P	A	P	P	P	P	P	P	P	A	A	P
14	Jadhav Snehal Navnathsing	A	P	P	P	P	P	P	A	P	P	P	P	P	P	P
15	Mali Nikita Sanjay	P	P	P	P	A	P	P	P	P	P	P	P	P	A	P
16	Gujarathi Shruti Sanjay	P	A	A	P	P	P	P	P	P	P	P	P	P	P	P
17	Mali Roshani Ram	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P
18	Rajput Rakhi Rajendra	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
19	Tawade Aarti Sunil	P	P	A	P	P	P	P	A	P	P	P	P	P	P	P
20	Patil Jinal Sanjay	A	P	P	P	P	P	P	P	P	P	A	P	P	P	P

Jan 2023

R.C.Patel ACS College, Shirpur.

Certificate Course of LaTeX for Everyone

Attendace CCLTX-102 Type Setting with LaTeX

Sr. No.	Name of Student	19-01	20-01	21-01	23-01	28-01	29-01	30-01	31-01	1-02	4-02	6-02	7-02	11-02	13-02	14-02	15-02
1	Patil Shreya Vipin	P	A	P	P	P	P	P	P	P	A	P	P	P	P	P	P
2	Patil Shreya Vishnu	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P
3	Saner Sayali Balasaheb	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P
4	Patil Bhoneshwari Vedu	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
5	Sonawane Chetana Nitin	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P
6	Patil Premraj Basant	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P
7	Patil Ruchita Kirankumar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
8	Marathe Pooja Rajkapoor	P	P	P	A	P	P	P	P	P	P	P	A	A	A	P	P
9	Javale Shivam Ramdas	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
10	Patil Shubham Ravindra	A	P	P	P	P	P	P	P	P	P	P	A	A	A	P	P
11	Shirsath Suvarna Nimba	P	P	P	P	P	P	A	P	P	P	P	A	A	P	P	P
12	Rokade Bhagyashri Bhalchandra	P	P	P	P	A	P	P	P	A	P	P	P	A	P	P	P
13	Patil Shradhda Kiran	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A
14	Jadhav Snehal Navnathsing	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
15	Mali Nikita Sanjay	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
16	Gujarathi Shruti Sanjay	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P	P
17	Mali Roshani Ram	P	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P
18	Rajput Rakhi Rajendra	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
19	Tawade Aarti Sunil	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
20	Patil Jinal Sanjay	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P

Feb-March -2023

R.C.Patel ACS College, Shirpur.

Certificate Course of LaTeX for Everyone

Attendace CCLTX-101 Getting Started

Sr. No.	Name of Student	27-01	28-01	3-02	4-02	10-02	11-2	17-02	24-02	25-02	27-02	01-03	02-03	03-03	04-03	06-03
1	Patil Shreya Vipin	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A
2	Patil Shreya Vishnu	P	P	P	P	P	P	P	P	P	P	P	P	P	P	A
3	Saner Sayali Balasaheb	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
4	Patil Bhoneshwari Vedu	P	P	P	P	P	P	P	P	P	A	P	P	P	P	P
5	Sonawane Chetana Nitin	P	P	P	P	P	A	P	P	P	P	P	P	P	P	P
6	Patil Premraj Basant	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
7	Patil Ruchita Kirankumar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
8	Marathe Pooja Rajkapoor	P	P	P	P	P	P	A	P	P	P	P	P	P	P	P
9	Javale Shivam Ramdas	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P
10	Patil Shubham Ravindra	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
11	Shirsath Suvarna Nimba	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
12	Rokade Bhagyashri Bhalchandra	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P
13	Patil Shradhda Kiran	P	P	P	P	A	P	P	P	P	P	P	P	P	P	P
14	Jadhav Snehal Navnathsing	P	A	P	P	P	P	A	P	P	P	A	P	P	P	P
15	Mali Nikita Sanjay	P	P	P	P	P	P	P	P	P	P	P	A	P	P	P
16	Gujarathi Shruti Sanjay	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
17	Mali Roshani Ram	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
18	Rajput Rakhi Rajendra	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
19	Tawade Aarti Sunil	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
20	Patil Jinal Sanjay	P	P	P	P	P	A	P	P	A	P	P	P	P	P	P

March – 2023

R.C.Patel ACS College, Shirpur.

Certificate Course of LaTeX for Everyone

Attendace CCLTX-102 Type Setting with LaTeX

Sr. No.	Name of Student	06-03	09-03	10-03	13-03	14-03	15-03	20-03	21-03	27-03	28-03	29-03	10-03	11-03	17-03	18-03
1	Patil Shreya Vipin	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
2	Patil Shreya Vishnu	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
3	Saner Sayali Balasaheb	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
4	Patil Bhoneshwari Vedu	A	P	P	P	A	P	P	P	P	P	P	A	A	P	P
5	Sonawane Chetana Nitin	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
6	Patil Premraj Basant	A	P	P	P	P	P	P	P	P	P	P	P	P	P	P
7	Patil Ruchita Kirankumar	A	P	P	P	P	P	A	A	P	P	P	A	P	P	P
8	Marathe Pooja Rajkapoor	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P
9	Javale Shivam Ramdas	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P
10	Patil Shubham Ravindra	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P
11	Shirsath Suvarna Nimba	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
12	Rokade Bhagyashri Bhalchandra	P	P	P	P	P	P	A	P	P	P	A	P	P	P	P
13	Patil Shradhda Kiran	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
14	Jadhav Snehal Navnathsing	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
15	Mali Nikita Sanjay	P	P	A	P	P	P	P	P	P	P	P	P	P	P	P
16	Gujarathi Shruti Sanjay	P	A	A	P	P	P	A	P	P	P	P	P	P	P	P
17	Mali Roshani Ram	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
18	Rajput Rakhi Rajendra	A	A	P	P	P	P	P	A	A	P	P	A	P	P	P
19	Tawade Aarti Sunil	P	P	P	P	P	P	P	P	P	P	A	P	P	P	P
20	Patil Jinal Sanjay	P	P	P	P	P	P	P	A	A	P	P	P	P	P	P

March – April – 2023

R.C.Patel ACS College, Shirpur.

Certificate Course of LaTeX for Everyone

Attendace CCLTX-101 Getting Started

Sr. No.	Name of Student	10-03	11-03	17-03	18-03	24-03	25-03	31-01	08-04	15-04	21-04	28-04	29-04			
1	Patil Shreya Vipin	P	P	P	P	P	P	A	P	P	P	P	P			
2	Patil Shreya Vishnu	P	P	P	P	P	P	P	P	P	P	P	P			
3	Saner Sayali Balasaheb	P	P	P	P	P	P	P	P	P	P	A	P			
4	Patil Bhoneshwari Vedu	P	P	P	P	P	P	P	P	P	P	P	P			
5	Sonawane Chetana Nitin	P	P	P	P	P	P	P	P	P	P	P	P			
6	Patil Premraj Basant	P	P	P	P	P	P	P	P	P	P	P	P			
7	Patil Ruchita Kirankumar	P	P	P	P	P	P	P	P	P	P	P	P			
8	Marathe Pooja Rajkapoor	P	P	P	P	P	P	P	P	P	P	P	P			
9	Javale Shivam Ramdas	P	P	P	P	P	P	P	P	P	P	P	P			
10	Patil Shubham Ravindra	P	P	P	P	P	P	P	P	P	P	P	P			
11	Shirsath Suvarna Nimba	P	P	P	P	P	P	P	P	P	P	P	P			
12	Rokade Bhagyashri Bhalchandra	P	P	P	P	P	P	P	P	P	P	P	P			
13	Patil Shradhda Kiran	P	P	P	P	P	P	P	P	P	P	P	P			
14	Jadhav Snehal Navnathsing	P	P	P	P	P	A	P	P	A	P	P	P			
15	Mali Nikita Sanjay	P	P	P	P	P	P	P	P	P	A	P	P			
16	Gujarathi Shruti Sanjay	P	P	P	P	P	P	P	P	P	P	A	P			
17	Mali Roshani Ram	P	P	P	P	A	P	P	P	P	P	P	P			
18	Rajput Rakhi Rajendra	P	P	P	P	P	P	P	P	P	P	P	P			
19	Tawade Aarti Sunil	P	P	P	P	P	P	P	P	P	P	P	P			
20	Patil Jinal Sanjay	P	P	P	A	P	P	P	P	P	A	P	P	P		

॥ अंतरी पेटवू ज्ञानज्योत ॥

Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

1990
'A' Grade
NAAC Re-Accredited
(4th Cycle)

Jalgaon (M.S.), INDIA

We, the Board of Deans, Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

&

The Principal

R.L. Patel Arts Commerce and Science College, Shirpur.

do, hereby, certify that,

Mr./Ms. Sonawane Chetana Nitin

has pursued a course of study approved by the Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon and has passed the requisite examination held in May 2023 *with* O *grade and found duly qualified for the award of*

Certificate in

LaTeX for Everyone

Which is conferred on him / her on October 1st, 2023

In testimony whereof is set the seal and signatures of authorities.

Principal

SHIRPUR * R.C.PATEL ARTS,COMM.AND SCI.COLLEGE *

Dean

KBCNMU

A - 14390

R. C. Patel Educational Trust's

R. C. Patel Arts, Commerce & Science College, Shirpur

(Affiliated to the K.B.C. North Maharashtra University, Jalgaon)

STATEMENT OF MARKS

Certificate Course in- LaTeX For Everyone

Examination Held in- May-2023

Student Name: Sonawane Chetana Nitin

College Name: R.C.Patel Arts Commerce and Science College, Shirpur

Seat Number: KVI-05

Paper Code	Paper Name	AM	Credit (Max.)	Marks Obtained
KVI-173	CCLTX-101 Getting Started	TH	6.0	90
KVI-173	CCLTX-102 Getting Started	TH	6.0	90
KVI-173	CCLTX-103 Lab Course	PR	8.0	88

Result: Pass **CGPA: 6.3** **Grade: O**

R.C.PATEL ARTS,COMM.AND SCI.COLLEGE SHIRPUR

Co-ordinator

Abbreviations:

AM: Assessment Methods, **P:** Pass, **F:** Fail, **AB:** Absent, **RR:** Result Reserved, **TH:** Theory, **PR:** Practical, **O:** Outstanding Grade

Kaviyatri Bahinabai Chaudhari North Maharashtra University, Jalgaon

Ordinance 181

College

R. C. Patel Arts, Commerce and Science College, Shirpur

Name of career oriented course

Certificate Course in Women Studies

Faculty

Arts, Commerce and Science

Academic year

(2022-23)

\

North Maharashtra University, Jalgaon
Ordinance 181

College name	**:**	**R. C. Patel Arts, Science and Commerce College, Shirpur**
Title of the course	**:**	**Certificate Course in Women Studies**
Aims/Objective of the course	**:**	**To empower women in field of education, health, women laws, gender sensitization**
Duration of the course	**:**	**1 Year**
Fees structure	**:**	**Rs. 500/-**
Course structure	**:**	**Paper I: Gender and Education** **Paper II: Women Work and Employment** **Paper III: Field Work**
Eligibility for admission	**:**	**XIIth**

Skeleton of course:

Sr No	Paper	Name of subject	Theory / Practical	Teaching hours	Maximum marks allotted			Passing			Credit
					External	Internal	Total	External	Internal	Total	
1.	Paper I	Gender and Education	Theory	90	60	40	100	24	16	40	6
2.	Paper II	Women Work and Employment	Theory	90	60	40	100	24	16	40	6
3.	Paper III	Field Work	Practical	120	60	40	100	24	16	40	8

CCWS 101: Gender and Education

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Topics	Lectures allotted (in hrs)
Unit – I Introduction to Gender Sensitization • Key concepts in Gender studies. • Need, Scope and challenges of Women's Studies – Women's Studies as an academic discipline. Women's Studies to Gender Studies, Need for Gender Sensitization. • National Committees and Commissions for Women.	22
Unit – II Gender and Education • Women's Education – Gender diversities and disparities in enrolment, Curriculum content, Dropouts, profession and Gender. • Gendered Education- Family, Culture, Gender roles, Gender Identities. • Education for the Marginalized Women. • Recent Trends in Women's Education – Committees and Commissions on Education. • Vocational education and skill Development for women.	22
Unit – III Gender and Media • Discourse on Women and Media Studies- Mainstream Media, Feminist Media. • Coverage of Women's issues and issues of women in Mass Media and Media Organizations (Audio-Visual and Print media). • Digital Media and legal protection. • Alternative Media – Folk Art, Street Play and Theatre. • Indecent Representation of Women (Prohibition) Act, 1986, Impact of media on women.	24
Unit – IV Gender and Entrepreneurship • Concept and meaning, Importance of Entrepreneurship, Entrepreneurial traits, Factors contributing to Entrepreneurship, enabling environment, small Enterprises, women in agri-business. • Gender and emerging Technology – Impact. • Self-help Groups and Micro Credit. • Gender mainstreaming, Gender budgeting, planning and Analysis.	22
Total	**90**

CCWS 102: Women Work and Employment

Topics	Lectures allotted (in hrs)
Unit – I Introduction to Women's Education • Women's Education – Gender bias in enrolment – Curriculum content – Dropouts. • Negative capability in Education – Values in Education – Vocational Education. • Recent Trends in Women's Education – Committees and Commissions on Education. • Adult Literacy and Non – formal education for women's development.	20
Unit – II Concept of Work • Concept of Work – Productive and non – productive work – Use • value and market value. • Gender Division of Labor – Mode of Production – Women in organized and unorganized sector. • Training, skills and income generation. • New Economic Policy and its impact on Women's Employment – Globalization – Structural Adjustment Programs	22
Unit – III Women and Health • Gender in Health – Health status of women in India – Mortality and Morbidity factors influencing health – Nutrition and health – HIV and AIDS control programme. • National Health and Population Policies and Programmes – Maternal and Child Health (MCH) to Reproductive and Child health approaches, Issues of old age. • Women and Environment – Nature as feminine principle – Basic needs in Rural and Urban Environments – Care and management of natural resources – Depletion of natural resources – Sustainable environment and impact on women.	24
Unit – IV Women and Media • Role of women in media – Development of Communication Skills – Alternative Media – Folk Art, Street Play and Theatre – Women as change agents. • Indecent Representation of Women (Prohibition) act, 1986 – Impact of media on women.	24

• Indian Constitution and provisions relating to women. • Personal laws – Labour Laws – Violence against, women – Legal protection – Family Courts – Enforcement machinery – Police and Judiciary. • Human Rights as Women's Rights	
Total	**90**

CCWS 103: Field Work

➢ Field work specially related to women's problem, report submission and oral presentation

References:

- Domestic Women Workers in India, Seepana Prakasham, Shipra Publication, 2012,202P
- Women's Studies in India by Maithreyi Krishna Raj
- Indian Women in History and Culture, Prof. Geraldine Forbes
- Women's Work in Globalizing India, Never Done and Poorly Paid Ghosh J.,New Delhi, Women Unlimited, 2009
- Journal of Gender Social Policy and Law
- Susan S. Wadly, "Women and the Hindu Tradition", Signs, 3:1 (August 1977)
- Butalia, U. and T Sarkar, (eds.), Women and the Hindu Right, New Delhi, Kali for women, 1996
- Sunder Rajan, R., The Scandal of the State: Women, Law and Citizenship in Postcolonial India, New Delhi, Permanent Black, 2004.
- Domestic Violence Against Women: Legal Protection Legislative and Judicial Aspects, Nitu Nawal and R.K.Sharma, Regal Publications, 2013 XVI, 462P

For office use only

Application for the course – Women studies Acad. Year: 2022-23

R. C. Patel Educational Trust's

R.C. Patel Arts, Commerce and Science College

Shirpur, Dist – Dhule, M.S. 425 405

(NAAC Accredited Institute)

To,
The Principal
R. C. Patel Arts, Commerce and Science College,
Shirpur

Sir,

I wish to get admitted to as a student for the Ansari Shahnaz Parween Imamuddin

Shahnaz
(Name and Signature of Candidate)

PARTICULARS OF CANDIDATE

1. Name in full (Surname first) : ANSARI SHAHNAZ PARWEEN IMAMUDDIN
   Surname Name Father's/Husband's Name
2. Address for correspondence : Ganesh colony shirpur, Dhule. Mah.
3. Email Id : Shahnazparween225@gmail.com
4. Ph.No /Mobile No : 9309327511
5. Father's/Husband's name with address : ANSARI IMAMUDDIN SHRIF
6. Sex (Male/Female) : Female
7. Nationality : INDIAN
8. Date of birth (dd/mm/yyyy) : 24.04.1998
9. Put the tick (✓) mark(s) in the appropriate box(es) applicable in your case.

SC	ST	DT	NT-1	NT-2	NT-3	SBC	OBC	OPEN	P.H.	D.S.P
							✓			

P.H. – Physically handicapped ; D.S.P. – Ward of Defense Service Person

List of Admitted Students for **"Certificate Course in Women Studies"**

For the Academic Year 2022-23

Name of College: R. C. P. A.C. S. College, Shirpur
Name of Career Oriented Course: Certificate Course in Women Studies
Academic Year: 2022-2023
Intake Capacity: 60

Sr. No.	Name of Student	Gender	Category	Education Qualification	Year of passing	Presently admitted	Remark (if any)
1.	Ahire Tejasvi Jivan	Female	OBC	XII Science	2022	F. Y. B. Sc.	
2.	Ahirrao Harshada Chandrashekhar	Female	OBC	XII Science	2022	F. Y. B. Sc.	
3.	Ansari Shahnaz Parween	Female	OBC	XII Science	2022	F. Y. B. Sc.	
4.	Banjara Dipali Adhar	Female	NT	XII Science	2022	F. Y. B. Sc.	
5.	Banjara Vandana Shivdas	Female	NT	XII Science	2022	F. Y. B. Sc.	
6.	Bharwad Puja Laxman	Female	OBC	XII Science	2022	F. Y. B. Sc.	
7.	Girase Bhagyashri Ramsing	Female	OPEN	XII Science	2022	F. Y. B. Sc.	
8.	Girase Darshana Komalsing	Female	OPEN	XII Science	2022	F. Y. B. Sc.	
9.	Gosavi Gauri Bharat	Female	NT	XII Science	2022	F. Y. B. Sc.	
10.	Kalal Bhuvaneshwari Mahendra	Female	OBC	XII Science	2022	F. Y. B. Sc.	
11.	Koli Asha Magan	Female	SBC	F.Y.B.Sc.	2021	S. Y. B. Sc.	
12.	Koli Deepali Ravindra	Female	SBC	XII Science	2022	F. Y. B. Sc.	
13.	Marathe Revati Yogesh	Female	OBC	XII Science	2022	F. Y. B. Sc.	
14.	Marathe Saroj Vasudeo	Female	OBC	XII Science	2022	F. Y. B. Sc.	

15.	Patil Bhumika Manilal	Female	OBC	XII Science	2022	F. Y. B. Sc.	
16.	Patil Divya Subhash	Female	OBC	F.Y.B.Sc.	2021	S. Y. B. Sc.	
17.	Patil Harshada Bhikan	Female	OBC	XII Science	2022	F. Y. B. Sc.	
18.	Patil Kunjan Pravin	Female	OBC	XII Science	2022	F. Y. B. Sc.	
19.	Patil Pallavi Nagraj	Female	OBC	XII Science	2022	F. Y. B. Sc.	
20.	Pawar Monika Premsing	Female	OPEN	XII Science	2022	F. Y. B. Sc.	
21.	Pawar Ranjana Premsing	Female	NT	XII Science	2022	F. Y. B. Sc.	
22.	Pawara Saloni Uttam	Female	ST	XII Science	2022	F. Y. B. Sc.	
23.	Pawara Surekha Tufan	Female	ST	XII Science	2022	F. Y. B. Sc.	
24.	Rajput Puja Vithoba	Female	OBC	F.Y.B.Sc.	2021	S. Y. B. Sc.	
25.	Rajput Shivani Bharatsing	Female	OPEN	XII Science	2022	F. Y. B. Sc.	
26.	Shirsath Bina Gokul	Female	SC	XII Science	2022	F. Y. B. Sc.	
27.	Suryawanshi Priya Vijay	Female	OBC	XII Science	2022	F. Y. B. Sc.	
28.	Tamkhane Bharati Ashok	Female	NT	XII Science	2022	F. Y. B. Sc.	
29.	Torawane Sonalika Lotan	Female	OBC	XII Science	2022	F. Y. B. Sc.	
30.	Wani Hetal Pravin	Female	OBC	XII Science	2022	F. Y. B. Sc.	

Certificate

This is to certify that the document regarding educational qualifications of the above students have been verified and found correct. The students mentioned in the list are eligible for the admission to the above mentioned course as per University Ordinance-181.

Co-ordinator

Dr. Vandana M. Patil

Principal

Dr. D. R. Patil

R.C.Patel Art's Commerce and Science College Shirpur

Year: 2022-23

Certificate Course in Women Studies

Students Attendance

Sr. No.	Students Name	Students Signature											
		17/8/22	18/8/22	19/8/22	20/8/22	22/8/22	23/8/22	24/8/22	25/8/22	5/9/22	6/9/22	7/9/22	8/9/22
	Ahire Tejasvi Jivan	Ahire	Ahire	Ahire	Ahire	Ahire	Ahire	Ahire	Ahire	Ahire	Ahire	Ahire	Ahire
	Banjara Dipali Adhar	Banjara	Banjara	Banjara	Banjara	Banjara	Banjara	Banjara	Banjara	Banjara	Banjara	Banjara	Banjara
	Bhagwad puja Laxman	Bpawde	Bpawde	Bpawde	Bpawde	Bpawde	Bpawde	Bpawde	Bpawde	Bpawde	Bpawde	Bpawde	Bpawde
	Girase bhagyashree	Girase	Girase	Girase	Girase	Girase	Girase	Girase	Girase	Girase	Girase	Girase	Girase
	Girase dharitha kamal	Gauri	Gauri	Gauri	Gauri	Gauri	Gauri	Gauri	Gauri	Gauri	Gauri	Gauri	Gauri
	gosavi gauri Bharat	Gosavi	Gosavi	Gosavi	Gosavi	Gosavi	Gosavi	Gosavi	Gosavi	Gosavi	Gosavi	Gosavi	Gosavi
	Kalal Bhawaneshwari	KalalB	KalalB	KalalB	KalalB	KalalB	KalalB	KalalB	KalalB	KalalB	KalalB	KalalB	KalalB
	Koli Aasha Madan	A.Koli	A.Koli	A.Koli	A.Koli	A.Koli	A.Koli	A.Koli	A.Koli	A.Koli	A.Koli	A.Koli	A.Koli
	Marathe Reeti yogesh	MReeti	MReeti	MReeti	MReeti	MReeti	MReeti	MReeti	MReeti	MReeti	MReeti	MReeti	MReeti
	Mali hetal pravin	H.Mali	H.Mali	H.Mali	H.Mali	H.Mali	H.Mali	H.Mali	H.Mali	H.Mali	H.Mali	H.Mali	H.Mali
	Rajput pooja vitthal	Rajput	Rajput	Rajput	Rajput	Rajput	Rajput	Rajput	Rajput	Rajput	Rajput	Rajput	Rajput
	Pawara surekha Tutan	S.Pawara	S.Pawara	S.Pawara	S.Pawara	S.Pawara	S.Pawara	S.Pawara	S.Pawara	S.Pawara	S.Pawara	S.Pawara	S.Pawara
	Marathe Saroj Vasudev	S.V.Marathe	S.V.Marathe	S.V.Marathe	S.V.Marathe	S.V.Marathe	S.V.Marathe	S.V.Marathe	S.V.Marathe	S.V.Marathe	S.V.Marathe	S.V.Marathe	S.V.Marathe
	Pawara Sonali Uttam	S.Pawara	S.Pawara	S.Pawara	S.Pawara	S.Pawara	S.Pawara	S.Pawara	S.Pawara	S.Pawara	S.Pawara	S.Pawara	S.Pawara
	Patil Pallavi Nagraj	Pallavi	Pallavi	Pallavi	Pallavi	Pallavi	Pallavi	Pallavi	Pallavi	Pallavi	Pallavi	Pallavi	Pallavi
	Marathe Saroj V.	Marathe	Marathe	Marathe	Marathe	Marathe	Marathe	Marathe	Marathe	Marathe	Marathe	Marathe	Marathe

Patil

Dr. Vandana Patil

Co-ordinator

Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

'A' Grade
NAAC Re-Accredited
(4th Cycle)

Jalgaon (M.S.), INDIA

We, the Board of Deans, Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

&

The Principal

R.C. Patel Arts, Commerce & Science College, Shirpur

do, hereby, certify that,

Mr./Ms. Ansari Shahnaz Parween

has pursued a course of study approved by the Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon and has passed the requisite examination held in June 2023 *with* A *grade and found duly qualified for the award of*

Certificate in

Women Studies

Which is conferred on him / her on October 1st, 2023

In testimony whereof is set the seal and signatures of authorities.

Principal

SHIRPUR * R.C.PATEL ARTS,COMM.AND SCI.COLLEGE *

Dean

R. C. Patel Educational Trust's

R. C. Patel Arts, Commerce & Science College, Shirpur

(Affiliated to the K.B.C. North Maharashtra University, Jalgaon)

STATEMENT OF MARKS

Certificate Course in Women Studies (CGPA Pattern)

Examination held in May 2023

Student Name : **Ansari Shahnaz Parween**

College Name : R. C. Patel Arts Commerce and Science College, Shirpur

Seat Number : 236125

Exam Centre : Shirpur (240051)

Paper Code	Paper Name	AM	Credits (Max.)	Marks Obtained
CCWS 101	Gender and Education	TH	6.0	82
CCWS 102	Women Work and Employment	TH	6.0	81
CCWS103	Field Work	FW	8.0	85

Result: **Pass** CGPA: **5.30** Grade: **A**

Abbreviations:

AM: Assessment Methods, **P:** Pass, **F:** Fail, **AB:** Absent, **RR:** Result Reserved, **TH:** Theory, **PR:** Practical, **O:** Outstanding Grade

R.C.PATEL ARTS,COMM.AND SCI.COLLEGE SHIRPUR

Kaviyatri Bahinabai Chaudhari North Maharashtra University, Jalgaon

Ordinance 181

R. C. Patel Arts, Commerce and Science College, Shirpur

Name of Career Oriented Course

Certificate Course in Ethnobotany

Faculty of

SCIENCE

Academic year

(2022-23)

Kaviyatri Bahinabai Chaudhari North Maharashtra University, Jalgaon
Ordinance 181

College name	:	**R. C. Patel Arts, Science and Commerce College, Shirpur**
Title of the course	:	**Certificate Course in Ethnobotany**
Aims/Objective of the course	:	**The aim of Ethnobotany is to explore how these plants are used as medicine for the society and also maintain proper documentation of indigenous knowledge about medicinal plants**
Duration of the course	:	**1 Year**
Fees structure	:	**500/-**
Course structure	:	**Paper I: Studies on medicinal plants** **Paper II: Plant Diversity and Human HealthPaper III: Lab Course**
Eligibility for admission	:	**XII th Science**

Skeleton of course:

Sr. No.	**Paper**	**Name of subject**	**Theory / Practical**	**Teachingng hours**	**Maximum marks allotted**			**Passing**			**Credit**
					External	Internal	Total	External	Internal	Total	
1.	Paper I	Studies on medicinal plants	Theory	90	60	40	100	24	16	40	6
2.	Paper II	Plant diversity andHuman Health	Theory	90	60	40	100	24	16	40	6
3.	Paper III	Lab course	Practical	120	60	40	100	24	16	40	8

CCEB 101: Studies on Medicinal plants

Topics	Lectures allotted (in hrs.)
1. Foundation in Ethnobotany	
Definition, scope & importance. Plants and human relationship. Resemblance in between Ethnobotany & Economic botany. History of medicinal plants.	**15**
2 Herbarium and its techniques :	
Definition and importance. Herbarium and its techniques. Collection Drying & pressing Mounting Arrangement of herbarium sheets Labelling of herbarium sheets	**15**
3. Ethnobotany of Tribes in Khandesi:	
Bhil Pawara Banjara	**15**
4. Ethnobotany of some plants (with their botanical name, general characters, distribution, photochemistry and plant parts use and their importance)	
1. Azadirecta indica (Neem) 2. Datura metal Linn (Dhotara) 3. Adhatoda visica (Adulsa) 4. Ocimum sanctum (Tulsi) 5. Curcuma longa (Haldi) 6. Madhuka indica (Mahua) 7. Phyllanthus imblica (Aamla) 8. Aloe vera (Ghritkumari) 9. Citrus limon (Lemon) 10. Allium sativum (Garlic) 11. Saraca asoca (Ashoka) 12. Carica papaya (Papaya) 13. Solanum virgianum (Wild Brinjal) 14. Acacia nilotica (Babhul) 15. Trachysprmum ammi (ova)	**30**
5. Ayurveda of Medicine:	
1. Principles and Merit and Demerits of medicinal plants.	**15**

2. Methods of preparation of Ayurveda medicine.	
3. Standardization of Ayurveda medicines.	
Total	**90**

Name of the college	**:**	**R. C. Patel Arts, Commerce and Science College, Shirpur**
Course	**:**	**CERTIFICATE COURSE IN ETHNBOTANY**
Academic year	**:**	**2022-23**

Table – 1

PAPER – I (Theory)						
Sr. No.	**Seat No.**	**Full name of student (Surname first)**	**Paper I (theory)**			
			Marks	**Grade points**	**Credit**	**G X C**
1	**2**	**3**	**4**	**5**	**6**	**7 (5 x 6)**
1.	370673	Behare Bhagyashri Vasantrao	84	4.5	6	27
2.	370674	Goyakar Devidas Krushna	93	5.5	6	33
3.	370675	Kadi Madhura Rajendra	98	6.0	6	36
4.	370676	Mahajan Neha Yuvraj	96	4.5	6	36
5.	370677	Mahale Harshada Suresh	83	6.0	6	27
6.	370678	Patel Yamini Chandrakant	98	5.5	6	36
7.	370680	Patil Dipali Dnyaneshwar	94	5.0	6	33

PAPER – I (Theory)						
Sr. No.	Seat No.	Full name of student (Surname first)	Paper I (theory)			
			Marks	Grade points	Credit	G X C
1	2	3	4	5	6	7 (5 x 6)
8.	370681	Patil Priyanka Hemraj	88	3.0	6	30
9.	370682	Patil Sunita Sunil	90	1.0	6	46
10.	370683	Pawar Shubhangi Vallabh	85	2.0	6	43
11.	370686	Solanki Priti Jagan	98	1.0	6	50
12.	370687	Suryawanshi Durgeshwari Sanjay	96	3.0	6	36
13.	370688	Wagh Aarati Shaligram	86	4.0	6	36

PAPER – II (Theory)						
Sr. No.	Seat No.	Full name of student (Surname first)	Paper I (theory)			
			Marks	Grade points	Credit	G X C
1	2	3	4	5	6	7 (5 x 6)
1.	370673	Behare Bhagyashri Vasantrao	90	5.5	6	33
2.	370674	Goyakar Devidas Krushna	91	5.5	6	33

PAPER – II (Theory)						
Sr. No.	Seat No.	Full name of student (Surname first)	Paper I (theory)			
			Marks	Grade points	Credit	G X C
1	2	3	4	5	6	7 (5 x 6)
3.	370675	Kadi Madhura Rajendra	97	6.0	6	36
4.	370676	Mahajan Neha Yuvraj	97	6.0	6	36
5.	370677	Mahale Harshada Suresh	85	5.0	6	30
6.	370678	Patel Yamini Chandrakant	95	6.0	6	36
7.	370680	Patil Dipali Dnyaneshwar	96	6.0	6	36
8.	370681	Patil Priyanka Hemraj	89	5.0	6	30
9.	370682	Patil Sunita Sunil	88	8.0	6	48
10.	370683	Pawar Shubhangi Vallabh	82	1.0	6	41
11.	370686	Solanki Priti Jagan	97	2.0	6	48
12.	370687	Suryawanshi Durgeshwari Sanjay	94	2.0	6	47
13.	370688	Wagh Aarati Shaligram	87	4.0	6	43

PAPER – III (Lab Course)						
Sr. No.	Seat No.	Full name of student (Surname first)	Paper I (theory)			
			Marks	Grade points	Credit	G X C
1	2	3	4	5	6	7 (5 x 6)
1.	370673	Behare Bhagyashri Vasantrao	86	6.5	8	52
2.	370674	Goyakar Devidas Krushna	90	7.0	8	56
3.	370675	Kadi Madhura Rajendra	92	7.0	8	56
4.	370676	Mahajan Neha Yuvraj	94	7.5	8	60
5.	370677	Mahale Harshada Suresh	87	6.5	8	52
6.	370678	Patel Yamini Chandrakant	94	7.5	8	60
7.	370680	Patil Dipali Dnyaneshwar	95	7.5	8	60
8.	370681	Patil Priyanka Hemraj	86	6.5	8	52
9.	370682	Patil Sunita Sunil	83	3.0	8	24
10.	370683	Pawar Shubhangi Vallabh	84	3.0	8	27
11.	370686	Solanki Priti Jagan	97	3.0	8	36

PAPER – III (Lab Course)						
Sr. No.	Seat No.	Full name of student (Surname first)	Paper I (theory)			
			Marks	Grade points	Credit	G X C
1	2	3	4	5	6	7 (5 x 6)
12.	370687	Suryawanshi Durgeshwari Sanjay	94	3.0	8	48
13.	370688	Wagh Aarati Shaligram	87	3.0	8	44

GRADE							
Sr. No.	**Seat No.**	**Full name of student (surname first)**	**G x C of paper I**	**G x C of paper II**	**G x C of paper III**	**CGPA (4+5+6)/20**	**Grade**
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
1.	370673	Behare Bhagyashri Vasantrao	27	33	52	5.60	A
2.	370674	Goyakar Devidas Krushna	33	33	56	6.10	O
3.	370675	Kadi Madhura Rajendra	36	36	56	6.40	O
4.	370676	Mahajan Neha Yuvraj	36	36	60	6.60	O
5.	370677	Mahale Harshada Suresh	27	30	52	5.45	A
6.	370678	Patel Yamini Chandrakant	36	36	60	6.60	O
7.	370680	Patil Dipali Dnyaneshwar	33	36	60	6.45	O
8.	370681	Patil Priyanka Hemraj	30	30	52	5.60	A
9	370682	Patil Sunita Sunil	46	48	24	4.50	A
10	370683	Pawar Shubhangi Vallabh	43	41	27	5.92	O
11	370686	Solanki Priti Jagan	50	48	36	5.00	A
12	370687	Suryawanshi Durgeshwari Sanjay	36	47	48	5.70	A

GRADE							
Sr. No.	**Seat No.**	**Full name of student (surname first)**	**G x C of paper I**	**G x C of paper II**	**G x C of paper III**	**CGPA (4+5+6)/20**	**Grade**
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
13	370688	Wagh Aarati Shaligram	36	43	44	4.73	A

R.C.Patel Arts, Science and Commerce College, Shirpur

Attendance Report

Certificate Course in Ethnobotany

Sr. No	Roll No	Name	Sign					
			Date					
			25/08/22	26/08/22	29/08/22	30/08/22	1/09/22	05/09/22
1		Behare Bhagyashri Vasantrao	BBehare	BBehare		BBehare	BBehare	BBehare
2		Goyakar Devidas Krushna						
3		Kadi Madhura Rajendra	Mkadi	Mkadi	Mkadi	Mkadi	Mkadi	Mkadi
4		Mahajan Neha Yuvraj	AM	AM	AM	AM	AM	AM
5		Mahale Harshada Suresh		HSmahale	HSmahale	HSmahale	HSmahale	
6		Patel Yamini Chandrakant	YPatel	YPatel	YPatel	YPatel	YPatel	YPatel
7		Patil Dipali Dnyaneshwar	SPatil	SPatil	SPatil	SPatil		SPatil
8		Patil Priyanka Hemraj	RPatil	RPatil		RPatil		RPatil
9		Patil Sunita Sunil	SSP	SSP		SSP	SSP	SSP
10		Pawar Shubhangi Vallabh	PSV	PSV	PSV	PSV		
11		Solanki Priti Jagan	SPSolanki	SPSolanki	SPSolanki	SPSolanki	SPSolanki	SPSolanki
12		Suryawanshi Durgeshwari Sanjay	SDS	SDS	SDS	SDS	SDS	SDS
13		Wagh Aarati Shaligram	AWagh	AWagh	AWagh	AWagh	AWagh	AWagh

Mr.Wagh H.A.

Coordinator

R.C.P.E.T.

Department of Mathematics
R. C. Patel Arts, Science and Commerce College, Shirpur

Application for the examination for Certificate Course in Ethnobotany

Form No.:

To,
The Coordinator,
Career Oriented Courses,
R.C.P.A.S.C. College, Shirpur

Sir,
I request you for permission to appear to the examination, as mentioned below,

Full Name	:	Kadi Madhura Rajendra
Course appearing for	:	Certificate Course in Ethnobotany

I remit herewith **Rs. 240/-** as examination fee.

Fees for subjects (2 Theory + 1 Practical) (40/- per theory course and 80/- per practical course	:	160/-
Marksheet fee	:	30/-
Certificate fee	:	50/-
Late fee	:	
Total	:	240/-

My subjects are,

Sr. No.	Code	Name of Subject
1.	CCEB101	Studies on Medicinal plants
2.	CCEB102	Plant Diversity and Human Health
3.	CCEB103	Lab course

DECLARATION

I hereby declare that I have gone through the syllabus and the list of books prescribed for the examination for which I am appearing. I shall be responsible for any errors and incomplete entries made by me in the examination form. I shall not request for any special concession such as change in time or day fixed for the university examination etc, on religious or any other ground. All the information filled above is correct according to my knowledge.

R.C.PATEL ARTS,COMM.AND SCI.COLLEGE * SHIRPUR *

Place: **Shirpur**

Date: 05/01/2023

Yours faithfully

Madhu

Signature of candidate

R.C.Patel Arts, Science and Commerce College, Shirpur

Attendance Report

Certificate Course in Ethnobotany

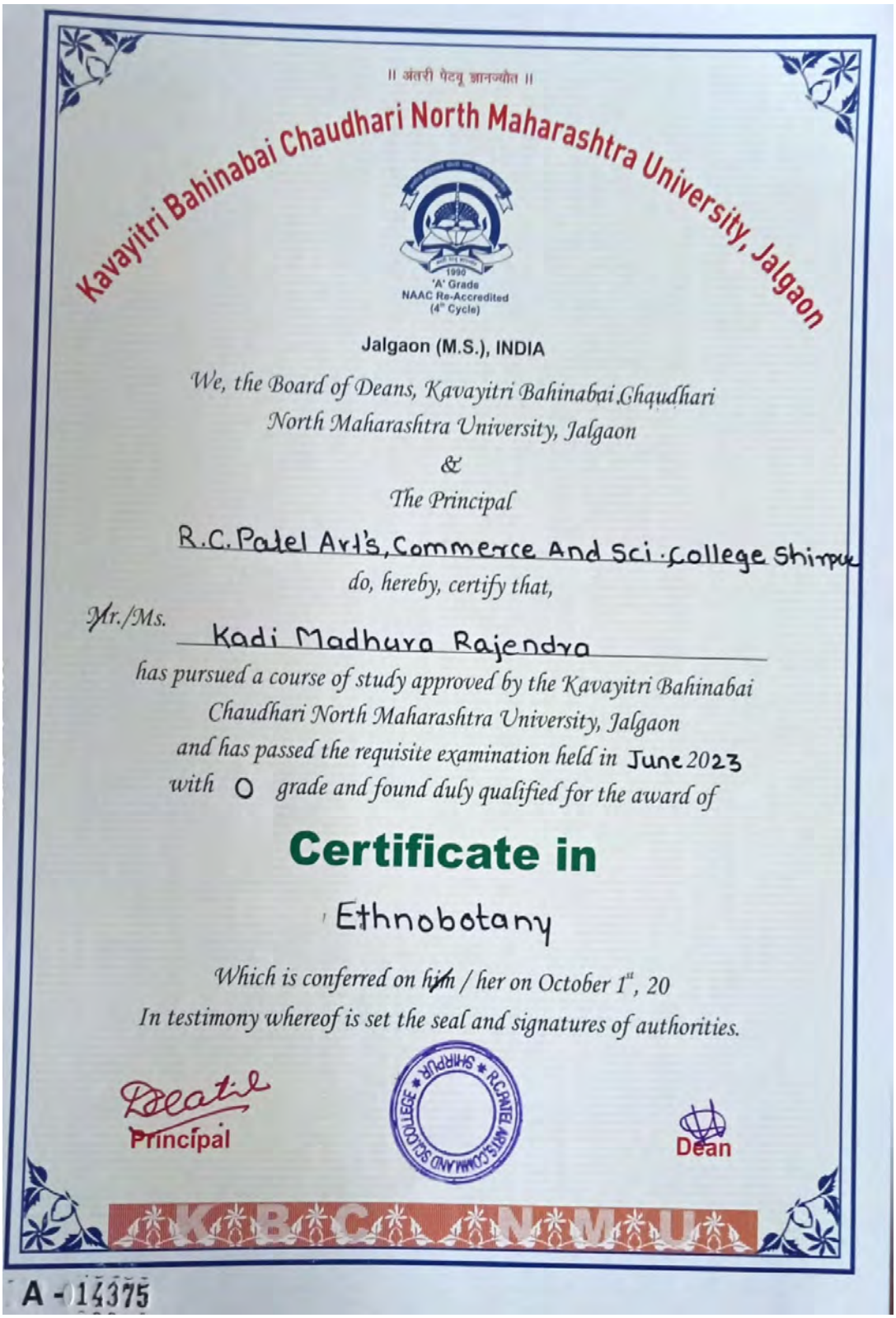
Sr. No	Roll No	Name	Sign					
			Date					
			25/08/22	26/08/22	29/08/22	30/08/22	12/09/22	13/09/22
1		Behare Bhagyashri Vasantrao	Behare	Behare		Behare	Behare	Behare
2		Goyakar Devidas Krushna						
3		Kadi Madhura Rajendra						
4		Mahajan Neha Yuvraj						
5		Mahale Harshada Suresh						
6		Patel Yamini Chandrakant	Ypatel	Ypatel	Ypatel	Ypatel	Ypatel	Ypatel
7		Patil Dipali Dnyaneshwar	Spatil	Spatil	Spatil	Spatil		Spatil
8		Patil Priyanka Hemraj	RPatil	RPatil		RPatil		RPatil
9		Patil Sunita Sunil	SSP	SSP		SSP	SSP	SSP
10		Pawar Shubhangi Vallabh	P.S.V	P.S.V	P.S.V	P.S.V		
11		Solanki Priti Jagan	Spalanki	Spalanki	Spalanki	Spalanki	Spalanki	Spalanki
12		Suryawanshi Durgeshwari Sanjay	SDS	SDS	SDS	SDS	SDS	SDS
13		Wagh Aarati Shaligram	Swagh	Swagh	Swagh	Swagh	Swagh	Swagh

Mr.Wagh H.A.

Coordinator

Dr.D.R.Patill

Principal



॥ अंतरी पेटवू ज्ञानज्योत ॥

Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

'A' Grade
NAAC Re-Accredited
(4th Cycle)

Jalgaon (M.S.), INDIA

We, the Board of Deans, Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

&

The Principal

R.C. Patel Art's, Commerce And Sci. College Shirpur

do, hereby, certify that,

Mr./Ms. Kadi Madhura Rajendra

has pursued a course of study approved by the Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon and has passed the requisite examination held in June 2023 *with* O *grade and found duly qualified for the award of*

Certificate in

Ethnobotany

Which is conferred on him / her on October 1st, 20

In testimony whereof is set the seal and signatures of authorities.

Principal

R.C. PATEL ARTS COM. AND SCI. COLLEGE * SHIRPUR *

Dean

K B C N M U

A - 14375

R. C. Patel Educational Trust's

R. C. Patel Arts, Commerce & Science College, Shirpur

(Affiliated to the K.B.C. North Maharashtra University, Jalgaon)

STATEMENT OF MARKS

Certificate course in Ethnobotany

Examination Held in May-2023

Student Name : kadi Madhura Rajendra

College Name : R. C. Patel Arts Commerce and Science College, Shirpur

Seat Number : 370675

Exam Centre : Shirpur (240051)

Paper Code	Paper Name	AM	Credits (Max.)	Marks Obtained
CCEB-101	CCEB- 101 Studies on Medicinal Plants	TH	6.0	98
CCEB 102	Plant Diversity and Human Health	TH	6.0	97
CCEB 103	Lab Course	FW	8.0	92

Result: **Pass** CGPA: **6.40** Grade: **O**

R.C.PATEL ARTS,COMM.AND SCI.COLLEGE SHIRPUR

Co-ordinator

Abbreviations:

AM: Assessment Methods, **P:** Pass, **F:** Fail, **AB:** Absent, **RR:** Result Reserved, **TH:** Theory, **PR:** Practical, **O:** Outstanding Grade

Kaviyatri Bahinabai Chaudhari North Maharashtra University, Jalgaon

Ordinance 181

Name of College

R. C. Patel Arts, Commerce and Science College, Shirpur

Name of career oriented course

Literature and Life Skills

Faculty

Humanities

Academic year

(2022-23)

Kaviyatri Bahinabai Chaudhari North Maharashtra University, Jalgaon

Ordinance 181

College name : **R. C. Patel Arts, Commerce and Science College, Shirpur**

Title of the course : **Certificate course in Literature and Life Skills**

Aims/Objective of the course : **To inculcate the life skills in youngsters through literature**

Duration of the course : **1 Year**

Fees structure : **500/-**

Course structure : **Paper I: Literature and Life Skills**
Paper II: The Critical Appreciation of Literary Works
Paper III: Practical Work

Eligibility for admission : **12th Pass**

Skeleton of course:

Sr. No	Paper	Name of subject	Theory / Practical	Teaching hours	Maximum marks allotted			Passing			Credit
					External	Internal	Total	External	Internal	Total	
4.	Paper I	Literature and Life Skills	Theory	90	60	40	100	24	16	40	6
5.	Paper II	The Critical Appreciation of Literary Works	Theory	90	60	40	100	24	16	40	6
6.	Paper III	Practical Work	Practical	120	60	40	100	24	16	40	8

Minimum staff : 03

Mode of examination : Internal and external
(Theory and Practical)

Detail syllabus : Syllabus copy attached

CCLL 101 – Literature and Human Life I

Topics	Lectures allotted (in hrs)
Unit 1 : Literature: • Literature: Definitions, Nature and Genres • Literature and Language • Literature and Culture • Definitions and Aspects of Life Skills	20
Unit 2 : Human Life: • Literature and Human Life: Relationship • Great Works of Literatures and Human Life	10
Unit 3 : Life Skills through Poetry: • The Road Not Taken - Robert Frost • Ode on Grecian Urn- John Keats • Ozymandias- P.B. Shelly • Death, Be Not Proud- John Donne • The Ballad of Father Gilligan -W. B. Yeats • Select Poems of Kabir • Bu • Ddh aur Naachghar- Harivansh Rai Bachchan • Tagore: Gulzar • Aurat ne janam diya mardon ko- Sahir • Darbar - e - watan Mein Jab Ik Din- Faiz Ahmed Faiz • Man Vadhay Vadhay- Bahinabai Chaudhari • Ghan Tami Sukra Bagh Ha Rajy Kari- Bha. Ra. Tambe • Japani Ramachi Ratr- Ba. Bh. Borkar • Fulrani- Balkavi • Maze Vidyapith- Narayan Surve	30
Unit 4 : Life Skills through Essay: • Why I Write- Amish • From Ignited Minds- APJ Abdul Kalam • From Bang-Chitre- Pu. La. Deshapande	30
Total	**90**

CCLL 102 - Literature and Human Life II

Topics	Lectures allotted (in hrs)
Unit 1 : Life Skills through Short Story: • The Lady with a Dog: Anton Chekhov • Eidgaah- Premchand • Samudra ani Zara- Vi. Sa. Khandekar • The Other Wife Colette • Mitr- Na. Si. Phadke	30
Unit 2 : Life Skills through Drama: • Tuze Ahe Tujpashi: Pu. La. Deshpande • Hayvadan: Girish Karnad • Aadhe Adhure(Optional): Mohan Rakesh • Shantata, Kort Chalu Ahe- Vijay Tendulkar (Optional)	30
Unit 3 : Life Skills through Novel: • The Alchemist- Paulo Coelho • Fakira- Anna Bhau Sathe	30
Total	**90**

CCLL 103: Practical Work

Practical Work	Periods allotted (in hrs)
Book Review	**20**
Poetry Reciting	**20**
Story Narration	**20**
Enacting a Role	**20**
Critical Appreciation of the Literary Works	**20**
Defining the Life Skills through Literary Works	**20**
Total	**120**

References:

1. Abrams M.H., 2009, *Literary Terms*, Cengage Learning, New Delhi
2. Hudson W. H., 1998, *An Introduction to the Study of Literature*, Atlantic Publication, New Delhi
3. Rees R. J., 2016, *English Literature - An Introduction for Foreign Readers*, Macmillan Education
4. Coelho, Paulo, 2010, *The Alchemist*, Harper Collins, New Delhi
5. Sathe, Annabhau, *Fakira*, 2001, Suresh Agency, Kolhapur
6. Rakesh, Mohan, *Aadhe Adhure*, 2009 ,Radha Krushna Publishers, New Delhi
7. Karnad, Girish, *Hayvadan*, 2015, Mehta Publishing House, Pune
8. Tendulakar, Vijay, *Shantata Kort Cahlu Ahe*, 2018, Popular Prakashan, Mumbai,
9. Deshpande, Pu. La. *Tuze Ahe Tuj Pashi*, Mouj, 1999, Prakashan, Mumbai
10. Kalam, Abdul, *Ignited Minds*, 2000, Penguin Books, New Delhi
11. Chekov, Anton, *Selected Stories of Anton Chekov*, 2009,Rupa Publishing House, New Delhi

Kaviyatri Bahinabai Chaudhari North Maharashtra University, Jalgaon

R. C. Patel Arts, Commerce and Science College, Shirpur

CCLL- 2022-23 Certificate course in Literature and Life Skills

Examination Time Table

Sr.No.	Paper	Title of Paper	Date	Time
1	**Paper I**	Literature and Life Skills	**19, June,2023**	**9.00- 12.00**
2	**Paper II**	The Critical Appreciation of Literary Works	**20,June,2023**	**9.00- 12.00**
3	**Paper III**	Practical Work	**21. June, 2023**	**9.00-12.00**

Kaviyatri Bahinabai Chaudhari North Maharashtra University, Jalgaon

R. C. Patel Arts, Commerce and Science College, Shirpur

CCLL- 2022-23 Certificate course in Literature and Life Skills

Examination Result

PAPER – I (Theory)						
Sr. No.	Seat No.	Full name of student (Surname first)	Paper I (theory)			
			Marks	Grade points	Credit	G X C
1	2	3	4	5	6	7 (5 x 6)
1.	150534	Jadhav Hemangi Udaji	89	5.0	6	30
2.	150539	Pawara Rahul Raju	AB	AB	6	AB
3.	150545	Dabhade Gauri Keshav	89	5.0	6	30
4.	150559	Pawara Aditya Rohjya	AB	AB	6	AB
5.	150565	Koli Nikita Jagdish	AB	AB	6	AB
6.	150574	Pawara Balaji Sahebrao	86	5.0	6	30

॥ अंतरी पेटवू ज्ञानज्योत ॥

Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

1990
'A' Grade
NAAC Re-Accredited
(4th Cycle)

Jalgaon (M.S.), INDIA

We, the Board of Deans, Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

&

The Principal

R. C. Patel Arts, Commerce and Science College, Shirpur

do, hereby, certify that,

~~Mr./~~Ms. Dabhade Gauri Keshav

has pursued a course of study approved by the Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon and has passed the requisite examination held in May 2023 *with* A *grade and found duly qualified for the award of*

Certificate in

Literature and Life skills

Which is conferred on ~~him~~ / her on October 1st, 2023

In testimony whereof is set the seal and signatures of authorities.

~~Principal~~

R. C. PATEL ARTS, COMM. AND SCI. COLLEGE * SHIRPUR *

Dean

KBCNMU

A - 14412

R. C. Patel Educational Trust's

R. C. Patel Arts, Commerce & Science College, Shirpur

(Affiliated to the K.B.C. North Maharashtra University, Jalgaon)

STATEMENT OF MARKS

Certificate Course in Literature and Life Skills

Examination Held in May-2023

Student Name: Jadhav Hemangi Udaji

College Name: **R.C.Patel Arts Commerce and Science College, Shirpur**

Seat Number: 150534

Paper Code	Paper Name	AM	Credit (Max.)	Marks Obtained
CCLL- 101	Literature and Life Skills	TH	6	89
CCLL -102	The Critical Appreciation of Literary Works	TH	6	86
CLLC-103	Practical Work	PR	7	92

Result: **Pass** CGPA: **5.80** Grade: **A**

R.C.PATEL ARTS,COMM.AND SCI.COLL.

Co-ordinator

Abbreviations:

AM: Assessment Methods, **P:** Pass, **F:** Fail, **AB:** Absent, **RR:** Result Reserved, **TH:** Theory, **PR:** Practical, **O:**

K.B.C.North Maharashtra University, Jalgaon

Certificate course in

BIOINFORMATICS

Run by

R. C. Patel A. C. S. College, Shirpur

Under ordinance 181

Syllabus

w. e. f. 2018-19

Level of diploma	Graduate diploma
Eligibility	As per ordinance 181
Duration	1 Year
Total Credits	20 Credits

Course Structure

CCBI 101	Fundamentals of Biology	6 Credits
CCBI 102	Introduction to Bioinformatics	6 Credits
CCBI 103	Lab course	8 Credits

Topics	Lectures allotted *(in hrs)*
Vital aspects of life • Basic properties of life, Basic chemistry, pH, concept of acids, bases • Prokaryotic and eukaryotic cells- Structure and functions of various cell organelles	**15**
Concepts of chemistry • Elements and atoms • Molecules and compounds, types of bonds • Water and its properties • Bioenergetics: Laws of Thermodynamics and its Applications; Concept of free energy, Gibbs free energy.	**15**
Introduction to living forms • Characteristics of life, the tree of life • Animal kingdom – General properties • Plant kingdom– General properties • Microorganisms (bacteria, algae, fungi, protozoa and viruses) • Morphology and ultra-structure of bacteria • Concept of growth and different growth phases of bacteria • Microbial growth • Kinetics of growth	**25**
Concept of biomolecules • **Carbohydrates:** definition, properties of monosaccharide, disaccharide and polysaccharides • **Lipids:** biological significance, classification (simple, compound and derived lipids) • **Amino acids:** definition, physical and chemical properties of amino acids, classification, structure • **Proteins:** Biological significance, peptide bond, classification of proteins. • **Nucleic acids:** components of nucleic acids, sugars, purines and pyrimidines, nucleosides and nucleotides • **DNA:** structure and properties • **RNA:** structure, types and properties	**33**
Genetic code and its properties	*2*
Total	**90**

Topics	Lectures Allotted (In hrs)
Basics in computer science • Definition, characteristics, limitations and concept • Classification based on size and purpose • Concept of System Software Hardware storage device, Character User Interface, Graphical User Interface, Operating System- types,multitasking	**15**
Computer tools and internet • Block diagram and functions of units Computer peripherals and memory: Input units and output units, theirfunctions • Primary storage (RAM) and secondary storage devices (ROM Pen drive, DVD, CD) • Operating systems: windows, Linux, Server **Internet and networking:** Current status, applications • LAN, WAN, MAN, WWW and MODEM	**25**
Introduction to bioinformatics: • Definition, history and concept of bioinformatics • Aims and tasks of bioinformatics • Areas of bioinformatics	**6**
Programming in bioinformatics • Computers and programs, • Concept of programming languages • Operating systems: Windows, LINUX, UNIX, MAC • Internet: Access, connectivity, world wide web	**20**
Biological databases and searching • Types of database: Classification; Primary, secondary databases • Nucleic acid databases: GenBank, EMBL, DDBJ • Protein databases: Swiss-Prot, PDB • Sequence retrieval system: SRS	**24**
Total	**90**

- **Lab Work**

1.	Computer basics; hardware, connection cables, typing, Windows 7/8.	**12**
2.	Working with MS-Office software Creating new documents, typing, deleting, selecting text, undo, redo, Formatting text – auto format, formatting, insertion of table characters, Paragraphs, line spacing, margins, page setup, headers and footers,spelling checker, auto format, auto correct, find & replace, Mail merge	**6**
3.	Assignments in MS-PowerPoint Creating slides, insertion of text, picture, table, charts etc, custom Animation, slide transaction	**6**
4.	Assignments in MS-Excel Creating worksheet, Graphs, resizing graphs, formulas, if statement, Types of functions, frequently used mathematical and statistical Functions	*6*
5.	Assignments in MS-Access – creating database, forms and reports	**8**
6.	Creating and editing files notepad and notepad++	**4**
7.	Basic commands in MS-DOS program (CUI)	**4**
8.	Learning the intranet system in the laboratory and getting its Characteristics	*4*
9.	Understanding the structure of Networking, LAN, WAN, MAN	**6**
10.	Introduction to internet, WWW and web browsers and their Applications	*4*
11.	Internet surfing and searching information, downloading and installing **Software accessing google scholar**	***16***
12.	Searching scientific information using NCBI using ENTERZ engine	**10**
13.	Retrieval of data from SwissProt Data Bank	**10**
14.	Introduction to literature database – PubMed	**10**
15.	Exploring protein sequence database and downloading protein sequence	

	6
16. Exploring nucleic acid sequence database and downloading in FASTA Format	**8**

References:

1. Dubey R.C. and Maheshwari D.K. 2004, Practical Microbiology, S.Chand and Co. Delhi.
2. Aneja K.R. (1996) Experiments in Microbiology, 3rd Edition Wishwa Prakashan,New Delhi.
3. Deshmukh A.M. (1997) 1st Edition, Handbook of Media, Stains and reagents in Microbiology Pama Publications.
4. Gaud R.S. and Gupta G.D. Practical Microbiology, Nirali Prakashan, Pune
5. Parija S.C., Text Book of Practical Microbiology Ahuja Publishing House, New Delhi.
6. Fundamentals of computers -V. Rajaraman
7. Computer Fundaments - P.K. Sinha
8. Computer Fundamentals (Architecture and Organization) -B. Ram
9. Microsoft Office 2000 – Vipra Computers
10. Digital Fundamentals - Floyd
11. Digital Principles and Applications - A. P. Malvino & D.P.Leach (TMH)
12. Modern digital Electronics (2nd Edn.) R. P. Jain
13. Bioinformatics - Computational Molecular Biology by Zvia Agur.
14. Basic bioinformatics by Ignacimuthu.
15. An introduction to bioinformatics by Vikramsingh, Narosa Publ

R. C. Patel Educational Trust's

R. C. Patel Arts, Commerce & Science College, Shirpur

(Affiliated to the K.B.C. North Maharashtra University, Jalgaon)

STATEMENT OF MARKS

Certificate in Bioinformatics (CGPA Pattern)

Examination held in May 2023

Student Name : Sankhala Minakshi Girish

College Name : R. C. Patel Arts Commerce and Science College, Shirpur

Seat Number : 231107

Exam Centre : Shirpur (240051)

Paper Code	Paper Name	AM	Credits (Max.)	Marks Obtained
CCBI 101	Fundamentals of Biology	TH	6.0	85
CCBI 102	Introduction to Bioinformatics	TH	6.0	89
CCBI 103	Lab Course	PR	8.0	91

Result: **Pass**

CGPA: **5.80**

Grade: **A**

R.C.PATEL ARTS,COMM.AND SCI.COLLEGE SHIRPUR

Co-ordinator

Abbreviations:

AM: Assessment Methods, **P:** Pass, **F:** Fail, **AB:** Absent, **RR:** Result Reserved, **TH:** Theory, **PR:** Practical, **O:** Outstanding Grade

K.B.C. North Maharashtra University, Jalgaon

Ordinance 181

College

R. C. Patel Arts, Commerce and Science College, Shirpur

Name of career oriented course

Certificate Course in Plant Tissue Culture

Faculty

SCIENCE

Academic year

(2022-23)

College name	:	**R. C. Patel Arts, Science and Commerce College, Shirpur**
Title of the course	:	**Certificate Course in plant tissue culture**
Aims/Objective of the course	:	**To make students acquaint about methods in plant tissue culture and their applications.**
Duration of the course	:	**1 Year**
Fees structure	:	**Rs. 1000/-**
Course structure	:	**Paper I: Fundamentals in Plant Physiology** **Paper II: Basics in Plant Tissue Culture** **Paper III: Lab Course**
Eligibility for admission	:	**12th Science**

Skeleton of course:

Sr No	Paper	Name of subject	Theory / Practical	Teaching hours	Maximum marks allotted			Passing			Credit
					External	Internal	Total	External	Internal	Total	
1.	Paper I	Fundamentals in Plant Physiology	Theory	90	60	40	100	24	16	40	6
2.	Paper II	Basics in Plant Tissue Culture	Theory	90	60	40	100	24	16	40	6
3.	Paper III	Lab course	Practical	120	60	40	100	24	16	40	8

Minimum staff : 03

Mode of examination : Internal and external

(Theory and Practical)

Detail syllabus : Syllabus copy attached

CCPTC 101: Fundamentals in Plant Physiology

Topics	Lectures Allotted
1. Plant Cell:	
1.1 Plant cell organelles: structure and function Cell wall, plasma membrane, Endoplasmic reticulum, Vacuole, Golgi apparatus, Plastid & Nucleus 1.2 Storage granules 1.3 Osmosis: Role in turgidity 1.4 Homeostasis: concept and significance	12
2. Plant water relation and transport:	
2.1 Absorption and movement of water: Theories of water translocation, Transpiration, Stomatal physiology. 2.2 Nutrient Transport: Passive transport, Active transport, Permeability. 2.3 Conservation of water	10
3. Photosynthesis:	
3.1 Photosynthesis: Concept, History, 3.2 Photosynthetic apparatus: Chloroplast, Pigments 3.3 Photosystem-I and Photosystem-II 3.4 Light reaction: Photophosphorylation (cyclic and non-cyclic) 3.5 Dark reaction; C3 pathway or Blackmans reaction or Calvin Cycle 3.6 Significance of photosynthesis	12
4. Growth and development in Plants:	
4.1 Plant growth: Cell cycle: Mitosis 4.2 Growth kinetics: Whole organs (S-shaped growth curve) 4.3 Growth of plant organs: roots, stems, leaves, flowers, seeds and fruits 4.4 Morphogenesis, Juvenility, Totipotency 4.5 Media nutrients and requirements of growth	12
5. Plant Hormones:	
Concept of hormones and their role in Plant tissue culture 5.1 Auxins: introduction, Mechanism of action, use as herbicides 5.2 Cytokines: Introduction, Mechanism of Action, 5.3 Gibberellins: Introduction, Mechanism of action, commercial uses of Gibberellins 5.4 Ethylene: Introduction, Action, Role in flowering. 5.5 Abscisic acid (ABA): Introduction, Action, Role.	10
6. Plant diseases	
6.1 Citrus Canker Powdery mildew in apple 6.2 Whip Smuts of Sugarcane 6.3 Leaf spots in Tikka disease of groundnut	**12**

6.4 Rots in cucurbits

CCPTC 102: Basics in Plant Tissue Culture

Topics	Lectures allotted
1. Introduction to PTC Laboratory:	
1.1 Introduction & Organization of PTC lab: 1.2 Development of Tissue culture media **1.3** Media constituents: Inorganic and organic nutrients, growth Hormones, gelling agents 1.4 Media preparation and methods of sterilization	**14**
2. Totipotency and Cytodifferentiation:	
2.1 Totipotency: Introduction, Expression, significance 2.2 Cytodiffertiation: Introduction, Process, Factors affecting cytodifferentiation	**12**
3. Organ culture:	
Different types of organ culture (principle, protocol, and Importance) 3.1 Root culture 3.2 Leaf culture 3.3 Meristem; shoot tip culture, flower culture 3.4 Ovary culture 3.5 Anther and pollen culture	**14**
4. Callus culture:	
4.1 Callus culture: Introduction and principle 4.2 Characteristics of callus 4.3 Process of callus formation 4.4 Methods and significance of callus	**12**
5. Somatic embryogenesis:	
5.1 Somatic embryogenesis: Introduction and principle and Significance 5.2 Methods in somatic embryogenesis 5.3 Factors affecting on somatic embryogenesis 5.4 Artificial seeds: development and uses	**14**
6. Application of plant tissue culture:	
6.1 Micro propagation 6.2 Clonal propagation 6.3 Production of genetically variable plants 6.4 Plant pathology and plant tissue culture 6.5 Plant breeding 6.6 Production of useful biochemical	**12**

CCPTC 103: Lab Course

Sr. No.	Lab course	Lectures allotted
1.	Overview to plant tissue culture laboratory.	08
2.	Preparation of stock solutions	08
3.	Preparation of growth media.	10
4.	Preparation and sterilization of explants	08
5.	Production of callus by using carrot/Clitoria ternate/ Hibiscus rosa sinensis.	10
6.	shoot tip culture	08
7.	Study of somatic embryogenesis by using groundnut/ Wheat	08
8.	Initiation of cell suspension culture	12
9.	Study of micro propagation	08
10.	Study of transpiration	08
11.	Study of embryo culture	10
12.	Estimation of chlorophyll content from different plant leafs.	06
13.	Study of stomatal physiology.	08
14.	Study of cell cycle: various mitotic stages	08

References:

1. Kalyan Kumar De, Plant tissue culture.
2. Plant tissue culture, S. S. Bhojwani and M.K. Rajdhan.
3. Plant biotechnology and its application in tissue culture; Ashwini Kumar, Shikha Roy, IK International publication.
4. Plant physiology ; Fourth edition, Salisburry Ross, Thomson, Wadsworth publication
5. Plant physiology; C. P. Malik, Kalyani publication ,New Delhi – Ludhiana
6. Plant physiology; Second edition, G. Ray Noggle, George J. Fritz, Prentice Hall of India private limited.
7. Plant physiology; R.S.Mehrotra, Ashok aggrawal, Tata McGraw Hill.
8. Kalyan Kumar De, Plant tissue culture.
9. Plant tissue culture, S.S.Bhojwani and M.K. Rajdhan.
10. Plant biotechnology and its application in tissue culture; Ashwini Kumar, Shikha Roy, IK International publication.
11. Plant tissue culture, S.S. Purohit.

Lecture attendance
Certificate course in Plant tissue culture
2022-23

Date and Sign of Students

Sr. No.	Name of Student	12/07/22	15/07/22	19/07/22	25/07/22	02/08/22	05/08/22	10/08/22	18/08/22	18/8/22	19/8/22	20/8/22	27/8/22	29/8/22	1/9/22
1.	Ahire Lina Manohar	[signature]	[signature]	[signature]	[signature]	[signature]		[signature]	[signature]	[signature]		[signature]	[signature]	[signature]	
2.	Bhavsar Kirti Sunil	[signature]	[signature]			[signature]	[signature]	[signature]	[signature]	[signature]				[signature]	[signature]
3.	Chaudhari Harshita Ghansham	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]
4.	More Anjali Mahendra	[signature]	[signature]	[signature]		[signature]	[signature]	[signature]	[signature]	[signature]		[signature]	[signature]	[signature]	[signature]
5.	Patil Priyanka Kanhaiyalal	[signature]	[signature]	[signature]	[signature]			[signature]	[signature]		[signature]		[signature]	[signature]	[signature]
6.	Pawar Janhavi Narendra	[signature]	[signature]	[signature]	[signature]		[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]		[signature]
7.	Rajput Diksha Darbarsing	[signature]	[signature]	[signature]	[signature]	[signature]		[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]
8.	Sankhala Minakshi Girish	[signature]		[signature]	[signature]	[signature]	[signature]	[signature]	[signature]		[signature]	[signature]		[signature]	[signature]

Sr. No.	Name of Student	5/9/22	6/9/22	10/9/22	16/9/22	25/9/22	28/9/22	5/10/22	8/10/22	9/10/22	15/10/22	20/10/22	25/10/22	28/10/22	3/11/22
1.	Ahire Lina Manohar	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]	[signature]		[signature]	[signature]
2.	Bhavsar Kirti Sunil	[signature]	[signature]	[signature]		[signature]	[signature]			[signature]	[signature]	[signature]		[signature]	
3.	Chaudhari Harshita Ghansham	[signature]		[signature]		[signature]	[signature]	[signature]	[signature]			[signature]	[signature]		[signature]
4.	More Anjali Mahendra	[signature]		[signature]		[signature]		[signature]	[signature]		[signature]	[signature]		[signature]	[signature]
5.	Patil Priyanka Kanhaiyalal	[signature]	[signature]		[signature]		[signature]	[signature]	[signature]		[signature]	[signature]		[signature]	
6.	Pawar Janhavi Narendra	[signature]	[signature]	[signature]	[signature]		[signature]		[signature]		[signature]	[signature]	[signature]	[signature]	[signature]
7.	Rajput Diksha Darbarsing		[signature]	[signature]		[signature]	[signature]	[signature]		[signature]	[signature]		[signature]	[signature]	[signature]
8.	Sankhala Minakshi Girish	[signature]	[signature]	[signature]	[signature]		[signature]		[signature]	[signature]		[signature]		[signature]	[signature]

Head,
Department of Microbiology

R. C. Patel Educational Trust's

R. C. Patel Arts, Commerce & Science College, Shirpur

(Affiliated to the K.B.C. North Maharashtra University, Jalgaon)

STATEMENT OF MARKS

Certificate in Plant Tissue Culture (CGPA Pattern)

Examination held in May 2023

Student Name : Chaudhari Harshita Ghansham

College Name : R. C. Patel Arts Commerce and Science College, Shirpur

Seat Number : 234102

Exam Centre : Shirpur (240051)

Paper Code	Paper Name	AM	Credits (Max.)	Marks Obtained
CCPTC 101	Foundation in Plant Cell Biology	TH	6.0	86
CCPTC 102	Fundamentals in Plant tissue culture	TH	6.0	85
CCPTC 103	Lab Course	PR	8.0	88

Result: **Pass**

CGPA: **5.60**

Grade: **A**

R.C.PATEL ARTS,COMM.AND SCI.COLLEGE SHIRPUR

Co-ordinator

Abbreviations:

AM: Assessment Methods, **P:** Pass, **F:** Fail, **AB:** Absent, **RR:** Result Reserved, **TH:** Theory, **PR:** Practical, **O:** Outstanding Grade

Kaviyatri Bahinabai Chaudhari North Maharashtra University, Jalgaon

Ordinance 181

College

R. C. Patel Arts, Commerce and Science College, Shirpur

Name of career oriented course

Certificate Course in Consumer Electronics

Faculty

SCIENCE

Academic year

(2022-23)

Kaviyatri Bahinabai Chaudhari North Maharashtra University, Jalgaon

Ordinance 181

College name	:	**R. C. Patel Arts, Science and Commerce College, Shirpur**
Title of the course	:	**Certificate Course in Consumer Electronics**
Aims/Objective of the course	:	**To make students acquaint about the knowledge in Basic Electronics and appliances.**
Duration of the course	:	**1 Year**
Fees structure	:	**Rs. 1000/-**
Course structure	:	**Paper I: Basic Electronics** **Paper II: Consumer Electronics** **Paper III: Lab Course**
Eligibility for admission	:	**XIIth Science**

Skeleton of course:

Sr. No	Paper	Name of subject	Theory / Practical	Teaching hours	Maximum marks allotted			Passing			Credit
					External	Internal	Total	External	Internal	Total	
7.	Paper I	Basic Electronics	Theory	90	60	40	100	24	16	40	6
8.	Paper II	Consumer Electronics	Theory	90	60	40	100	24	16	40	6
9.	Paper III	Lab course	Practical	120	60	40	100	24	16	40	8

Minimum staff : 03

Mode of examination : Internal and external

(Theory and Practical)

Detail syllabus : Syllabus copy attached

CCCE 101: Basic Electronics

	Topics	Lectures Allotted (hrs)
1.	**Concept of Electricity:**	
	1.1 Voltage, Current, Resistance, and Power 1.2 Ohm's law. Series, parallel, and series-parallel combinations 1.3 AC and DC Electricity. Familiarization with Multimeter, voltmeter a 1.4 Power Sources: - Introduction and Their Types in Brief.	**17**
2.	**Basic Electrical components**	**16**
	2.1 Main electric circuit elements (Passive Components): Resistor, Capa Inductor and their application. 2.2 Main electric circuit elements (Active Components): Diode, Transistor & Silicon Controlled Rectifier and their application. 2.3 Concept of AC and DC Current & Voltage. 2.4 Response of inductors and capacitors with Single-phase and three-phase alternating current sources. 2.5 Rules to analyze: - DC sourced electrical circuits (KCL, KVL) Current and voltage drop across the DC circuit elements.	
3.	**Electrical Drawing and Symbols**	
	3.1 Drawing symbols. Reading Schematics. Ladder diagrams. 3.2 Electrical Schematics. Power circuits. 3.3 Control circuits. Reading of circuit schematics. 3.4 Tracking the connections of elements and identify current flow and voltage drop, Linear and Non Linear Circuits	**15**
4.	**Digital Electrical Circuits:**	
	4.1 Concepts of Digital Electrical Circuits, 4.2 Logic gates: Types, Truth tables, symbol, basic postulates and their fundamental theorems of Boolean Algebra. 4.3 Number system: Introduction, Types of Number system (Binary, Hexadecimal, Decimal & Octal)	**15**

	4.4 Flip Flop: Introduction, Types of Flip Flop and Their Application 4.5 Register: Introduction and Its Role.	
5.	**Analog Electronics:**	
	5.1 Introduction, Difference between the Analog and Digital electronics 5.2 Transistor:- Introduction, Types, construction and Operation 5.3 Amplifier:-Transistor as an amplifier, Need of biasing, Classification of amplifiers.	**13**
6.	**Electrical Measuring instrument:**	
	6.1 Digital Multimeter (DMM)-Block diagram and working. 6.2 Digital Frequency Meter (DFM)-Working principle, Block diagram, measurement of frequency and time. 6.3 Digital Storage Oscilloscope (DSO)-Block diagram, advantages and applications.	**14**
	Total	**90**

CCCE 102: Consumer Electronics

	Topics	**Lectures allotted (hrs)**
1.	**Consumer Electronic Appliances**	
	1.1 Introduction and Importance of Consumer electronics 1.2 Classification of Consumer Electronics Appliances 1.3 Consumer electronics use cases and requirements 1.3 Block diagram and operations of the CD player and types 1.4 Application of Consumer Electronics in daily life.	**16**
2.	**Audio System**	
	2.1 Microphone: Characteristics of microphone, different types of microphone, Electret & carbon microphones 2.2 Types of Microphone: Radio microphone and Noise cancelling microphone 2.3 Loudspeaker: Characteristics of Loudspeaker, Horn type, Multiway speaker system (Woofers & Tweeters). 2.4 P.A. System: Introduction, Block Diagram, Requirements	**18**

	and Installation	
3.	**Digital Television**	
	3.1 Introduction to Liquid Crystal Display, Plasma, LED and OLED Screen Televisions. 3.2 Basic block diagram of LCD and LED Television and their comparison 3.3 Concept of HD TV, smart TV, closed circuit TV 3.4 Introduction of Direct to home satellite TV (D2H), Block diagram of D2H TV system, Cable TV system 3.5 Personal Video Recorders	**18**
4.	**Office Appliances**	
	4.1 Computer System (Block Diagram, function of each block) 4.2 Scanners, Barcode reader, Printers, 4.3 Photocopier - block diagram, features and specification and Their Multifunction	**18**
5.	**Modern Home Appliances**	
	5.1 Microwave Oven – Principle of Operation, Block Diagram, Safety instructions -Care and Cleaning, features and specifications 5.2 Washing Machine - Principle of Operation, fuzzy logic, Washing machine with fuzzy logic, Block Diagram, features and specifications 5.3 Remote Control: Operating Principle, Block Diagram, Operation and features. 5.4 Electronic Weighing Systems - Operating principle, Block diagram, features	**20**
	Total	**90**

CCCE 103: Lab Course

Sr. No.	Lab course	Lectures allotted
1.	To study electrical components and measuring instruments.	08
2.	Verification color code resistor using Digital Multimeter.	08
3.	Verification of truth tables of logic gates AND, OR, NAND, NOR, NOT and XOR using ICS.	10
4.	To study IV characteristics of junction diode using PSICE	08
5.	Use of Solder machine and Glue gun.	10
6.	To study the replace of electrical components in electrical circuits.	10
7.	Plot the directional response of microphone	08
8.	Installation of DTH TV system.	09
9.	Installation of Printer	08
10.	To study the tracing of block of mobile charger & Microphone.	08
11.	To study the how to operate microwave oven and washing machine.	10
12.	To study the computer assembling and dissembling	06
13.	To study the office appliances (Computer system, Printer & Scanner)	09
14.	Identification of the block of Printer and Photocopier & Tracing the system	08
	Total	**120**

References:

1. Consumer electronics appliances: R P Bali
2. Audio and Video system : by R G Gupta
3. Consumer Electronics : J S Chitode
4. Electrical Circuits and Network skills : Dr S V Borase, Prashant Publication
5. Tyristor and their application : M Ramammorty, EWP
6. Electronics circuits: Discreat and Integrated: D L schilling and C. Belove, Tata Mcgraw Hill.

7. Basic Electronics, Bernod grob, McGraw Hill, India
8. Principle of Electronics, V K Mehta

॥ अंतरी पेटवू ज्ञानज्योत ॥

Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

1990
'A' Grade
NAAC Re-Accredited
(4th Cycle)

Jalgaon (M.S.), INDIA

We, the Board of Deans, Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon

&

The Principal

R.C. Patel Arts, Commerce & Science College, Shirpur

do, hereby, certify that,

~~Mr.~~/Ms. Patil Nayana Rajendra

has pursued a course of study approved by the Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon and has passed the requisite examination held in June 2023 *with* A *grade and found duly qualified for the award of*

Certificate in

Consumer Electronics

Which is conferred on ~~him~~ / her on October 1st, 2023

In testimony whereof is set the seal and signatures of authorities.

Principal

SHIRPUR * R.C.PATEL ARTS COMM.AND SCI.COLLEGE *

Dean

KBCNMU

A - 14371

Internal

May 23

Attendance Report

Date: 21/5/2023

Class: CCCE   Subject: Consumer Electronic   Paper Name: CCE-102   Paper Code: F

Sr No	Roll No/Seat No	Name of Student	Signature
1	202301	Birhade Aamrapali Aanand	Birhade
2	202302	Deore Ganesh Rajendra	[illegible]
3	202303	Jain Poonam Pratapmal	[illegible]
4	202304	Jawari Goral Yogesh	Gavare
5	202305	Patil Khushali Nitin	Patil
6	202306	Patil Naynu Rajendra	[illegible]
7	202307	Pawar Lina Kiran	Pawar
8			
9			
10			

AC Bhangale

R. C. Patel Educational Trust's

R. C. Patel Arts, Commerce & Science College, Shirpur

(Affiliated to the K.B.C. North Maharashtra University, Jalgaon)

STATEMENT OF MARKS

Certificate Course in Consumer Electronics (CGPA Pattern)

Examination held in May 2023

Student Name : Jaware Goral Yogesh

College Name : R. C. Patel Arts Commerce and Science College, Shirpur

Seat Number : 202304

Exam Centre : Shirpur (240051)

Paper Code	Paper Name	AM	Credits (Max.)	Marks Obtained
CCCE 101	Basic Electronics	TH	6.0	79
CCCE 102	Consumer Electronics	TH	6.0	85
CCCE103	Lab Course	FW	8.0	81

Result: **Pass** CGPA: **5.1** Grade: **A**

R.C.PATEL ARTS,COMM.AND SCI.COLLEGE SHIRPUR

Co-ordinator

Abbreviations:

AM: Assessment Methods, **P:** Pass, **F:** Fail, **AB:** Absent, **RR:** Result Reserved, **TH:** Theory, **PR:** Practical, **O:** Outstanding Grade

Kaviyatri Bahinabai Chaudhari North Maharashtra University, Jalgaon

Ordinance 181

College
R. C. Patel Arts, Commerce and Science College, Shirpur

Name of career oriented course
Diploma in Bioinformatics

Faculty

SCIENCE

Academic year

(2022-23)

Kaviyatri Bahinabai Chaudhari North Maharashtra University, Jalgaon

Ordinance 181

College name	**:**	**R. C. Patel Arts, Science and Commerce College, Shirpur**
Title of the course	**:**	**Diploma In Bioinformatics**
Aims/Objective of the course	**:**	**To make students acquaint about methods in bioinformatics and their applications in life sciences**
Duration of the course	**:**	**1 Year**
Fees structure	**:**	**Rs. 1000/-**
Course structure	**:**	**Paper I: Basics in cell Sciences** **Paper II: Fundamentals of Bioinformatics** **Paper III: Lab Course**
Eligibility for admission	**:**	**Certificate Course in Bioinformatics**

Skeleton of course:

Sr No	Paper	Name of subject	Theory / Practical	Teaching hours	Maximum marks allotted			Passing			Credit
					External	Internal	Total	External	Internal	Total	
10.	Paper I	Basics in Cell Science	Theory	90	60	40	100	24	16	40	6
11.	Paper II	Fundamentals of Bioinformatics	Theory	90	60	40	100	24	16	40	6
12.	Paper III	Lab course	Practical	120	60	40	100	24	16	40	8

Minimum staff : 03

Mode of examination : Internal and external

(Theory and Practical)

Detail syllabus : Syllabus copy attached

DBI 101: Basics in Cell sciences

.Topics	Lectures allotted (in hrs)
1. Structure and Organization of Cell: 1.1 Prokaryotic cell: Structure & Organelles 1.2 Plant cell: Structure & Organelles 1.3 Animal cell: Structure & Organelles 1.4 Golgi apparatus 1.5 RER and SER 1.6 Mitochondria 1.7 Plastids, vacuole 1.8 Nucleus 1.9 Endoplasmic reticulum	15
2. Basics in Genetics: 2.1 Concept of genes and genome 2.2 Chromosome: Structure and composition (Histones & Nucleosome) 2.3 Mutation: Concept and types (Point, nonsense, frameshift, transitions, trans versions)	15
3. Concepts in Cell Cycle: 3.1 Mitosis: Introduction, Steps, significance 3.2 Meiosis: Introduction, Steps, significance 3.3 Differences Mitosis & Meosis	15
4. Central Dogme of Moléculaire Biologie : 4.1 DNA réplications : Details of replication : Initiation, Elongation, 4.2 Termination 4.3 Transcription : Details of transcription : Initiation, Elongation, 4.4 Termination 4.5 Translation: Details of translation: Initiation, Elongation, Termination	15
5. Basics in Immunology: 5.1 Background of Immune system, Concept of immunity 5.2 Cells and organs of immune system 5.3 Concept of antigen: Types of antigen, antigenic determinants 5.4 Concept of Hapten; antigen and Immunogen 5.5 Concept of Antibody: Structure, types and functions (IgA, IgG, IgM. IgD and IgE) 5.6 Overview of immune responses: CMI and humoral immune response	30
Total	**90**

DBI 102: Fundamentals in Bioinformatics

Topics	Lectures allotted (in hrs)
1. Studies of Alignment and Comparisons of Sequence 1.1 Study of single sequence 1.2 Outline of Single sequence alignments: Pair wise alignments, Scoring matrix, PAM, BLOSUM, Gap penalty; 1.3 Alignment types: Global and local alignment 1.4 Alignment algorithms: Dynamic methods: Needleman-Wunsch algorithm, Smith-Waterman algorithm; Heuristic methods: FASTA, BLAST; 1.5 Multiple sequence alignments: ClustalW, ClustalX; PSI-BLAST: BLAST searches	30
2. Concepts in Gene studies 2.1 Introduction to Gene prediction strategies 2.2 Basics in Exon prediction 2.3 Background in Protein prediction strategies 2.4 Basics in Coding sequence prediction 2.5 Tools available for prediction of gene	15
3. Proteins alignments 3.1 Background of Protein structure alignments 3.2 Secondary structure prediction strategies 3.3 Three-dimensional structure determination 3.4 Comparison of protein structures 3.5 Different structure alignment algorithms	20
4. Data mining 4.1 NCBI resources 4.2 SRS 4.3 OMIM tool 4.4 ENTREZ search engine 4.5 Advanced search 4.6 UniProt	10
5. Outline to tools 5.1 Clustal Omega 5.2 ClustalW 5.3 MEGA5 5.4 Phylip package 5.5 JMol 5.6 SPDBV 5.7 Mol-Mol	15
Total	**90**

DBI 103: Lab Course

Lab work	Periods allotted (in hrs)
Study of Sequence alignment using ClustalOmega	**6**
Study of Retrieving DNA/RNA sequence in FASTA file format from NCBI.	**4**
Searching and downloading pdb files from protein data bank.	**4**
Protein structure visualization using SPDBV	**6**
Search and retrieve protein data from UniProtKB/Swiss-Prot and UniProtKB/TrEMBL	**4**
Similarity searching using BLAST for DNA / protein sequence.	**4**
Sequence alignment using Needle / Water program	**6**
Exploring database at NCBI and querying the PUBMED database using the ENTREZ search engine	**8**
Sequence alignment using Needleman-Wunsch algorithm	**6**
Sequence alignment using Smith-Waterman algorithm	**8**
Multiple sequence alignment using BLAST	**7**
Searching for protein sequence alignments using pBLAST	**5**
Designing primers for given DNA sequence using online tools	**8**
Predicting protein properties from ExPASy server using 'ProtParam'	**8**
Protein sequence similarity search using FASTA at EBI	**8**
Practical based on DAMBE software	
Alignment of nucleic acid sequence to aligned amino acid sequence	**4**
Calculating amino acid frequency from given sequence	**4**
Determination of tRNA loop of given sequence	**4**
Extract secondary structure from a pdb file	**4**
Secondary structure prediction using CFSSP	**4**
Study of ProtParam	**8**
Total	**120**

References:

1. Singh Bharat, “Immunology”, Pointer Pub, Jaipur.
2. Yadav .P.R,”Immunology”, Dicovery Pub House, New Delhi.
3. Coleman.R.M, Lombard.M.F, Sicard.R.E, Rencocca.N.J , “Fundamentals of
4. Immunology” by W.C.Brown Pub,1989
5. S.C. Rastogi, Namita Mendirata, Parag Rastogi Bioinformatics concepts Skills and application, CBS publisher
6. D. Baxevanis and F. Oulette, (2002), "Bioinformatics: A practical guide to the analysis of genes and proteins", Wiley
7. Arthur M. Lesk, (2002), "Introduction to Bioinformatics" Oxford University
8. Alexis Leon and Mathews Leon Introduction to computers with MS –Office 2000 Tata Mcgrow Hill.
9. Bioinformatics - Computational Molecular Biology by Zvia Agur.
10. “Basic Bioinformatics” by Ignacimuthu.
11. An introduction to bioinformatics by vikramsingh, Narosa Publications.

Lecture attendance
Diploma in Bioinformatics
2022-23

Sr. No.	Name of Student	Date and Sign of Students																						
		17-7-22	18-7-22	20-7-22	23-7-22	28-7-22	1-8-22	3-8-22	4-8-22	5-8-22	9-8-22	10-8-22	16-8-22	17-8-22	18-8-22	21-8-22	22-8-22	23-8-22	24-8-22	29-8-22	01-09-22	2-09-22	3-09-23	4-09-23	5-01-23	10-01-23	15-01-23	19-01-23	20-01-23
1.	Bhadane Dhiraj Mahesh		Dhiraj	Dhiraj	Dhiraj	Dhiraj		Dhiraj	Dhiraj	Dhiraj		Dhiraj	Dhiraj	Dhiraj	Dhiraj	Dhiraj	Dhiraj	Dhiraj	Dhiraj	Dhiraj	Dhiraj	Dhiraj	Dhiraj	Dhiraj	Dhiraj	Dhiraj	Dhiraj	Dhiraj	Dhiraj
2.	Salunkhe Chetan Kashinath																												

Head,
Department of Microbiology
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Shirpur,Dist-Dhule

R. C. Patel Educational Trust's

R. C. Patel Arts, Commerce & Science College, Shirpur

(Affiliated to the K.B.C. North Maharashtra University, Jalgaon)

STATEMENT OF MARKS

Diploma in Bioinformatics (CGPA Pattern)

Examination held in May 2023

Student Name : Salunkhe Chetan Kashinath

College Name : R. C. Patel Arts Commerce and Science College, Shirpur

Seat Number : 231202

Exam Centre : Shirpur (240051)

Paper Code	Paper Name	AM	Credits (Max.)	Marks Obtained
DBI 101	Basics in Cell Sciences	TH	6.0	83
DBI 102	Fundamentals of Bioinformatics	TH	6.0	57
DBI 103	Lab Course	PR	8.0	91

Result: **Pass**

CGPA: **4.75**

Grade: **A**

R.C.PATEL ARTS,COMM.AND SCI.COLLEGE SHIRPUR

Co-ordinator

Abbreviations:

AM: Assessment Methods, **P:** Pass, **F:** Fail, **AB:** Absent, **RR:** Result Reserved, **TH:** Theory, **PR:** Practical, **O:** Outstanding Grade

K.B.C. North Maharashtra University, Jalgaon

Ordinance 181

College

R. C. Patel Arts, Commerce and Science College, Shirpur

Name of career oriented course

Diploma in Plant Tissue Culture

Faculty

SCIENCE

Academic year

(2022-23)

North Maharashtra University, Jalgaon
Ordinance 181

College name : **R. C. Patel Arts, Commerce and Science College, Shirpur**

Title of the course : **Diploma in Plant Tissue Culture**

Aims/Objective of the course : **To make students acquaint about methods in plant tissue culture and their applications.**

Duration of the course : **1 Year**

Fees structure : **Rs. 1000/-**

Course structure : **Paper I: Plant Biotechnology**

Paper II: Plant Tissue Culture

Paper III: Lab Course

Eligibility for admission : **Certificate Course in Plant Tissue Culture**

Skeleton of course:

Sr No	Paper	Name of subject	Theory / Practical	Teaching hours	Maximum marks allotted			Passing			Credit
					External	Internal	Total	External	Internal	Total	
13.	DPTC-101	Plant Biotechnology	Theory	90	60	40	100	24	16	40	6
14.	DPTC-102	Plant Tissue Culture	Theory	90	60	40	100	24	16	40	6
15.	DPTC-103	Lab course	Practical	120	60	40	100	24	16	40	8

Minimum staff : 03

Mode of examination : Internal and external

(Theory and Practical)

Detail syllabus : Syllabus copy attached

DPTC 101: Plant Biology

Topics	Lectures allotted
1. Plant tissue culture and some related aspects	
1.1 Bio village concept: Qualifications required to join the training course, Employment for rural youth 1.3 Efforts of public research institutes 1.4 Production criteria and economics: Selection of crops for micro propagation, Selection of location 1.5 Planning for production: Multirate, Passage, Operator efficiency	**15**
2. Germplasm Conservation and Storage	
2.1 Introduction 2.2 Approaches for germplasm conservation: *In-situ* Conservation and *Ex-situ* Conservation 2.3 Germplasm conservation in the form of seeds 2.4 In-vitro methods for germplasm conservation 2.5 Applications of germplasm storage 2.6 Limitations of germplasm storage	**15**
3. Plant tissue culture and Cryopreservation	
3.1 Introduction 3.2 Technique used in cryopreservation 3.3 Development of sterile tissue cultures 3.4 Addition of cry protectants and pre-treatment 3.5 Freezing, Storage, Thawing 3.6 Recapture, Measurement of viability and Plant regeneration	**15**
4. Eco-Social Impact of Genetically Modified Crops	
4.1 Legal rights in the new biotechnology: Patent 4.2 Impacts on Farmers and Consumers, Ethical and Practical Problems 4.3 Transgenic plants: Risk, Benefits and Impact on Society and Environment	**15**

4.4 Transgenics and Human wealth	
5. Agro biotechnology and its Applications	
5.1 Improvement of crop yield and quality: Green revolution	**15**
5.2 Genetic manipulations of fruit ripening,	
5.3 Presentation of discolouration, flower pigmentation	
5.4 Male sterility	
5.5 Genetic Engineering for increasing vitamins, amino acids & minerals	
5.6 Commercial transgenic crop plants	
6. Plant tissue culture and forestry	
6.1 Introduction and History 6.2 Scope of tissue culture in forestry. 6.3 Applications of PTC in forestry.	**15**

References:

1. Introduction to biotechnology: S. S. Purohit.
2. Biotechnology: U. Satya Narayana
3. Kalyan Kumar De, Plant tissue culture.

DPTC 102: Advances in Plant Tissue Culture

Topics	Lectures allotted
1. Preparation of Media	
1.1 Media components 1.2 Preparation of Stock solutions 1.3 Preparation of Media 1.4 Media mixing	**15**
2. Aseptic Techniques and preparation of Explants	
2.1 Sterilization of Plant Tissues 2.2 Control of Bacterial and Fungal Contaminants by antibiotics 2.3 Pretreatment to explant 2.4 Age of explant 2.5 Size of explant	**15**
3. Methods of sterilization and Disinfestation	
a. Effectiveness of antimicrobial agent activity: Population size, population composition, Concentration of antimicrobial agent, exposure time, Temperature b. Sterilization: Moist Heat, Dry Heat, Filtration, Radiation c. Disinfection: Chemical disinfectants, Classification of Chemical Disinfectants	**15**
4. Organogenesis:	
4.1 Introduction 4.2 What is embryo culture? 4.3 Different categories of embryo culture and their objectives. 4.4 Principle and protocol. 4.5 Applications.	**15**
5. Cell – Suspension culture:	
5.1 Definition 5.2 Principle 5.3 Protocol 5.4 Importance of cell suspension culture.	**15**
6. Embryo culture Organogenesis:	
6.1 Introduction 6.2 Principle and Protocol. 6.3 Factors affecting organogenesis. 6.4 Applications of organogenesis	**15**

References:

1. Kalyan Kumar De, Plant tissue culture.
2. Plant tissue culture, S.S.Bhojwani and M.K. Rajdhan.
3. Plant tissue culture, S.S. Purohit.

DPTC 103: Lab Course

Sr. No.	Lab course	Lectures allotted
15.	Sterile methods in plant tissue culture.	12
16.	Isolation of *Agrobacterium*	12
17.	Isolation of chloroplast from spinach leaves.	12
18.	Isolation of plant DNA	12
19.	Estimation of Plant DNA	12
20.	Estimation of carotenoids.	12
21.	Cell suspension culture	12
22.	Study of Leaf Culture	12
23.	Study of Ovary Culture	12
24.	Study of embryo culture.	12
	Total	**120**

References:

1) Kalyan Kumar De, Plant tissue culture.

2) Biotechnology books and experiment handbooks. Harisha

Lecture attendance
Diploma in Plant tissue culture
2022-23

Sr. No.	Name of Student	Date and Sign of Students																								
		11 July 22	14 July 22	20 July 22	24 July 22	25 July 22	29 July 22	4 Aug 22	11 Aug 22	24 Aug 22	26 Aug 22	29 Aug 22	11 Sep 22	24 Sep 22	26 Sep 22	28 Sep 22	3/10/22	5/10/22	7/10/22	18/10/22	24/10/22	4/12/22	6/12/22	12/12/22	12/1/23	24/1/23	27/1/23	2/2/23	12/2/23
1.	Kadi Madhura Rajendra	Kapita	Kapita	Kapita	AB	Kapita	Kapita	Kapita	Kapita	Kapita	Kapita	Kapita	Kapita	Kapita	AB	Kapita	Kapita	Kapita	Kapita	Kapita	Kapita	Kapita	Kapita	Kapita	Kapita	AB	Kapita	AB
2.	Mahajan Neha Yuvraj							AB	AB								AB											
3.	Patel Yamini Chandrakant							AB	AB							AB					AB							
4.	Patil Priyanka Hemraj										AB			AB								AB						
5.	Solanki Priti Jagan																								AB			

R.C.Patel A.S.C. College, Shirpur Microbiology

Head,
Department of Biotechnology
R.C.Patel Art,s & Sci.College
Shirpur,Dist-Dhule.

K.B.C. North Maharashtra University, Jalgaon

Ordinance 181

College

R. C. Patel Arts, Commerce and Science College, Shirpur

Name of career oriented course

Advance Diploma in Bioinformatics

Faculty

SCIENCE

Academic year

(2022-23)

North Maharashtra University, Jalgaon
Ordinance 181

College name : **R. C. Patel Arts, Commerce and Science College, Shirpur**

Title of the course : **Advance Diploma in Bioinformatics**

Aims/Objective of the course : **To make students acquainted about methods in Bioinformatics and their applications in life sciences**

Duration of the course : **1 Year**

Fees structure : **Rs. 1000/-**

Course structure : **Paper I: Genetic Engineering & Molecular Biology**

Paper II: Advances of Bioinformatics

Paper III: Lab Course

Eligibility for admission : **Diploma in Bioinformatics**

Skeleton of course:

Sr No	Paper	Name of subject	Theory / Practical	Teaching hours	Maximum marks allotted			Passing			Credit
					External	Internal	Total	External	Internal	Total	
16.	ADBI-101	Molecular Genetics & Bio-Engineering	Theory	90	60	40	100	24	16	40	6
17.	ADBI-102	Advances in Structural Bioinformatics	Theory	90	60	40	100	24	16	40	6
18.	ADBI-101	Lab course	Practical	120	60	40	100	24	16	40	8

Minimum staff : 03

Mode of examination : Internal and external

(Theory and Practical)

Detail syllabus : Syllabus copy attached

ADBI 101: Molecular Genetics and Bio-Engineering

Topics	Lectures allotted (in hrs)
Unit I: Nucleic acid Chemistry 1.1 Structural aspects – Components of DNA and RNA, 1.2 Nucleosides & Nucleotides (introduction, structure & bonding), 1.3 Double helical structure of DNA (Watson-Crick model), various forms of DNA 1.4 Structure of RNA (Primary, Secondary & Tertiary) 1.5 Central dogma of molecular biology	15
Unit II: Molecular apparatuses 2.1 DNA polymerase 2.2 RNA polymerase and its types 2.3 DNA topology 2.4 Topoisomerase (Types and Mechanism) 2.5 Vectors	20
Unit III: Basics in genetic engineering 3.1 Basic principles of genetic engineering 3.2 Open reading frames 3.3 Restriction enzymes and its types	15
Unit IV: Advances in genetic engineering 4.1 DNA Sequencing Methods (Dideoxynucleoside sequencing 4.2 Chemical degradation method) 4.3 Protein sequencing 4.4 DNA microarrays 4.5 Human genome project 4.6 PCR (Principle and basic protocol variations and applications) 4.7 Genomic and cDNA libraries construction and their applications	15

Unit V: Analysis of sequence data		
5.1 Identification of gene functions and their products 5.2 Expression signals, SNP and EST 5.3 Protein motifs and domains		15
Unit VI: Analysis of gene expression:		
6.1 Analyzing transcriptions (Northern blots, RT-PCR), 6.2 Translational analysis (western blots, 2D-electrophoresis)		10
	Total	**90**

ADBI 102: Advances in Structural Bioinformatics

Topic	Lectures allotted (in hrs)
Unit 1: Genomics	12
1.1 Genomics, Concept, approaches and methods	
1.2 Genome mapping, determining sequence of a clone	
1.3 Human genome project	
1.4 Automated DNA sequencing.	
Unit 2: Proteomics	08
2.1 Technology for protein expression analysis	
2.2 Posttranslational modification	
2.3 Protein sorting	
2.4 Protein-protein interactions	
Unit 3: Sequence alignment and algorithms	14
a. Study of similarities	
b. Sequence alignment methods	
c. Pairwise sequence alignment	
d. Needleman-Wunch algorithm and Smith-Waterman algorithm	
e. Multiple sequence alignment and programs for sequence alignment	
Unit 4: Protein motifs and domain prediction	12
4.1 Identification of motifs and domains in multiple sequence alignment	
4.2 motif and domain databases using regular expressions	
4.3 Protein family databases.	
Unit 5: Phylogenetic analysis	12
5.1 Terminologies	
5.2 Molecular evolution and Molecular phylogenetic	
5.4 Gene phylogeny and species phylogeny	
5.6 Forms of phylogenetic tree.	
Unit 6: Phylogenetic tree construction	12
6.1 Distance based methods and character based methods	
6.3 Phylogenetic tree evaluation	
6.4 Phylogenetic programs – PHYLIP and DAMBE	
Unit 7: Online Map repositories	10
7.1 NCBI – Entrez Human genome map viewer	
7.2 OMIM – Online Mendelian Inheritance in Man	
Unit 8: Drug discovery and pharma informatics	10
8.1 Discovering a drug	
8.2 Target identification and validation	
8.3 Identifying the lead compound	

8.4 Optimization, pharma informatics		
	Total	**90**

ADBI 103: Lab course

Lab work	**Periods allotted (in hrs.)**
Study SPDBV and Rasmol	8
Study of Molecular phylogeny (PHYLIP)	6
Study of ENTREZ search engine	6
Prediction of ORF using OR finder	5
Determination of protein properties using NCBI	6
Study of human genome map viewer of NCBI	4
Analysis of protein and nucleic acids sequences	6
Accessing PubMed and PubMed Central	4
Study of Online Mendelian Inheritance in Man	10
Comparing and analyzing sequences using DAMBE.	8
Homology comparing using Homologue	10
Design PCR primers using online tools	4
Protein multiple sequence analysis using NCBI-COBALT	8
Studying phylogeny analysis	10
Determine sequence relationship using Needleman-Wunch algorithm	7

Sequence similarity searching (NCBI BLAST)		12
	Total	**94**

References:

1. Cell biology, genetics, molecular biology, evolution and ecology by P. S. Verma and V. K. Agrawal, S. Chand Publ.
2. Friefielder D, (1993) Microbial Genetics, Jones & Bartlett Publishers, Inc.
3. Arora M. P. Sandhu G.S. "Genetics"
4. Arora M. P. "Biotechnology"
5. Claverie J. M. & Notredame C. "Bioinformatics: A beginner's guide"
6. Bioinformatics - Concepts, Skills, Applications". S.C. Rastogi, Namita Mendiratta, Parag Rastogi.
7. Bioinformatics: A Practical Guide to the Analysis of Genes and Proteins. Andrea's D. Baxevanis, B.F. Francis Ouellette.
8. Biological Sequence Analysis: Probabilistic Models of Proteins and Nucleic Acids. Richard Durbin et al.
9. Computer Methods for Macromolecular Sequence Analysis. Doolittle R.F. (Ed.) (Methods in Enzymology, VOl. 266).
10. Shanmughavel, P. 2005. Principles of Bioinformatics, Pointer Publishers, Jaipur, India.
11. DNA and Protein Sequence Analysis. A Practical approach. Bishop M.J. Rawlings C.J. (Eds.).
12. Introduction to Bioinformatics. Teresa. K. Atwood and David J. Parry-Smith.
13. An introduction to Bioinformatics by vikramsingh, Narosa Publ.
14. Bioinformatics - Computational Molecular Biology by Zvia Agur.
15. Basic Bioinformatics by Ignacimuthu.

Lecture attendance
Advanced diploma in Bioinformatics
2022-23

Sr. No.	Name of Student	Date and Sign of Students																									
		17/08/22	19/08/22	25/08/22	28/08/22	02/09/22	05/09/22	09/09/22	25/09/22	27/09/22	02/10/22	03/10/22	07/10/22	21/10/22	16/11/22	17/12/22	18/12/22	20/12/22	23/12/22	24/12/22	25/12/22	26/12/22	2/01/23	3/01/23	4/01/23	6/01/23	7/01/23	9/01/23	10/01/23
1.	Deore Jayesh Sanju		Jayesh D.	Jayesh D.	Jayesh D.	Jayesh D.	Jayesh D.	Jayesh D.	Jayesh D.	Jayesh D.	Jayesh D.	Jayesh D.	Jayesh D.	Jayesh D.	Jayesh D.	Jayesh D.	Jayesh D.	Jayesh D.		Jayesh D.	Jayesh D.		Jayesh D.	Jayesh D.	Jayesh D.	Jayesh D.	Jayesh D.	Jayesh D.
2.	Kokarde Yash Sunil		Yash K.		Yash K.	Yash K.	Yash K.	Yash K.	Yash K.	Yash K.	Yash K.	Yash K.	Yash K.	Yash K.	Yash K.				Yash K.	Yash K.	Yash K.	Yash K.	Yash K.	Yash K.	Yash K.	Yash K.	Yash K.	Yash K.
3.	Thorat Janhavi Kailas		Janhavi T.		Janhavi T.	Janhavi T.	Janhavi T.	Janhavi T.	Janhavi T.	Janhavi T.	Janhavi T.	Janhavi T.	Janhavi T.	Janhavi T.	Janhavi T.	Janhavi T.	Janhavi T.	Janhavi T.	Janhavi T.	Janhavi T.	Janhavi T.	Janhavi T.	Janhavi T.	Janhavi T.	Janhavi T.	Janhavi T.	Janhavi T.	Janhavi T.

R.C.Patel A.S.C. College, Shirpur Microbiology Department

Head,
Department of Microbiology
R.C.Patel Art,s & Sci.College
Shirpur,Dist-Dhule.

K.B.C. North Maharashtra University, Jalgoan

Ordinance 181

R. C. Patel Arts, Commerce and Science College, Shirpur

Name of Career Oriented Course

PG Diploma in Bioinformatics

Faculty

SCIENCE

Academic year

(2022-23)

North Maharashtra University, Jalgoan

Ordinance 181

College name	**:**	R. C. Patel Arts, Science and Commerce College,Shirpur
Title of the course	**:**	Post graduate diploma in Bioinformatics
Aims/Objective of the course	**:**	To make students acquaint about current trends in the field of bioinformatics and its application in lifesciences.
Duration of the course	**:**	1 Year
Fees structure	**:**	Rs. 1500/-
Course structure	**:**	Paper I: Foundations in Life Sciences Paper II: Advances in Bioinformatics Paper III: Lab Course
Eligibility for admission	**:**	B.Sc. (Science) as per ordinance 181

Skeleton of course:

Sr No	**Paper**	**Name of subject**	**Theory / Practical**	**Teaching hours**	**Maximum marks allotted**			**Passing**			**Credit**
					External	Internal	Total	External	Internal	Total	
1.	Paper I	Foundations in Life Sciences	Theory	90	60	40	100	24	16	40	6
2.	Paper II	Advances in Bioinformatics	Theory	90	60	40	100	24	16	40	6
3.	Paper III	Lab course	Practical	120	60	40	100	24	16	40	8

PGDBI 101: Foundations in Life Sciences

Topics	Lectures allotted (in hrs.)

Chemistry of Life
• Chemistry of living organisms, atoms, elements, chemical bonds,comparison of enzymatic and non-enzymatic reactions.
• **Study of biomolecules:**
  • **Carbohydrates:** Structure, classification
  • **Proteins:** properties of amino acids and peptides; structural levelsof proteins; phi- and psi- angles in protein conformation.
  • **Enzymes:** EC number, enzyme nomenclature and classification;units of enzyme activity; allosteric enzymes.
	15

Genetics • **Basics concepts of genetics:** Bases, nucleotides, nucleosome,histones, genes, genomes. • **RNA:** Structure, function and types, mRNA splicing • **DNA:** structure of B form of DNA; denaturation, renaturation kinetics,hybridization of DNA, circular and linear DNA. • **Genome mapping and genome sequencing:** Basics and significance	**15**
Immuno-informatics • **Immune system:** Overview, Types: (innate and acquired) • **Antibody:** Structure and function • **MHC**: MHC Peptide interaction, MHC I & II, Polymorphism • **B Cell and T Cell antigens:** Characteristics and Importance • **Immune response:** CMI and humoral immune response • **Bioinformatics in immunology:** Background and significance invaccine development	**15**

Topics	Lectures allotted (in hrs.)
Central Dogma of Molecular biology • Nucleic Acid: Types and Structure • 16S RNA • DNA topology • DNA modifying enzymes • RNA polymerase and its types • Transcription: Mechanism • Translation: Mechanism	**15**
Genomics & Proteomics • Study of organization of genomes, Genome sequencing techniques • The Human Genome Project, Applications of genomics studies • Introduction to proteomics, Metabolic pathways • Post-translational Modification • Protein–Protein Interactions • Applications of proteomics studies	**15**
Molecular Biology techniques • Centrifugation and ultra-centrifugation • Gel electrophoresis • SEM and TEM • TLC, HPTLC • HPLC • pH and pOH	**15**
Total	**90**

PGDBI 102: Advances in Bioinformatics

Topics	Lectures allotted (in hrs.)
Bioinformatics Software • Study of Nucleic acid tools: Crustal W, ORF Finder, tools at NCBI,CFSSP • Study of Protein tools: ExPaSy, tools at EBI, ProtParam, Crustal -Omega	**08**
Biological databases Concept and classification of biological databases • Nucleic acid sequence databases: GenBank, EMBL, DDBJ • Protein sequence databases: SwissProt, PIR, PDB • EXPASY, SRS, ENTREZ	**12**

Sequence alignments
• Concept of single and multiple sequence alignment
• Sequence alignment methods
  • Global and Local Alignment
  • Multiple Sequence Alignment
• Sequence alignment algorithms
  • Smith-Waterman algorithm
  • Needelman-Wunsch Algorithm
• Web-based sequence alignment tools
	15

Homology, phylogeny and evolutionary relationships • Concept of homology, similarity and identity • Phylogeny and evolutionary relationships • Methods of phylogenetic analysis • Phylogenetic trees • Tree-building methods • Use of Phylip and DAMBE in phylogenetic analysis	**10**

Topics	Lectures allotted(in hrs)
Pharma informatics • Drug discovery process • Target identification and validation • Identifying and optimization of lead compound	**12**
Analytical methods of nucleic acid and proteins • Gene prediction strategies • ORF finding methods • Protein function prediction strategies • Secondary structure prediction • 3D structure prediction of proteins	**6**
Genome maps • Types of Genome maps and their uses, • Map elements, • Types of maps: Cytogenetic, Linkage map, Transcript map, Physicalmap, Comparative map, integrated map.	**12**
Map repositories • NCBI – Entrez Human genome map viewer • NCBI – Taxonomy browser • Human genome resources at ornl.gov • OMIM – Online Mendelian Inheritance in Man	**8**
Applications in Genomics and proteomics • Genome mapping and Genome annotation • Protein expression analysis - SAGE • 2D gel electrophoresis	**7**
Total	**90**

PGDBI 103: Lab course

Sr. No.	Lab work	Periods allotted (In hrs.)
1.	Study of online resources using Sequence Retrieval System: ENTREZ	**6**
2.	Study of online protein resources: PDB and PIR.	**4**
3.	Multiple sequence alignment using Clustal Omega.	**8**
4.	Protein sequence download and visualization using RsMol and SPDBV	**4**
5.	Prediction of possible ORF using NCBI ORF finder.	**4**
6.	Calculate physical, chemical parameters for proteins using ProtParam.	**8**
7.	Study of Global and local sequence alignments	**4**
8.	Study of Blast Tool At Ncbi i. Use Blast in to identify the gene, the source organism and analysisof BLAST result. ii. Identification of protein sequence by BLAST p. iii. Finding PCR primers specific for template DNA using NCBI's Primer BLAST.	**8** **8** **6**
9.	Study of services at EBI i. Ensemble ii. EBI metagenomics iii. Gene Wise	**6** **6** **8**
10.	Study of UniProt tool of EBI	**8**
11.	Studying resources for molecular phylogeny. i. Study of MEGA5 software. ii. Study of sequence editor software: BioEdit. iii. Visualizing phylogenetic tree using FigTree / TreeView.	**6** **4** **4**
12.	Studying molecular phylogeny using tool DAMBE.	**8**
13.	Explore study and use proteomics resources available at ExPaSy.	**6**
14.	Predicting possible genes in DNA sequence using NCBI-GLIMMER.	**4**
	Total	**120**

References:

1. Arora M. P. Sandhu G.S. “Genetics”
2. Claverie J. M. & Notredame C. “Bioinformatics: A beginner’s guide”
3. Bioinformatics – Concepts, Skills, Applications”. S.C. Rastogi, Namita Mendiratta,Parag Rastogi.
4. Cell Biology, Genetics, Molecular Biology, Evolution and Ecology by P. S. Verma and V. K. Agrawal, S. Chand Publ.
5. Bioinformatics: A Practical Guide to the Analysis of Genes and Proteins. Andréa’s D. Baxevanis, B.F. Francis Ouellette.
6. Biological Sequence Analysis: Probabilistic Models of Proteins and NucleicAcids. Richard Durbin et al.
7. Computer Methods for Macromolecular Sequence Analysis. Doolittle R.F. (Ed.)(Methods in Enzymology, VOl. 266).
8. Shanmughavel, P. 2005. Principles of Bioinformatics, Pointer Publishers, Jaipur,India.
9. DNA and Protein Sequence Analysis. A Practical approach. Bishop M.J.Rawlings C.J. (Eds.).
10. Introduction to Bioinformatics. Teresa. K. Atwood and David J. Parry-Smith.
11. An introduction to bioinformatics by Vikramsingh, Narosa Publ.
12. Bioinformatics - Computational Molecular Biology by Zvia Agur.
13. Basic bioinformatics by Ignacimuthu.

Lecture attendance
PG diploma in Bioinformatics
2022-23

Sr. No.	Name of Student		Date and Sign of Students
1.	Chaudhari Kamini Dnyaneshwar	Ckamini	17-7-22
2.	Chaudhari Yogesh Sunil		19-7-22
3.	Jadhav Prajakta Hemantrao	PH	18-7-22
4.	Jagdale Payal Sunil	PH	24-7-22
5.	Khaire Ritika Chandrakant		28-7-22
6.	Magare Sonal Bhagwan		29-7-22
7.	Mahale Harshada Hiraman		1-8-22
8.	Mali Dhanashree Anand		3-8-22
			5-8-22
			7-8-22
			10-8-22
			12-8-22
			13-8-22
			14-8-22
			18-8-22
			20-8-22
			22-8-22
			24-8-22
			27-8-22
			30-8-22
			31-8-22
			1-9-22
			5-10-22
			8-10-22
			11-10-22
			14-10-22
			17-10-22
			21-10-22

9.	Mali Dipika Prashant										
10.	More Vaishnavi Narendra										
11.	Patil Aarti Yashwant										
12.	Patil Devyani Vijay										
13.	Patil Hemangi Sunil										
14.	Patil Kiran Vilas										
15.	Patil Shashikant Ashok										
16.	Patil Yojana Sandip										
17.	Rajput Priti Pravin										
18.	Sali Subodh Rajendra										
19.	Solanki Priti Jagan										

20.	Sonawane Kalyani Ranjit	
21.	Vinchurkar Dipali Chandrakant	
22.	Wadile Sayali Ravindra	

Head,
Department of Microbiology
R.C.Patel Art,s & Sci.College
Shirpur,Dist-Dhule.

R. C. Patel Educational Trust's

R. C. Patel Arts, Commerce & Science College, Shirpur

(Affiliated to the K.B.C. North Maharashtra University, Jalgaon)

STATEMENT OF MARKS

Post Graduate Diploma in Bioinformatics (CGPA Pattern)

Examination held in May 2023

Student Name : Wadile Sayali Ravindra

College Name : R. C. Patel Arts Commerce and Science College, Shirpur

Seat Number : 236119

Exam Centre : Shirpur (240051)

Paper Code	Paper Name	AM	Credits (Max.)	Marks Obtained
PGDBI 101	Basics in Life Sciences	TH	6.0	82
PGDBI 102	Developments in Bioinformatics	TH	6.0	92
PGDBI 103	Lab Course	PR	8.0	82

Result: **Pass** CGPA: **5.10** Grade: **A**

R.C.PATEL ARTS,COMM.AND SCI.COLLEGE SHIRPUR

Co-ordinator

Abbreviations:

AM: Assessment Methods, **P:** Pass, **F:** Fail, **AB:** Absent, **RR:** Result Reserved, **TH:** Theory, **PR:** Practical, **O:** Outstanding Grade

Kaviyatri Bahinabai Chaudhari North Maharashtra University, Jalgaon

Ordinance 181

College
R. C. Patel Arts, Commerce and Science College, Shirpur

Name of career oriented course
Post Graduate Diploma in Microbial Biotechnology

Faculty
SCIENCE

Academic year
(2022-23)

Kaviyatri Bahinabai Chaudhari North Maharashtra University, Jalgaon
Ordinance 181

College name	:	**R. C. Patel Arts, Science and Commerce College, Shirpur**
Title of the course	:	**Post graduate diploma in Microbial Biotechnology**
Aims/Objective of the course	:	**To make students acquaint about methods and techniques of industrial biotechnology and their applications**
Duration of the course	:	**1 Year**
Fees structure	:	**Rs. 1500/-**
Course structure	:	**Paper I: Basics in Life Sciences** **Paper II: Developments in Industrial technology** **Paper III: Lab course**
Eligibility for admission	:	**B.Sc. (Science) as per ordinance 181**

Skeleton of course:

Sr. No	Paper	Name of subject	Theory / Practical	Teaching hours	Maximum marks allotted			Passing			Credit
					External	Internal	Total	External	Internal	Total	
19.	Paper I	Basics in Life Sciences	Theory	90	60	40	100	24	16	40	6
20.	Paper II	Developments in Industrial Technology	Theory	90	60	40	100	24	16	40	6
21.	Paper III	Lab course	Practical	120	60	40	100	24	16	40	8

Minimum staff : 03

Mode of examination : Internal and external

(Theory and Practical)

Detail syllabus : Syllabus copy attached

PGDMBT 101: Basics in Life Sciences

Topics	Periods allotted (hrs.)
Unit 1: Foundation in Microbiology:	
Microbial cells: Structure and organization, Microbial diversity with representative examples. Microbiology in the environment: water, sewage and air, environmental pollution and biodegradation.	**15**
Unit 2: Microbial physiology and biochemistry:	
Microbial nutrition, Aerobic and anaerobic growth, Factors affecting on growth, growth kinetics, Biomolecules (Carbohydrates, Nucleic acids, Lipids), Glycolysis, Gluconeogenesis.	**10**
Unit 3: Medical microbiology and immunology:	
Introduction to Medical Microbiology, Microbiology in human diseases, Introduction to immune system, Immunity, basic immunological techniques, immunodiagnostic methods with examples of applications, monoclonal antibodies.	**15**
Unit 4: Fundamental of Molecular Biology:	
Structure and properties of DNA/RNA, replication, DNA mutations and repair, transcription, mRNA processing, translation, gene regulation: lac operon.	**15**
Unit 5: Techniques in Molecular Biology:	
Hybridization techniques, DNA Microarray, Nucleic acid blotting techniques (Southern, Northern, Western), Electrophoresis: gel and SDS-PAGE	**15**
Unit 6: Techniques in genetic Engineering:	
Concept & Methods in microbial genetics: mutagenesis and screening, strain improvement, transgenic plants and animals. Principles of cloning, Introduction to cloning vectors, Construction of genomic and cDNA libraries, PCR and DNA-based diagnostic techniques, DNA sequencing, Site directed mutagenesis, Protein structure - function relationship.	**20**
Total	**90**

PGDMBT 102: Developments in Industrial Technology

Topics	Periods allotted (Hrs.)
Unit 1: Bioprocess technology:	
Fundamentals in Bioprocessing, Raw materials for bioprocessing, comparison of chemical and biochemical processing based on energetics and environmental issues. Development of inoculate, kinetics of enzymatic and microbial processes, Optimization studies, sterilization of media, air and equipment, modes of cell cultivation, general principles of bioreactor design and their operation.	**15**
Unit 2: Downstream processing:	
Introduction to Downstream processing. Separation and purification techniques, quality assurance testing, representative examples of microbial products, vaccines and vaccine development, immobilization of cells and enzymes: principles, methodology and applications, disintegration of cells, separation of solid and liquid phases, isolation and purification techniques for proteins and other products. eg., precipitation, adsorption, chromatographic separations, bio-affinity based methods.	**30**
Unit 3: Biosafety and environmental monitoring:	
Biosafety: Introduction, Concept, Significance & Technology Environmental monitoring: Introduction, Concept, Significance & Technology Intellectual Property Rights in Biotechnology.	**10**
Unit 4: Quality Control:	
Antimicrobial effectiveness Testing, Pyrogen Test, Sterility Test, Ames test, Microbial Assay (Antibiotic and Vitamins), Phenol Coefficient: (RW Test and Chick Martin Test), Minimum Inhibitory Concentration (MIC) (Tube Dilution and Gradient Plate Method), Kirby-Bauer Antibiotic Sensitivity Test and Synergistic effect of antibiotics, Microbial Limit Test (analysis of water, raw material, finished product, packaging material and Excipients) Environmental monitoring and area monitoring	**25**
Unit 5: Quality Assurance:	
Calibration and Validation, Pharmaceutical audits, GMP and CGMP, FDA, WHO and other agencies Principles of QA, Reporting and documentation, Market surveillance and monitoring.	**10**
Total periods	**90**

PGDMBT 103: Lab course

Lab course	Periods allotted
1. Microbial Limit Test (analysis of water, raw material, finished product, packaging material, Excipients)	**8**
2. Sterility Test of Pharmaceutical Products	**8**
3. Growth Promotion test of Media	**8**
4. Antibiotic Assay (Turbid metric)	**8**
5. Vitamin Bioassay (Diffusion method)	**8**
6. Kirby-Bauer Antibiotic Sensitivity Test	**6**
7. Phenol Coefficient tests	**4**
8. Environmental monitoring, area monitoring	**12**
9. Minimum Inhibitory Concentration (Tube dilution Method)	**10**
10. Calibration and Validation	**6**
11. Pharmaceutical audits, GMP and CGMP, FDA, WHO and other agencies	**8**
12. Principles of QA	**4**
13. Reporting and documentation	**4**
14. Market surveillance and monitoring.	**6**
15. Project/Industrial training/Field work	**20**
Total	**120**

References:

1. Indian Pharmacopeia, 2010.
2. British Pharmacoepia, 2009.
3. United state Pharmacoepia, 2007.
4. Industrial Microbiology: Whitaker and Hall.
5. Microbial Biotechnology: Moorey Mu Young.
6. Biotechnology: Expanding Horizons: B.D. Singh.
7. Quality assurance in Microbiology: Ramkaran. M.
8. Biochemistry: Lubert Stryer.
9. Recombinant DNA: J.D. Watson.
10. Gene Biotechnology, S. N. Jogdand
11. Biochemistry, Lodish, IVth Edn.
12. Process Biotechnology fundamentals, IInd Edn, Mukhopadhyay S N (2004)
13. Intellectual property rights on biotechnology, Singh K C. BCIL, New Delhi
14. Biotechnology and genomics, Gupta P K, Rastogi publications, India.

R. C. Patel Educational Trust's

R. C. Patel Arts, Commerce & Science College, Shirpur

(Affiliated to the K.B.C. North Maharashtra University, Jalgaon)

STATEMENT OF MARKS

Post Graduate Diploma in Microbial Biotechnology (CGPA Pattern)

Examination held in May 2023

Student Name : Koli Pradip Hiralal

College Name : R. C. Patel Arts Commerce and Science College, Shirpur

Seat Number : 237103

Exam Centre : Shirpur (240051)

Paper Code	Paper Name	AM	Credits (Max.)	Marks Obtained
PGDMBT 101	Basics in Life Sciences	TH	6.0	78
PGDMBT 102	Developments in Industrial Technology	TH	6.0	68
PGDMBT 103	Lab Course	PR	8.0	85

Result: **Pass** CGPA: **6.60** Grade: **O**

R.C.PATEL ARTS,COMM.AND SCI.COLLEGE SHIRPUR

Co-ordinator

Abbreviations:

AM: Assessment Methods, **P:** Pass, **F:** Fail, **AB:** Absent, **RR:** Result Reserved, **TH:** Theory, **PR:** Practical, **O:** Outstanding Grade

Lecture attendance
PG diploma in Microbial Biotechnology
2022-23

Sr. No.	Name of Student	Date and Sign of Students
1.	Jadhav Manish Satish	
2.	Jaware Laxmi Vilas	
3.	Koli Pradip Hiralal	
4.	Malvi Dixita Ramkrushna	
5.	Narkhede Nikita Kishor	
6.	Patil Janhavi Jagadish	
7.	Sawakare Priyanka Sunil	
8.	Sonawane Divya Subhash	

Dates: 18/07/22, 19/07/22, 22/07/22, 25/07/22, 26/07/22, 27/07/22, 28/07/22, 29/07/22, 04/08/22, 05/08/22, 09/08/22, 10/08/22, 22/08/22, 25/08/22, 28/08/22, 29/08/22, 02/09/22, 05/09/22, 06/09/22, 12/09/22, 16/9/22, 18/10/22, 25/10/22, 25/12/22, 2/01/23, 5/01/23, 15/01/23, 2/2/23

Head Microbiology

											Deore Deepak Ishwar
10.	Dhangar Jagruti Subhash										
11.	Dorik Yogita Shivaji										
12.	Girase Ashwini Vinodsing										
13.	Gujar Mayuri Suryakant										
14.	Jadhav Anil Vithoba										
15.	Jadhav Manish Satish										
16.	Jadhav Mayuri Dilip										
17.	Jadhav Shital Nathhu										
18.	Jadhav Yogesh Babulal										
19.	Jamadar Kalyani Daryasingh										

KAVAYITRI BAHINABAI CHAUDHARI NORTH MAHARASHTRA UNIVERSITY JALGAON

Certificate course in

Behaviour Analysis

Run by

R. C. Patel A. C. S. College, Shirpur

Under ordinance 181

Syllabus

With effective from

A.Y- 2022-23

Level of diploma	Graduate
Eligibility	As per ordinance 181
Duration	1 Year
Total Credits	20 Credits

Course Structure

CCFBA 101	Fundamental Behaviour Analysis	6 Credits
CCBA 102	Behaviour Analysis	6 Credits
CCBAP 103	Behaviour Analysis Project	8 Credits

CCFBA 101

Fundamental Behaviour Analysis

1. An Introduction to Behaviour Analysis (30)

1.1. A scientific approach to behaviour, Early attempts to explain human behaviour, The conceptual framework of behaviorism,

1.2. Selectionism' and B.F. Skinner's account of the experimental analysis of behaviour-A descriptive principle, A process of selection, Functionally defined terms,

1.3. Other aspects of Skinner's approach to psychology-Use of positive reinforcement, Removal of aversive control,

1.4. Applied behaviour analysis and functional analysis, Analysis of language and cognition,

2. Basic Principles of Behaviour Analysis (30)

2.1 Conditioning- Classical, Operant behaviour, The changes in behaviour that characterize operant conditioning

2.2 Outcomes of operant conditioning, The definition of response classes

2.3 Response differentiation and response shaping, Operands and reinforcing stimuli, Stimulus control

2.4 Perceptual stimulus classes, Stimulus control in classical conditioning

2.5 The three-term relationship of operant conditioning, The ABC of behaviour analysis

3. Further Principles of Behaviour Analysis (30)

3.1 Alternative types of reinforcement in operant conditioning, Aversive contingencies,

3.2 Aversive classical conditioning, Time out: the contingent removal of positive events, Conditioned reinforcement, Extinction of operant behaviour

3.3 Extinction-induced aggression, Resistance to extinction, Extinction of classically conditioned responses, Intermittent reinforcement

3.4 Differential reinforcement schedules, Interim summary, Stimulus generalization, Stimulus salience,

3.5 Observational learning and modelling, Children's behaviour after observing aggressive models, Stimulus equivalence, Why does modelling occur?, Reinforcement of modelling

References:

- Atania, A.C. (1998) Learning (fourth edn). Upper Saddle River, NJ: Prentice Hall.
- Leslie, J . C (1996) Principles of Behavioural Analysis (third edn). Amsterdam-Harwood Academic. Leslie
- Leslie J.C. and O'Reilly, M.F. (1999) Behavior Analysis: Foundations and Applications to Psychology. Amsterdam: Harwood Academic
- Martin G. and Pear, J. (1999) Behavior Modification: What It Is and How To Do It (sixth edn). Upper Saddle River, NJ: Prentice Hall.
- Kandel, E.R., Schwartz, J.H. and Jessell, T.M. (1995) Essentials of Neural Science and Behavior. New York: Appleton and Lange
- Julian C. Leslie(2002) Essential Behaviour Analysis, Essential Health Psychology

  Mark Forshaw

CCBA 102

Behaviour Analysis

1. Behavioral Neuroscience (30)

1.1 What is behavioural neuroscience? Behaviour pharmacology

1.2 'Behavioural baselines': schedules of reinforcement, Use of operant techniques in behaviour pharmacology,

1.3 Conditioned suppression, Resistance to extinction after fixed-ratio training,

1.4 Behavioural effects of amphetamines, Animal models of psychiatric and neurological disorders,

1.5 The new genetics and the use of 'transgenic animals' in behavioural studies, Completing the circle: effects of environmental enrichment

2. Applied Behaviour Analysis (30)

2.1 Assessing behaviour in applied settings, Functional assessment and functional Analysis

2.2 Methods of functional analysis, Single-case experimental designs

2.3 Withdrawal or ABAB designs, Multiple baseline designs, Increasing adaptive behaviour in applied settings

2.4 Using reinforcement to decrease maladaptive behaviour, Establishing new behavioural repertoires: prompting, shaping and chaining,

2.5 Ensuring generalization of newly acquired skills, Extinction in applied settings, Punishment in applied settings, Ethical guidelines for the use of behavioural treatment

3. Language and Cognition (30)

3.1 Being parsimonious: Occam's razor and Lloyd Morgan's canon, Could this work? The 'case of the eye' provides inspiration from evolutionary theory

3.2 Concept formation and relational learning, Learning based on arbitrary relations,

3.3 Verbal behaviour, Teaching verbal behaviour to children,

3.4 Rule-governed behaviour,

3.5 Thoughts and feelings, Cognitions

References:

- McKim, W.A. (2000) Drugs and Behavior: An Introduction to Behavioral Pharmacology (fourth edn). Upper Saddle River, NJ: Prentice Hall.
- Allison, J. and Timberlake, W. (1974) Instrumental and contingent saccharin licking in rats: response deprivation and reinforcement, Learning and Motivation 5, 231-47
- Anrep, G.V. (1920) Pitch discrimination in the dog. Journal of Physiology 53, 367-85.
- Antonitis, J.J. (1951) Response variability in the white rat during conditioning, extinction and reconditioning, Journal of Experimental Psychology 42, 273-81.
- Hunt, H.F. and Brady, J.V. (1951) Some effects of electroconvulsive shock on a conditioned emotional response ('anxiety'), Journal of Comparative and Physiological Psychology 44, 88-98
- Julian C. Leslie(2002) Essential Behaviour Analysis, Essential Health Psychology Mark Forshaw

CCBAP 103

Behavior Analysis Project

Sr.No	Project title	Lectures Allotted (in hrs)
1	Understanding and predicting human behaviour	30
	Online user Behavior Analysis On Graphical Model	
2	Predicting Human Behaviour Activity using Deep Learning (LSTM)	30
	Human Behaviour Analysis through Smartphones	30
3.	Facial Expression Analysis	
	Emotion analysis	
	Total	90

THE SHIRPUR EDUCATION SOCIETY
R. C. PATEL EDUCATIONAL TRUST

Attendance Sheet (Theory / Practical/Tutorial)

Class: Fundamental Behaviour Analysis Subject:

Roll No.	Name of Student	Date	2-1-22	3-1-23	4-1-23	5	6	7	9	10	11	12	13	14	16	17	18	19	20	21	23-1-23	24
		L.No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	Jadhav Kuldeep S											AB										
2	Shinde Rohit Anil																		AB			/
3	Pawar Gopal Dnyan		A	A	A	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
4	Mahajan Jayvardhan S		/	/	/	A	A	A	/	/	/	/	/	/	/	/	/	/	/	/	/	/
5	More Umesh Pravin		/	/	/	/	/		A	A	A	/	/	/	/	/	/	/	/	/	/	/
6	Patil Gaurav J.		/	/	/	/	/	/	/	/	/	A	A	A	/	/	/	/	/	/	/	/
7	Rathod Jagrut B.		/	/	/	/	/	/	/	/	/	/	/	/	A	A	A	/	/	/	/	/
8	Fulpagare Pradnyesh S		A	A	A	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/

THE SHIRPUR EDUCATION SOCIETY
R. C. PATEL EDUCATIONAL TRUST

Attendance Sheet (Theory / Practical/Tutorial)

Roll No.	25	26	27	28	4-2-23	6-2-23	7	8	9	10	11	13	14	15	16	17	18	20	21	22	23	24	25	27	28	1-4-23
	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
					AB									AB												
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	A	A	A	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
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	/	/	/	/	/	/	A	A	A	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/		/
	/	/	/	/	/	/	/	/	/	/	A	A	A	/	/	/	/	/	/	/	/	/	/	/	/	/
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	A	A	A	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/

R. C. Patel Educational Trust's

R. C. Patel Arts, Commerce & Science College, Shirpur

(Affiliated to the K.B.C. North Maharashtra University, Jalgaon)

STATEMENT OF MARKS

Certificate Course in Behaviour Analysis

Examination Held in May-2023

Student Name: **Pawar Gopal Tukaram**

College Name: **R.C.Patel Arts Commerce and Science College, Shirpur**

Seat Number: **114431**

Paper Code	Paper Name	AM	Credit (Max.)	Marks Obtained
CCFBA-101	Fundamental Behaviour Analysis	TH	6	67
CCBA-102	Behaviour Analysis	TH	6	92
CCBAP-103	Behaviour Analysis Project	PR	8	85

Result: **Pass** CGPA: **5.15** Grade: **A**

R.C.PATEL ARTS,COMM.AND SCI.COLLEGE SHIRPUR

Co-ordinator

Abbreviations:

AM: Assessment Methods, **P:** Pass, **F:** Fail, **AB:** Absent, **RR:** Result Reserved, **TH:** Theory, **PR:** Practical, **O:** Outstanding Grade