SATPUDA EDUCATION SOCIETY, JALGAON (JAMOD)'S

ARTS AND COMMERCE COLLEGE

Warvat Bakal Dist- Buldana

Dr. Rajendra S Korde
Incharge Principal

Shri Krushnarao Ingle (Ex MLA)
President

Phone : 07266-237126 visit us at : www.acscwb.co.in Email : 327accwb@gmail.com

Criterion I: Curricular Aspects

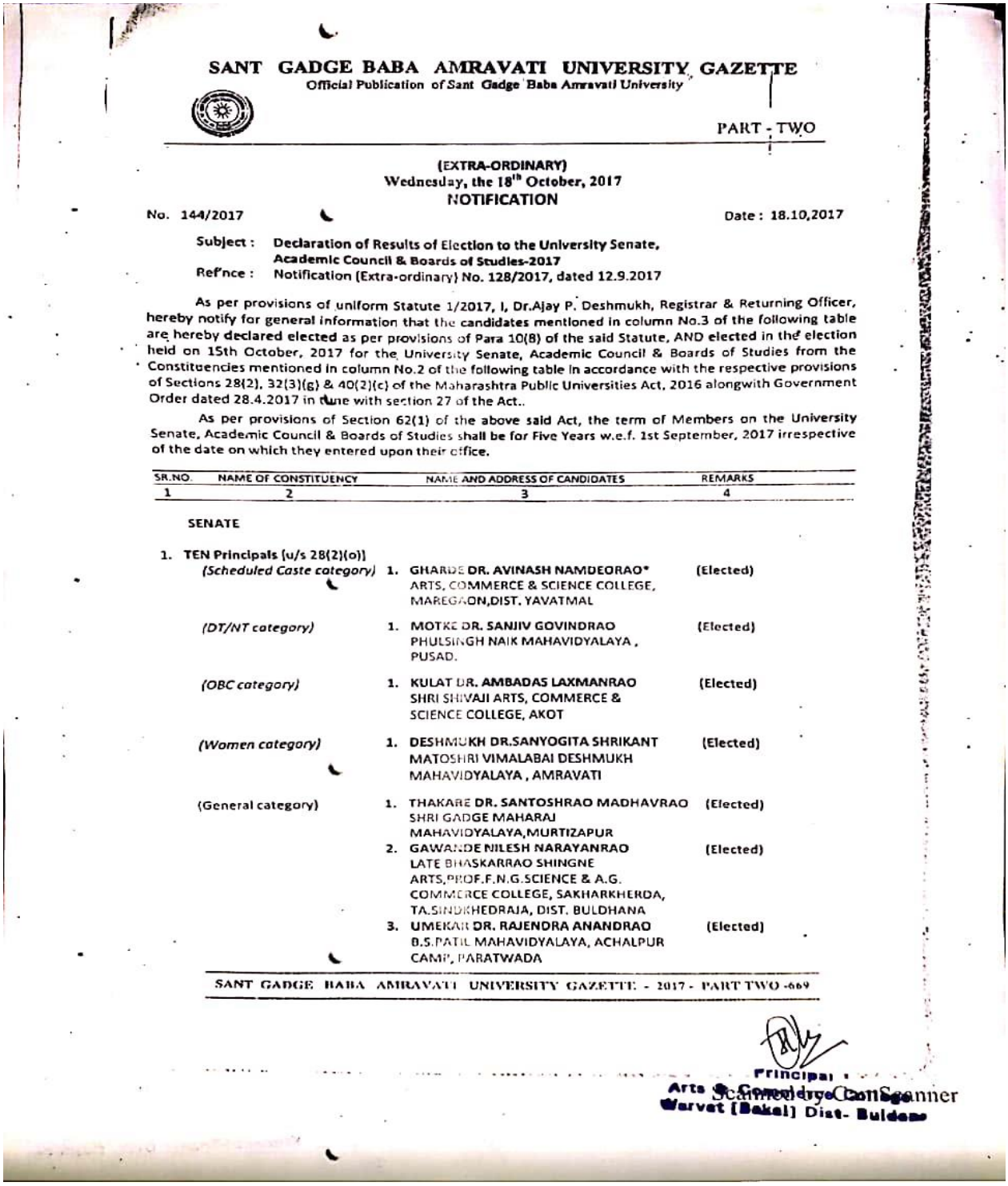
1.1 Curriculum Planning and Implementation

Session-2021-2022

Supporting Documents-A

1.1.1 Effective curriculum delivery through a well-planned and documented process

- **Board of Studies. (BOS) Dr. Subhash Gurjar (Economics).**



SANT GADGE BABA AMRAVATI UNIVERSITY GAZETTE
Official Publication of Sant Gadge Baba Amravati University

PART - TWO

(EXTRA-ORDINARY)
Wednesday, the 18th October, 2017
NOTIFICATION

No. 144/2017 Date : 18.10.2017

Subject : Declaration of Results of Election to the University Senate, Academic Council & Boards of Studies-2017
Ref'nce : Notification (Extra-ordinary) No. 128/2017, dated 12.9.2017

As per provisions of uniform Statute 1/2017, I, Dr.Ajay P. Deshmukh, Registrar & Returning Officer, hereby notify for general information that the candidates mentioned in column No.3 of the following table are hereby declared elected as per provisions of Para 10(8) of the said Statute, AND elected in the election held on 15th October, 2017 for the University Senate, Academic Council & Boards of Studies from the Constituencies mentioned in column No.2 of the following table in accordance with the respective provisions of Sections 28(2), 32(3)(g) & 40(2)(c) of the Maharashtra Public Universities Act, 2016 alongwith Government Order dated 28.4.2017 in tune with section 27 of the Act..

As per provisions of Section 62(1) of the above said Act, the term of Members on the University Senate, Academic Council & Boards of Studies shall be for Five Years w.e.f. 1st September, 2017 irrespective of the date on which they entered upon their office.

SR.NO.	NAME OF CONSTITUENCY	NAME AND ADDRESS OF CANDIDATES	REMARKS
1	2	3	4
	SENATE		
1.	TEN Principals [u/s 28(2)(o)]		
	(Scheduled Caste category)	1. GHARDE DR. AVINASH NAMDEORAO* ARTS, COMMERCE & SCIENCE COLLEGE, MAREGAON,DIST. YAVATMAL	(Elected)
	(DT/NT category)	1. MOTKE DR. SANJIV GOVINDRAO PHULSINGH NAIK MAHAVIDYALAYA , PUSAD.	(Elected)
	(OBC category)	1. KULAT DR. AMBADAS LAXMANRAO SHRI SHIVAJI ARTS, COMMERCE & SCIENCE COLLEGE, AKOT	(Elected)
	(Women category)	1. DESHMUKH DR.SANYOGITA SHRIKANT MATOSHRI VIMALABAI DESHMUKH MAHAVIDYALAYA , AMRAVATI	(Elected)
	(General category)	1. THAKARE DR. SANTOSHRAO MADHAVRAO SHRI GADGE MAHARAJ MAHAVIDYALAYA,MURTIZAPUR	(Elected)
		2. GAWANDE NILESH NARAYANRAO LATE BHASKARRAO SHINGNE ARTS,PROF.F.N.G.SCIENCE & A.G. COMMERCE COLLEGE, SAKHARKHERDA, TA.SINDKHEDRAJA, DIST. BULDHANA	(Elected)
		3. UMEKAR DR. RAJENDRA ANANDRAO B.S.PATIL MAHAVIDYALAYA, ACHALPUR CAMP, PARATWADA	(Elected)

SANT GADGE BABA AMRAVATI UNIVERSITY GAZETTE - 2017 - PART TWO -669

Principal
Arts & Commerce College
Warvat [Bakal] Dist- Buldana

6. Pali & Prakrit	1. GEDAM RAJANI BHIMRAO DR. BABASAHEB AMBEDKAR MV., AMRAVATI.	(Declared Elected)
	2. MANWATKAR BANDU SHALIK MADHUKARRAO PAWAR ARTS COLLEGE , MURTIZAPUR	(Declared Elected)
	3. WANKHADE DR. SAU. R.J. TAKSHASHEELA COLLEGE, AMRAWATI.	(Declared Elected)
7. Persian & Arabic	1. JAMIL DR. M.Y. SMT.KESHARBAI LAHOTI MAHAVIDYALAYA, AMRAVATI	(Declared Elected)
	2. KHAN DR. AIJAZ AHMAD KHAN LATIF KHAN GHULAM NABI AZAD ARTS & COMMERCE COLLEGE, BARSHI TAKLI	(Declared Elected)
	3. TAZI DR. ANJUM ZIAUDDIN G.S.SCIENCE , ARTS & COMMERCE COLLEGE, KHAMGAON.	(Declared Elected)
10.Music	1. GADRE DR. ABHAY ARVIND SMT. S.R. MOHATA MAHILA MAHAVIDYALAYA , KHAMGAON	(Elected)
	2. DAS SNEHASHISH JANAPRIYA MAHILA MAHAVIDYALAYA, AMRAVATI.	(Elected)
	3. GHATE CHANDRAKIRAN RAM SMT.VATSALABAI NAIK MAHILA MAHAVIDYALAYA, PUSAD.	(Elected)
(Social Sciences Group) 1. History	1. BANSOD SANTOSH PANDURANG SUMAN, BANGLOW, NEAR L.I.C. COLONY, RAM NAGAR, AMRAVATI	(Elected)
	2. CHANGOLE DR. NITIN VASANTRAO SHRI SHIVAJI ARTS & COMMERCE MAHAVIDYALAYA,AMRAVATI	(Elected)
	3. BHORJAR DR. ASHOK NARAYANRAO LATE N.A. DESHMUKH ARTS & COMMERCE COLLEGE, CHANDUR BAZAR, AMRAVATI	(Elected)
2. Economics	1. KUTE SANTOSH TUKARAM SMT.SINDHUTAI JADHAV ARTS & SCIENCE MAHAVIDYALAYA , MEHKAR.	(Elected)
	2. GURJAR DR. SUBHASH RAMCHANDRA AT.PO.WARWAT BAKAL, TA. SANGRAMPUR, DIST. BULDHANA	(Elected)
	3. RAJPUT KARAMSING RAMSING LOKMANYA TILAK MV.,WANI	(Elected)
3. Political Science	1. CHAKWE DR. SUNIL BHAURAO SHRI MUNGSAJI MAHARAJ MAHAVIDYALAYA, DARWHA	(Declared Elected)
	2. GAWAI DR. SUBHASH SHAMRAO SMT. SHAKUNTALABAI DHABEKAR MAHAVIDYALAYA ,KARANJA LAD	(Declared Elected)
	3. NIMBALKAR NILESH RAMESHRAO SHRIPAD KRISHNA KOLHATKAR MAHAVIDYALAYA, JALGAON JAMOD	(Declared Elected)

Principal
Arts & Commerce College
Warwat Bakal

SATPUDA EDUCATION SOCIETY, JALGAON (JAMOD)'S

ARTS AND COMMERCE COLLEGE

Warvat Bakal Dist- Buldana

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Criterion I: Curricular Aspects

1.1 Curriculum Planning and Implementation

Session-2021-2022
RC/OC
Supporting Documents-B

1.1.1 Effective curriculum delivery through a well-planned and documented process

Arts & Commerce College Warwat Bakal

Orientation/ FIP, Refresher Course / Short Term Course, FDP List:

Sr. No	Name of Teacher	Orientation/ FIP	Refresher Course / Short T. C.	FDP
1.	Dr. Kishor Bhaskar Theng		04/10/201 to 16/10/2021	
2.	Dr. Satish Wasudeo Rane		30/11/2021 To 13/12/2021	
3.	Dr. Megha Ranjit Solanke	07 To 09 June 2021	01 To 15 September 2021	
4.	Miss Sonali Anil Tayade	20 August to 03 September 2021		
5.	Mr. Kiran Prakash Sabale			20 to 27 September 2021

Principal
Arts & Commerce College,
Warvat Bakal Dist.Buldana

Dr. Kishor Theng (04/10/2021 to 16/10/2021)

UGC HUMAN RESOURCE DEVELOPMENT CENTRE
RANI DURGAWATI UNIVERSITY, JABALPUR, M.P.

CERT NO: UGCHRDC/RCBS2021/29 DATE: 16.10.2021

E.CERTIFICATE
ONLINE REFRESHER COURSE ON
BASIC SCIENCE (FOR SCIENCE FACULTY)
FROM 04.10.2021 TO 16.10.2021

THIS IS TO CERTIFY THAT
DR. KISHOR BHASKAR THENG
ASSISTANT PROFESSOR, BOTANY,
ARTS AND COMMERCE COLLEGE, WARVAT BAKAL, TA.
SANGRAMPUR, DI. BULDANA,
SANT GADAGE BABA AMRAVATI UNIVERSITY,
AMRAVATI, MAHARASHTRA

PARTICIPATED IN THE
ONLINE REFRESHER COURSE ON BASIC SCIENCE
FROM 04.10.2021 TO 16.10.2021
AND
OBTAINED GRADE A+

(Prof. Kapil Deo Mishra) VICE-CHANCELLOR
(Prof. Kamlesh Mishra) DIRECTOR
(PROF S.S. SANDHU) COURSE CO-ORDINATOR
Director, Design Innovation Center
R.D. UNIVERSITY, JABALPUR, MP

Dr. Satish Rane (30/11/2021 To 13/12/2021)

UNIVERSITY GRANTS COMMISSION
HUMAN RESOURCE DEVELOPMENT CENTRE (HRDC)
Doctor Harisingh Gour Vishwavidyalaya, (A Central University)
Sagar - 470 003 (MP) India

Certificate

UGC-SPONSORED INTER/MULTI-DISCIPLINARY REFRESHER COURSE ON
MISSION ATAMANIRBHAR BHARAT: CHALLENGES AND MEASURES

This is to certify that Dr. Satish Wasudeo Rane (Assistant Professor in Commerce, Arts & Commerce College, Warwat (Bakal), Tq Sangrampur, Dist Buldana affiliated to Sant Gadge Baba Amravati University, Amravati, Maharashtra) successfully participated in the Inter/Multi-Disciplinary Refresher Course on 'Mission Atamanirbhar Bharat: Challenges and Measures' held during 30th November - 13th December, 2021 in online mode and obtained Grade B.

Director Course Coordinator Vice Chancellor

Dr. Megha Solanke (01 To 15 September 2021)

Teaching Learning Centre, Ramanujan College, University of Delhi
in collaboration with
Miranda House, University of Delhi
under the aegis of
MINISTRY OF EDUCATION
PANDIT MADAN MOHAN MALAVIYA NATIONAL MISSION ON TEACHERS AND TEACHING

Ministry of Education
Government of India

This is to certify that

Dr. Megha Ranjit Solanke

of
Arts, Commerce College Warwat Bakal Dist-Buldhana, Maharashtra
has successfully completed online Two – Week Refresher Course in
"LIFE SCIENCES"
from *01 – 15 September, 2021* and obtained
Grade *A+*.

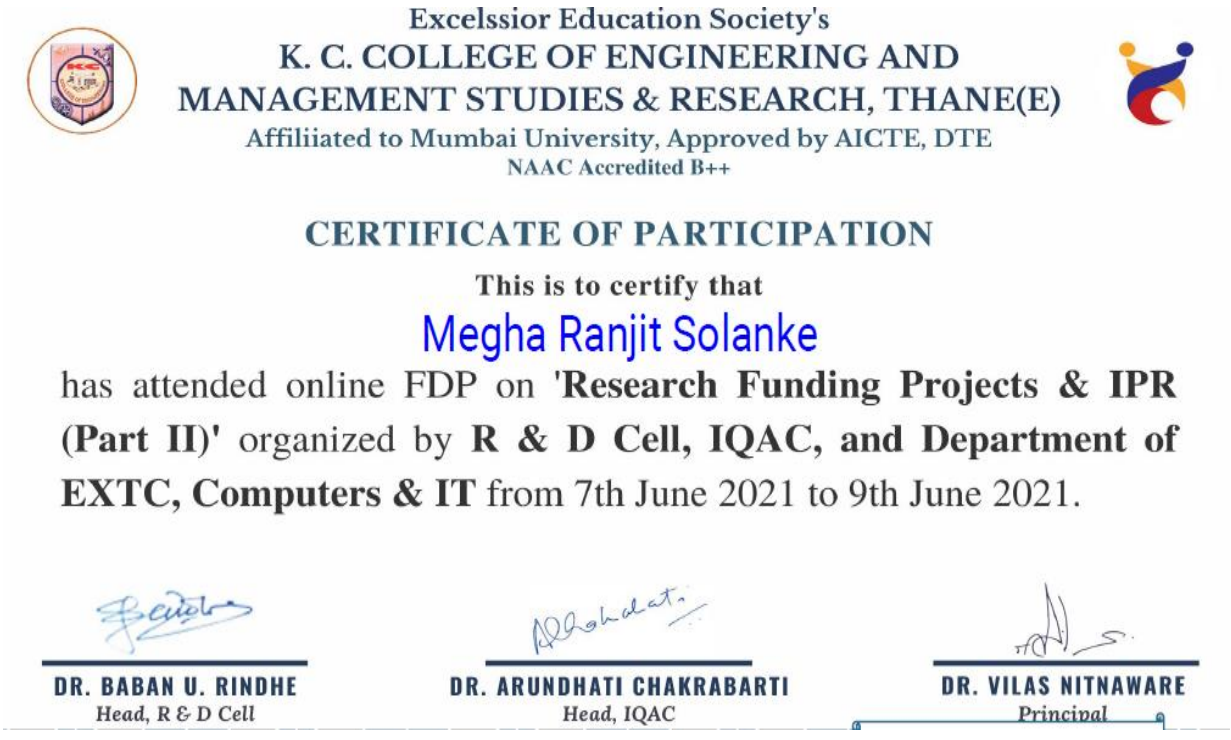
Blockchain Hash: 0xc76bddec2230fdc11e693ef9e74552f00e428ff192f0ec30101e44c5f4bca766

Prof. S. P. Aggarwal
(Principal & Director)
TLC, Ramanujan College

Dr. Anshika Lumb
Convener
Miranda House

Dr. Mallika Pathak
(Programme Director)
Miranda House

Dr. Megha Solanke (07 To 09 June 2021)



Excelssior Education Society's
K. C. COLLEGE OF ENGINEERING AND
MANAGEMENT STUDIES & RESEARCH, THANE(E)
Affiliiated to Mumbai University, Approved by AICTE, DTE
NAAC Accredited B++

CERTIFICATE OF PARTICIPATION

This is to certify that

Megha Ranjit Solanke

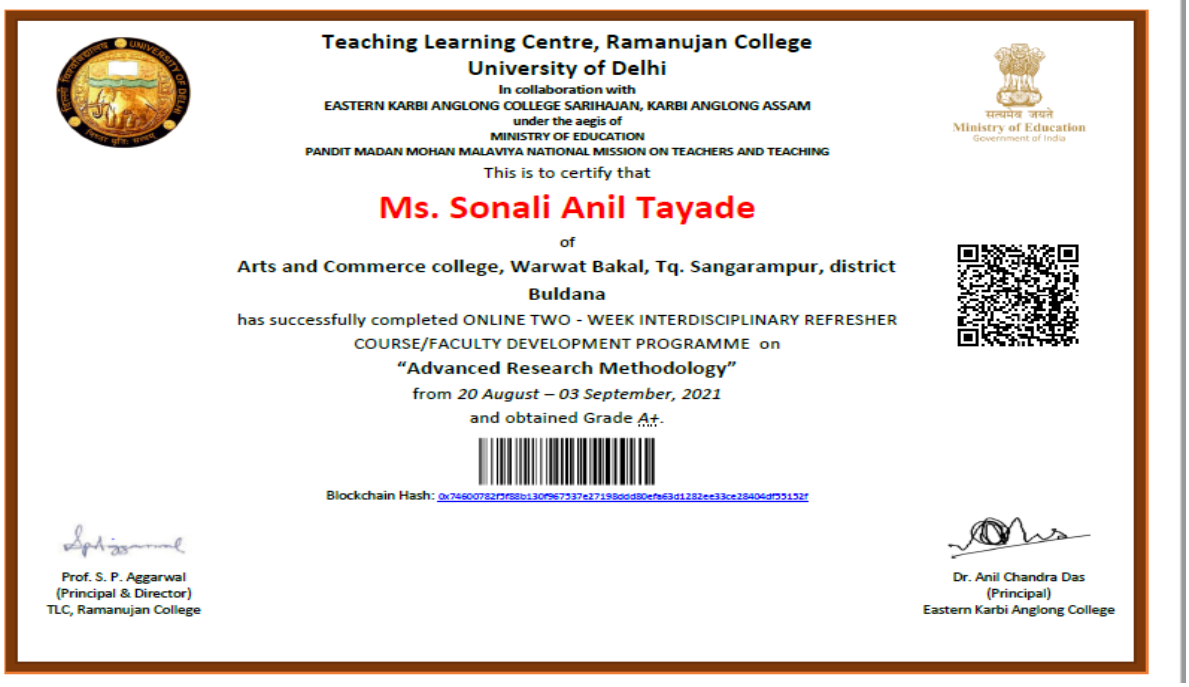
has attended online FDP on **'Research Funding Projects & IPR (Part II)'** organized by **R & D Cell, IQAC, and Department of EXTC, Computers & IT** from 7th June 2021 to 9th June 2021.

DR. BABAN U. RINDHE
Head, R & D Cell

DR. ARUNDHATI CHAKRABARTI
Head, IQAC

DR. VILAS NITNAWARE
Principal

Ms. Sonali Tayade (20 August to 03 September 2021)



Teaching Learning Centre, Ramanujan College
University of Delhi
In collaboration with
EASTERN KARBI ANGLONG COLLEGE SARIHAJAN, KARBI ANGLONG ASSAM
under the aegis of
MINISTRY OF EDUCATION
PANDIT MADAN MOHAN MALAVIYA NATIONAL MISSION ON TEACHERS AND TEACHING

Ministry of Education
Government of India

This is to certify that

Ms. Sonali Anil Tayade

of

Arts and Commerce college, Warwat Bakal, Tq. Sangarampur, district Buldana

has successfully completed ONLINE TWO - WEEK INTERDISCIPLINARY REFRESHER COURSE/FACULTY DEVELOPMENT PROGRAMME on

"Advanced Research Methodology"

from *20 August – 03 September, 2021*

and obtained Grade A+.

Blockchain Hash: 0x74600782f3f88b130f967537e27198d0dd80efa63d1282ee33ce28404df55152f

Prof. S. P. Aggarwal
(Principal & Director)
TLC, Ramanujan College

Dr. Anil Chandra Das
(Principal)
Eastern Karbi Anglong College

Mr. Kiran Prakash Sabale (20 to 27 September 2021)

National Level Faculty Development-cum-Orientation Programme

on

Assessment and Accreditation Process of NAAC

A Joint Venture of Internal Quality Assurance Cells

Certificate of Participation

This is to certify that Shri Kiran Prakash Sabale of Arts Commerce College Warwat Bakal has attended the National Level Faculty Development-cum-Orientation Programme on Assessment and Accreditation Process of NAAC organized by IQACs of the collaborating institutions from 20th to 27th September 2021.

Dr. Priya Wanjari, Principal, Santaji Mahavidyalaya, Nagpur
Dr. D. V. Naik, Principal, Dr. M. K. Umathe College, Nagpur
Dr. Vikas Dhomne, Principal, J. M. Patel Arts, Commerce & Science College, Bhandara
Dr. Akhilesh Peshwe, Principal, Dhanutpeth M.P. Deo Memorial Science College, Nagpur
Dr. Vandana Bhagdikar, Principal, Mahila Mahavidyalaya, Nagpur
Dr. Dhanraj Shete, Principal, Yashoda Girls' Arts & Commerce College, Nagpur
Dr. Ramkrushna Tale, Principal, Bar. Sheshrao Wankhede College, Khaparkheda

SATPUDA EDUCATION SOCIETY, JALGAON (JAMOD)'S

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Criterion I: Curricular Aspects

1.1 Curriculum Planning and Implementation

Departmental Academic Calendar

Session-2021-2022

Supporting Documents C

1.1.1 The institution ensures effective curriculum delivery through a well-planned and documented process

SATPUDA EDUCATION SOCIETY, JALGAON (JAMOD)'S

ARTS AND COMMERCE COLLEGE

Warvat Bakal Dist- Buldana

Dr. Rajendra S Korde
Incharge Principal

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President

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CERTIFICATE

This is to certify that the documents attached as supporting documents for Criterion I: Curricular Aspects are verified from the college record and found to be correct to the best of my knowledge.

Principal
Arts & Commerce College,
Warvat Bakal Dist.Buldana

SATPUDA EDUCATION SOCIETY, JALGAON (JAMOD)'S

ARTS & COMMERCE COLLEGE

WARVAT BAKAL DIST- BULDANA

DEPARTMENT OF ENGLISH

DEPRTMENTAL CALENDAR 2021-22

Departmental Academic Calendar (2021-22)

Sr. No.	Particular	From	To
1.	First Session	30th August, 2021	15th January, 2022
2.	Diwali Vacation	1st November, 2021	6th November, 2021
3.	Second Session	17th January, 2022	31st May, 2022
4.	Summer Vacation	1st June, 2022	30th June, 2022

Days available during Academic Year 2021 - 2022

Sr. No.	Activity	Commencement	Cessation	Total Days
01	First Session	30/08/2021	15/01/2022	105
02	Admission Process	01/09/2021	18/09/2021	14
03	Teaching Days (Odd Semesters)	17/09/2021	15/01/2022	83
04	Induction Program for First Year Students	20/09/2021	25/09/2021	06
05	First Term Vacation	01/11/2021	06/11/2021	06
06	Odd Semesters University Exam	17/01/2022	05/02/2022	19
07	Second Session	17/01/2022	31/05/2022	109
08	Teaching Days (Even Semesters)	07/02/2022	31/05/2022	90
09	Second Term Vacation	01/06/2022	30/06/2022	26
10	Even Semesters University Exam	01/06/2022	30/06/2022	30
11	Commencement of next Academic session 2022-23	01/07/2022		

Sr. No.	Public Holiday	Day & Date
01	Ganesh Chaturthi	Friday, 10 September, 2021
02	Gauri Pujan	Monday, 13 September, 2021
03	Gandhi Jayanti	Saturday, 02 October, 2021
04	Sarvpitri Amavasya	Wednesday, 06 October, 2021
05	Dasara	Friday,15 October,2021
06	Id E Milad	Tuesday, 19 October, 2021
07	Gurunanak Jayanti	Friday, 19 November, 2021
08	Christmas	Saturday, 25 December, 2021
09	Makarsankranti	Friday,14 January 2022
10	Republic Day	Wednesday, 26 January, 2022
11	Chhatrapati Shivaji Maharaj Jayanti	Saturday, 19 February, 2022
12	Mahashivratri	Tuesday, 1 March, 2022
13	Holi (Second Day)	Friday, 18 March, 2022
14	Gudi Padwa	Saturday, 02 April, 2022
15	Dr. Babasaheb Ambedkar Jayanti	Thursday, 14 April, 2022
16	Good Friday	Friday, 15 April, 2022
17	Ramjan Id	Tuesday,03 May, 2022
18	Buddha Pournima	Monday,16 MaY,2022

Time Table (2021-22)

Name of teacher: **Mr. NISHIGANDH SATAV** Subject: ENGLISH

Period	1	2	3	4	5	6
Day/Time	11:00 - 11:48	11:48 -12:36	12:36 1:24	1:34 - 2:22	2:22 - 3:10	3:10 - 3:58
MON	BA I		BA III	BA II		BA III (T)
TUE	BA III			BA I	BA II (T)	BA I (T)
WED	BA II		BA I	BA III	BA II (T)	BA III (T)
THUS	BA III (T)	BA II			BA I (T)	BA II (T)
FRI	BA II	BA I			BA I (T)	BA II (T)
SAT	7.30 - 8.18	8.18 - 9.06	9.06 - 9.54	10.04-10.52	10.52 - 11.40	11.40 - 12.28
			BA I (T)	BA III	BA III (T)	

Allotted Workload

Name of Teacher: **Mr. NISHIGANDH SATAV** Subject: ENGLISH

Sr. No.	Class	No. of periods per week			Paper Allotted
		Lectures	Tutorials	Practical	
1	BA I (A)	04	04	----	
2	BA II	04	04	----	
3	BA III	04	04	----	
4	NCC	03	----	03	
Total Workload per week (L+T+P) : 12 (L) + 12 (T) = 24 (19 hrs. 12 m) NCC : 03 (L) + 03 (P) = 06 (04 hrs.)					

Time Table

Name of teacher: **Mr. NAGESH INGLE** Subject : ENGLISH

Period	1	2	3	4	5	6
Day/Time	11:00 -11:48	11:48 -12:36	12:36 1:24	1:34 - 2:22	2:22 - 3:10	3:10 - 3:58
MON	B.com I			B.Com III	B.com II	B.com I (T)
TUE	B.com I			B.sc I	B.com I (T)	B.com I (T)
WED	B.com I			B.sc I		B.com I (T)
THUS	B.com I		B.Com III	B.sc I		B.com I (T)
FRI	B.com II			B.sc I	B.com I (T)	
SAT	B.com II		B.Com III	B.com I (T)		B.sc I (T)

Allotted Workload

Name of Teacher: **Mr. NAGESH INGLE** Subject: ENGLISH

Sr. No.	Class	No. of periods per week			Paper Allotted
		Lectures	Tutorials	Practical	
1	B.Com I	04	07	----	
2	B.Com II	03	----	----	
3	B.Com III	03	-----	----	
4	B.sc I	04	01	-----	
Total Workload per week (L+T): 14 (L) + 08 (T) = 22 (17 hrs. 36 m)					

Teaching Periods Available per month during the session 2021-22

Faculty : ARTS, COMMERCE & SCIENCE Subject : ENGLISH

		ODD SEMESTER							EVEN SEMESTER						
Class	Periods	AUG-21	SEPT-21	OCT-21	NOV-21	DEC-21	JAN-22	Total	JAN-22	FEB-22	MAR-22	APR-21	MAY-21	JUN-21	Total
BA I	Theory		07	14	13	18	7	**59**		13	16	16	16		**61**
	Tutorial		6	15	12	17	7	**57**		11	16	15	16		**58**
BA II	Theory		7	15	12	19	7	**53**		13	17	15	16		**61**
	Tutorial		7	14	12	19	7	**52**		12	17	15	16		**60**
BA III	Theory		7	14	14	16	8	**52**		12	17	16	16		**61**
	Tutorial		7	15	13	17	8	**53**		12	18	15	16		**61**
B.Com I	Theory		04	16	14	18	08	**60**		13	18	15	15		**61**
	Tutorial		05	26	23	30	16	**100**		20	28	27	26		**101**
B.Com II	Theory		02	12	11	12	07	**44**		09	11	12	12		**44**
	Tutorial							**---**							**---**
B.Com III	Theory		02	12	10	12	07	**43**		09	13	11	12		**45**
	Tutorial							**---**							**---**
BSc. I	Theory		04	15	14	19	08	**80**		12	17	15	16		**57**
	Tutorial		00	04	04	03	03	**14**		02	04	04	04		**14**

TEACHING PLAN FOR BA ENGLISH			
Theory BA SEM I	Sr. No.	Topic to be covered	Lectures Available
	01	EDUCATION PROVIDES A SOLID FOUNDATION	9
	02	LOVE STORY	9
	03	SPEECH ON INDIAN INDEPENDENCE	9
	04	FILM MAKING	9
	05	IN THE BAZAARS OF HYDERABAD	8
	06	SHE WALKS IN BEAUTY	8
	07	MIDDLE AGE	7
Tutorial BA SEM I	Sr. No.	Topic to be covered	Lectures Available
	01	PARTS OF SPEECH	10
	02	TENSES	10
	03	UNSEEN PASSAGE	8
	04	LETTER WRITING : PERSONAL AND BUSINESS	7
	05	CURRICULUM VITAE	7
	06	PERSONAL INTERVIEW (INTERNAL ASSESSMENT)	6
	07	SEMINAR (INTERNAL ASSESSMENT)	6
	08	ASSIGNMENT (INTERNAL ASSESSMENT)	3
Theory BA SEM II	Sr. No.	Topic to be covered	Lectures Available
	01	APPRO JRD	10
	02	PACKING	10
	03	HOW I BECAME A PUBLIC SPEAKER	10
	04	VALUES IN LIFE	10
	05	MONEY MADNESS	7
	06	NO MEN ARE FOREIGN	7
	07	ANOTHER'S SORROW	7
Tutorial BA SEM II	Sr. No.	Topic to be covered	Lectures Available
	01	SUBJECT VERB AGREEMENT	10
	02	VERBS : To be, to do, to have, Modals	10
	03	STORY BUILDING	7
	04	E-COMMUNICATION	7
	05	NOTICE / AGENDA / MINUTES	7
	06	READING SKILL (INTERNAL ASSESSMENT)	6
	07	GROUP DISCUSSION (INTERNAL ASSESSMENT)	6
	08	ASSIGNMENT (INTERNAL ASSESSMENT)	5
Theory BA SEM III	Sr. No.	Topic to be covered	Lectures Available
	01	INDIA'S MESSAGE TO THE WORLD	9
	02	THE PLEASURES OF IGNORANCE	8
	03	THE HAPPY PRINCE	8
	04	THE THREE QUESTIONS	8
	05	SONNET 116	5
	06	DIRGE	5
	07	LEISURE	5
	08	A BABY SLEEPS AFTER PAIN	5
Tutorial BA SEM III	Sr. No.	Topic to be covered	Lectures Available
	01	CLAUSES : MAIN / SUB	10
	02	TYPES OF SENTENCES	10
	03	TELEPHONE CONVERSATION	8
	04	INTERPERSONAL CONVERSATION	8
	05	PERSONALINTERVIEW (INTERNAL ASSESSMENT)	8
	06	SEMINAR – PRESENTATION (INTERNAL ASSESSMENT)	8
Theory BA SEM	Sr. No.	Topic to be covered	Lectures Available
	01	WHY ARE BEGGARS DESPISED?	*10*

IV	02	ON THE CONDUCT OF LIFE	9
	03	THE GIRL	9
	04	THE MAGIC SHOP	9
	05	WHERE THE MIND IS WITHOUT FEAR	6
	06	A LAMENT	6
	07	LOVE IN LIFE	6
	08	UP-HILL	6
Tutorial BA SEM IV	Sr. No.	Topic to be covered	Lectures Available
	01	TRANSFORMATION OF SENTENCES	12
	02	SYNTHESIS OF SENTENCES (Simple/Compound/Complex)	12
	03	INTERPERSONAL CONVERSATION	10
	04	CASUAL CONVERSATION	10
	05	PERSONAL INTERVIEW (INTERNAL ASSESSMENT)	8
	06	SEMINAR-PRESENTATION (INTERNAL ASSESSMENT)	8
Theory BA SEM V	Sr. No.	Topic to be covered	Lectures Available
	01	THE OPEN WINDOW	9
	02	THE THREE HERMITS	9
	03	WHAT ID SWARAJ?	9
	04	A LETTER TO HIS SON	9
	05	BANGLE SELLERS	8
	06	THE MOUNTAIN AND THE SQUIRREL	8
Tutorial BA SEM V	Sr. No.	Topic to be covered	Lectures Available
	01	PRECIS WRITING	14
	02	DEVELOPING A THOUGHT	14
	03	PERSONAL INTERVIEW (INTERNAL ASSESSMENT)	13
	04	SEMINAR-PRESENTATION (INTERNAL ASSESSMENT)	12
Theory BA SEM VI	Sr. No.	Topic to be covered	Lectures Available (61)
	01	QUALITY	12
	02	MISS BRILL	12
	03	MY FINANCIAL CAREER	12
	04	SOCRATES AND THE SCHOOLMASTER	12
	05	THE SOLITARY REAPER	7
	06	STAY CALM	6
Tutorial BA SEM VI	Sr. No.	Topic to be covered	Lectures Available
	01	REPORT WRITING	15
	02	ESSAY WRITING	15
	03	PERSONAL INTERVIEW (INTERNAL ASSESSMENT)	15
	04	SEMINAR-PRESENTATION (INTERNAL ASSESSMENT)	16

TEACHING PLAN FOR B. COM / BSC ENGLISH			
	Sr. No.	Topic to be covered	Lectures Available
Theory B. Com SEM I	01	The Eyes are not Here	10
	02	The Romance of a Busy Broker	10
	03	Bores	10
	04	The Lost Child	10
	05	The World is Too Much With Us	7
	06	Once Upon a Time	7
	07	If	6
Tutorial B.Com SEM I	Sr. No.	Topic to be covered	Lectures Available
	01	Change the Narration	15
	02	Articles	15

	03	Synonyms & Antonyms	15
	04	Tenses Form	15
	05	Resume Writing	10
	06	Letter Writing (Formal & Informal)	10
	07	Seminar For(Internal Assessment)	10
	08	Assignment (Internal Assessment)	10
Theory B.Com SEM II	Sr. No.	Topic to be covered	Lectures Available
	01	Each is Great in His Own Place	10
	02	The Postmaster	10
	03	How I Became a Public Speaker	07
	04	Prospects of Democracy in India	10
	05	Success is Counted Sweetest	8
	06	Laugh and Be Merry	8
	07	The Impossible Dream	8
Tutorial B.Com SEM II	Sr. No.	Topic to be covered	Lectures Available
	01	Change the Voice	14
	02	Idioms & Phrase	12
	03	One Word Substitute	12
	04	Preposition	12
	05	E- Mail	12
	06	News Paper Writing	13
	07	Seminar (Internal Assessment)	13
	08	Assignment (Internal Assessment)	13
Theory B.Com SEM III	Sr. No.	Topic to be covered	Lectures Available
	01	Travel By Train	5
	02	Two Gentlemen of Verona	5
	03	Go! Kiss the World	5
	04	The Struggle for an Education Up From slavery	5
	05	Where the Mind is without Fear	4
	06	Stopping by Woods on a Snowy evening	4
	07	Leisure	4
	08	The Daffodils	4
	09	An Introduction to Communication	2
	10	Notice, Agenda, Minutes	3
	11	Presentations	3
Theory B.Com SEM IV	Sr. No.	Topic to be covered	Lectures Available
	01	The Town Week	5
	02	Florence Nightingale	5
	03	The Gift of Magi	4
	04	Three Hermits	4
	05	On His Blindness	4
	06	Solitude	4
	07	Still I Rise	4
	08	Money Madness	4
	09	Interview and Interviewing Skills	4
	10	Meeting Skills	3
	11	Nonverbal Communication	3
	Sr. No.	Topic to be covered	Lectures Available
Theory B.Com SEM V	01	Ratan Tata	5
	02	Steve Jobs	5
	03	Vijay Bhatkar	5
	04	Black Money Black Economy	5
	05	Red Red Rose	4
	06	It is needless to ask the Saint Caste	4
	07	Love's Philosophy	4
	08	The Garden	4
	09	Paperless Office	3
	10	Video Conferencing	2
	11	E-Banking	2
Theory B.Com	Sr. No.	Topic to be covered	Lectures Available

SEM VI	01	SundarPichai	5
	02	MallikaSrinivasan	5
	03	Muhammad Yunus	4
	04	Introduction to the Right to information Act	4
	05	All World's a Stage	4
	06	How do I Love Thee	4
	07	The Duck and The Kangaroo	4
	08	Ode to Autumn	4
	09	Leadership Skills	2
	10	Teamwork Skills	2
	11	Time Management Skills	2
	12	Stress Management Skills	3
	13	Advertising	2
Theory BSc. SEM I	Sr. No.	Topic to be covered	Lectures Available
	01	The Child	8
	02	A Simple Philosophy	8
	03	Values in Life	8
	04	Water: The Elixir of Life	8
	05	Introduction to the Right to Information Act	8
	06	Say Not the struggle Naught Availeth	6
	07	God's Grandeur	6
	08	To Autumn	6
	09	Bangle Seller	6
	10	Stay Calm	6
	11	Curriculum Vitae	4
	12	Formal Letter	6
Tutorial BSc. SEM I	Sr. No.	Topic to be covered	Lectures Available
	01	Part of Speech	3
	02	Articles	2
	03	Preposition	3
	04	Tenses	3
	05	Transformation of Sentences	3
Theory BSc. SEMI II	Sr. No.	Topic to be covered	Lectures Available
	01	What is Courage?	5
	02	The Hazards of Food Colouring	5
	03	The Kabuliwallah	**5**
	04	The Eyes Are not Here	**5**
	05	My Lost Dollar	**5**
	06	A Psalm of Life	**5**
	07	O Captain! My Captain	**5**
	08	The Quality of Mercy	**5**
	09	Father Returning Home	**5**
	10	The World is Too Much With Us	**5**
	11	Report Writing	**4**
	12	Paragraph Writing	**4**
	Sr. No.	Topic to be covered	Lectures Available
Tutorial BSc. SEM II	01	Part of Speech	2
	02	Articles	**3**
	03	Preposition	**3**
	04	Tenses	**3**
	05	Transformation of Sentences	**3**

DEPARTMENTAL PROGRAMS SCHEDULE (2021 - 22)

Sr. No.	Particulars	To be organized in
01	Teacher Day celebrates	05/09/2021
02	Online Welcome Program of First Year Students	04/10/2021
03	Online Bridge Course For First Year Students	05/10/2021 – 12/10/2021

04	Study Circle Formation	15/12/2021
05	Essay Competition on Savitribai Phule	30/12/2021
06	Workshop on Communication Skills	17/01/2022
07	Certificate Course in Enhancing Competence in English.	15/02/2022
09	Poetry Reading Session	15/02/2022
10	One Day National Level Virtual Conference on 'Indian Sensibility in Indian writing in English'	29/03/2022
11	Developing Elocution skill session	18/04/2022
12	William Shakespeare Death Anniversary	23/04//2022
13	Writing Skill Session	10/05/2022

DEPARTMENTAL ACADEMIC ACTION PLAN 2021-22

01	Name of the Department		English
02	Name of faculty members with qualification		1. Mr. Nishigandh Satav (M.A. English, M.Phil) 2. Mr. Nagesh Ingle (M.A. English, SET)
03	Refresher Course/ Orientation Program/ Short Term Course/ Any Others to be participated		02
04	Research Publication Plan	i) Book Publication	01
		ii) Chapter in Book	02
		iii) Research Articles in UGC CARE listed Journal	04
		iv) Research Paper in conference/ seminar (Presentation)	02
		v) Research Paper in conference/ seminar proceeding (Publication)	04
		vi) Conference/ Seminar/ Workshop (To be attended)	06
		vii) Ph. D registered/Ongoing/Awarded	01
05	Conference/ Seminar/ Workshop (To be organized)		01
06	Extension Activities and Social Responsibility (to be participated)		02
07	Academic Activities to be organized		Guest-Lecture Quiz Contest Seminar

Head,Dept.of English
Arts & Commerce College
Warvat Bakal

SATPUDA EDUCATION SOCIETY, JALGAON (JAMOD)'S

ARTS & COMMERCE COLLEGE

WARVAT BAKAL DIST- BULDANA

DEPARTMENT OF MARATHI

DEPRTMENTAL ACADEMIC CALENDAR 2021-22

MR. ANAND DHUNDALE

Departmental Academic Calendar (2021-22)

Sr. No.	Activity	Commencement	Cessation	Total Days
01	First Session	30/08/2021	15/01/2022	105
02	Admission Process	01/09/2021	18/09/2021	14
03	Teaching Days (Odd Semesters)	27/09/2021	15/01/2021	83
04	Induction Program for First Year Students	20/09/2021	25/09/2021	06
05	First Term Vacation	01/11/2021	06/11/2021	06
06	Odd Semesters University Exam	17/01/2022	05/02/2022	19
07	Academic Session (Second Session)	17/01/2022	31/05/2022	109
08	Teaching Days (Even Semesters)	07/02/2022	31/05/2022	90
09	Second Term Vacation	01/06/2022	30/06/2022	26
10	Even Semesters University Exam	01/06/2022	30/06/2022	30
11	Commencement of next Academic session	01/07/2022		

Sr. No.	Public Holiday	Day & Date
01	Ganesh Chaturthi	Friday, 10 September, 2021
02	Gauri Poojan	Monday, 13 September, 2021
03	Mahatma Gandhi Jayanti	Saturday,02 October, 2021
04	Sarvpitri Amavasya	Wednesday, 06 October, 2021
05	Dasara	Friday, 15 October, 2021
06	Id E Milad	Saturday,02 October, 2021
07	Gurunanak Jayanti	Friday, 19 November, 2021
08	Christmas	Saturday,25 December, 2021
09	Mahashivratri	Friday, 14 January, 2022
10	Republic Day	Wednesday, 26 January, 2022
11	Chhatrapati Shivaji Maharaj Jayanti	Saturday, 19 February, 2022
12	Mahashivratri	Tuesday,01 March,2022
13	Holi (Second Day)	Friday, 18 March, 2022
14	GudhiPadwa	Saturday, 02 April,2022
15	Dr. Babasaheb Ambedkar Jayanti	Thursday, 14 April, 2022
16	GoRamzan Id (Id-Ui-Fitar)	Tuesday, 03 May, 2022
17	Buddha Pournima	Monday, 16 May, 2022

Time Table

Faculty : ARTS Subject : MARATHI & MLT

Period	1	2	3	4	5	6
Day / Time	11:00 to 11:48	11:48 to 12:36	12:36 to 1:24	1:34 to 2:22	2:22 to 3:10	3:10 to 3:58
MON		I(MAR)	II (MLT)	III (MLT)		I (MLT)
TUE	II (MLT)	III (MAR)	I (MLT)			III (MLT)
WED	I (MAR)	III (MLT)			I (MLT)	II (MLT)
THUS			II (MLT)	I (MLT)		III (MLT)
FRI	III (MAR)	III (MLT)	I (MAR)			
SAT		I (MAR)	II (MLT)		I (MLT)	

Allotted Workload

Subject : MARATHI & MLT Year : 2021-22

Sr. No.	Class	No. of periods per week			Paper Allotted
		Lectures	Tutorials	Practical	
1	BA I (A) (MAR) (MLT)	04 05	------	----	
2	BA II MLT	05	-----	----	
3	BA III MAR MLT	04 05	-----	----	
4	NCC	---	----	-----	

Total Workload per week (L+T+P) : 23 (L) = 23 (18 hrs. 24 m)

Teaching Periods Available per month during the session 2021-22

Faculty: ARTS Subject: Marathi & MLT

		ODD SEMESTER						EVEN SEMESTER				
Class	Periods	SEPT-21	OCT-21	NOV-21	DEC-21	JAN-22	Total	FEB-21	MAR -22	APR -22	MAY-22	Total
BA I MAR	Theory	02	16	06	17	17	**58**	15	15	16	12	**58**
	Tutorial	--	--	--	--	--	**--**	--	--	--	--	**--**
BA I MLT	Theory	04	19	11	21	21	**76**	19	22	19	20	**80**
	Tutorial	-	-	-	-	-	**-**	-	-	-	-	**-**
BA II MLT	Theory	04	19	11	21	21	**76**	19	22	19	20	**80**
	Tutorial	--	--	--	--	--	**--**	--	--	--	--	**--**
BA III MAR	Theory	02	15	07	17	17	**58**	15	16	15	16	**62**
	Tutorial	-	-	-	-	-	**-**	-	-	-	-	**-**
BA III MLT	Theory	03	18	11	23	20	**75**	20	21	19	20	**80**
	Tutorial		--	--	--	--	**--**	--	--	--	--	

Teaching Plan for Theory (First Semester)		Class : B A Part I MARATHI	
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
	विभाग अ – (वैचारिक)	(24)	
01	1) जीवन आणि शिक्षण – विनोबा भावे	08	
0२	२) ध्येयांची पराकाष्ठा – साने गुरुजी	08	
03	३) चालाल तर वाचाल ! – अभय बंग	08	
	ललित विभाग – ब (ललित	(15)	
01	1) आंगण – मधुकर केचे	05	
02	२) अन्वरशा फकीर	05	
03	३) इर्जिक – अरुण जाखडे	0	
01	**विभाग- क (कविता)** 1) संतवाणी अ) संत ज्ञानेश्वर ब) संत सावता माळी	 02 02	
02	२) स्फूर्ती - केशवसुत	02	
03	३) या झोपडीत माझ्या - राष्ट्रसंत तुकडोजी महाराज	02	
04	४) आता - नामदेव ढसाळ	03	
05	५) शेतकरी राजा - शंकर बढे	02	
06	६) भंगार - अजीम नवाज राही	02	
	विभाग ड) व्यवहारिक मराठी		
01	लेखन विषयक नियम (संदर्भग्रंथ : उपयोजित मराठीमधील प्रकरण १५ वे	02	
02	मुद्रितशोधन : (संदर्भग्रंथ : उपयोजित मराठीमधील प्रकरण १६ वे	02	

Teaching Plan for Tutorial (First Semester)		Class : B A Part I MLT	
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
अ)	**अ) कादंबरी तहान**	(44)	
01	1 प्रास्ताविक	06	
02	2 वाङ्मय प्रकाराची संकल्पना	09	
03	3 साहित्याचे प्रकार उदा. कथा कविता कादंबरी नाटक इत्यादी.	08	
04	4 तहान चे कथानक	06	
05	5 तहान मधील पात्र परिचय	06	
06	6 वाङ्मयीन मुल्यमापन	06	
07	7 समारोप	03	
ब)	**कविता : अर्वाचीन मराठी कविता (संपादित)**	(36)	
1	1) केशवसुत : अ) तुतारी ब) नवा शिपाई क) आम्ही कोण ?	05	
2	2) बा. सी. मर्ढेकर: अ) भंगू दे काठीण्य माझे	06	

	ब) गणपत वाणी क) हया गंगेमध्ये		
3	3) बा. भ.बोरकर: अ) जीवन त्यांना कळले हो ब) मज लोभस हा इहलोक हवा क) जिने गंगौघाचे पाणी	06	
4	4) कुसुमाग्रज : अ) अहिनकुल ब) हिमला क) आगगाडी आणि जमीन	06	
5	5) इंदिरा संत : अ) मृण्मयी ब) हाकेवर आहे गाव क) झुंजावत	05	
6	6) नारायण सुर्वे : अ) चार शब्द ब) दोन दिवस क) कठीण होत आहे	04	
7	7) वी.दा. करंदीकर : अ) माझ्या मना बन दगड ब) ती जनता अमर आहे क) सब घोडे बारा टक्के	04	

Teaching Plan for Theory (Third Semester) **Class : B A Part II MLT**

Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
अ)	निवडक मराठी कथा- संपादित	(42)	
ब)	संत तुकारामांचे निवडक अभंग संपादित	(34)	
	कथाकार कथा		
01	द.मा. मिरासदार - माझ्या बापाची पेंड	05	
02	शंकर पाटील - देशी उपाय	05	
03	व्यंकटेश माडगुलकर - रामा मैलकुली	05	
04	उव्दव शेळके - माय	05	
05	वामन होवाळ - मजल्याच घर	05	
06	गंगाधर गाडगीळ - किडलेले मानसे	05	
07	जयंत नारळीकर - ट्रॉय चा घोडा	05	
08	कमल देसाई - माणसाची गोष्ट	03	
09	वा. कृ. चोरघडे - संस्कार	02	
10	राजन गवस - हुंदका	02	
ब)	**संत तुकारामांचे निवडक अभंग संपादित**	(34)	
	1) प्रास्ताविक	04	
	2) तुकारामांचा परिचय	03	
	3) तुकारामांचे काव्याचे स्वरूप	03	
	4) वारकरी समप्रदायातील तुकारामांचे स्थान	03	
	5) आई वडील मन/ प्रयत्न	03	
	6) काम चुकाराच्या सबबी/ खडतर परीक्षा	03	
	7) काळ वेळ, शेती, गृहस्त जिवन	03	
	8) सच्या गुणांचा उत्स्फूर्त आविष्कार, विवेक, स्वानुभव	04	

	९) निसर्ग, कसे वागू नये, कसे वागावे, उपदेश कशासाठी	04	
	१०) संत आणि ईश्वर, संगत, तुका आकाशाएवढा, आनंद	04	

Teaching Plan for Tutorial (Five Semester)		**Class : B A III MAR**	
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
	विभाग अ – (वैचारिक)	(24)58	
01	शेतकऱ्याचा असूड – म. फुले	08	
02	मंत्रबळ नव्हे यत्रबळ – वी. दा. सावरकर	08	
03	बुद्धी : माणसाची खरी शक्ती- दादा धर्माधिकारी	08	
	ललित विभाग – ब (ललित	(15)	
01	लोकजीवनातील वृक्षपूजा - द. ता भोसले	05	
02	पाणी - भास्कर चंदनशिव	05	
03	दहा पैशाचा तमाशा - मुकुंद टाकसाळे	05	
	विभाग- क (कविता)	(15)	
01	संतवाणी : अ) तुकाराम ब) रामदास	01 01	
02	औदुंबर - बालकवी	03	
03	गाव - ग्रेस	03	
04	जीवनाचा शोध घेताना - वाहरू सोनवणे	03	
05	खूनच पुसली मानवतेची - सुखदेव ढानके	02	
06	दातासाठी हत्तीला मारण्याचे गणित - लोकनाथ यशवंत	02	
	विभाग ड) व्यवहारिक मराठी	(04)	
01	**अहवाल लेखन (संदर्भग्रंथ** : उपयोजित मराठीमधील प्रकरण १२ वे	02	
02	**प्रसार मध्यमासाठी लेखन वृत्तलेखन** : (संदर्भग्रंथ : उपयोजित मराठीमधील प्रकरण १७ वे मधील बातमी लिहावी कशी हा घटक	02	

Teaching Plan for Theory (Five Semester)		**Class : B A Part III MLT**	
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	**अ) मिरासदारी- लेखक- द.मा.मिरासदार**	(42)	
	1) नव्यानवबादची एक सफर	02	
	2) भुताचा जन्म	02	
	3) धडपनारी मुले	02	
	4) व्यंकुची शिकवणी	02	
	5) शिवाजीचे हस्ताक्षर	02	
	6) कोणे एके काळी	02	
	7) नदीकाठचा प्रकार	01	
	8) शाळेतील समारंभ	02	
	९) माझी पहिली चोरी	02	
	१०) विरंगुळा	03	
	११) निरोप	02	
	१२) माझ्या बापाची पेंड	03	

	१३) गवत	02	
	१४) साक्षीदार	02	
	१५) झोप	02	
	१६) आजारी पडण्याचा प्रयोग	02	
	१७) पाऊस	02	
	१८) ड्रोइंग मास्तरांचा तास	01	
	१९) स्पर्श	02	
	२०) पंचनामा	02	
	२1) बाबू शेलाराचे धाडस	01	
	२2) चोरी : एक प्रकार	01	
02	**ब) साहित्य विचार- संपादक - डॉ. दत्तात्रय पुंडे. डॉ. स्नेहल तावरे**		
	अ) प्रकरण १ – साहित्याचे स्वरूप	(13)	
	1) शास्त्रीय वाङ्ग्मय आणि साहित्य	02	
	2) साहित्यातुन व्यक्त होणार्या अनुभवाचे विशेष	02	
	3) वास्तव आणि कल्पित	02	
	4) साहित्यातील संवेदनात्मकता	02	
	5) साहित्यातील भावनान्मक्ता	01	
	6) साहित्यातील वैचारीक्ता, ... सेन्द्रीयत्व	02	
	7) अनुभवाची विशीष्टता आणि विश्वास्मक्ता	01	
	8) समारोप	01	
	ब) प्रकरण २- साहित्याचे प्रयोजन	(10)	
	1) प्रयोजन म्हणजे काय?	01	
	2) इतर विद्या शाखा व साहित्य	02	
	3) प्रयोजन व परिणाम	01	
	4) लेखकाच्या दृष्टीकोनातुय प्रयोजन	02	
	5) उपदेश करणे व बोध देणे	02	
	6) प्रचार करणे	01	
	7) आनंद देणे इत्यादी.	01	
	क) प्रकरण ३- साहित्याची निर्मितीप्रक्रिया	(10)	
	1) प्रास्ताविक	01	
	2) प्रतिभा	01	
	3) कल्पना शक्ती	01	
	4) स्पुर्ती	01	
	5) चम्त्कृतिशक्ती	01	
	6) प्रतिभा व्यापार व स्वप्नव्यापार	02	
	7) अनुभव समृद्धी आणि विद्वता	01	
	8) साहित्यकाचे व्यक्तिव आणि त्याचा दृशिकोन	01	
	९) साहित्यकाचे संवेदनशीलता...शैशववृत्ती	01	

Teaching Plan for Tutorial (Second Semester)		**Class : B A Part I MARATHI**	
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
	विभाग अ) वैचारिक	(22)	
1	1) तरुणांनो ! निर्भय बणा, शूर बना	09	

	- स्वामी विवेकानंद		
2	2) वैज्ञानिक दृष्टीकोन - नरेंद्र दाभोळकर	06	
3	3) स्त्री शूद्रांचा राजा छत्रपती शिवराय - चंद्रशेखर शिखरे	07	
	विभाग ब) ललित	(16)	
1	1) हत्तीचा दृष्टांत – केशिराज बास	02	
2	2) अल्पभूधारक - बाबाराव मुसळे	07	
3	3) वसंत वेणा - मीनल येवले	07	
	विभाग क) कविता	(16)	
1	1) संतवाणी - अ) नामदेव ब) जनाबाई	02 02	
2	2) तयास मानव म्हणावे का? – सावित्रीबाई फुले	03	
3	3) चाफा – बी	03	
4	4) गेले तुटून पंख – शिवा राऊत	02	
5	5) योद्धा – मलिका अमर शेख	02	
6	6)माय – स. ग. पाचपोळ	02	
	विभाग ड) व्यवहारिक मराठी	(04)	
1	**1) कार्यालयीन पत्र व्यवहार** – संदर्भ ग्रंथ: उपयोजित मराठी मधील प्रकरण 3 रे	02	
2	**2) स्वपरिचय पत्र नोकरीसाठी अर्ज लेखन**- संदर्भ ग्रंथ: उपयोजित मराठी मधील प्रकरण 4 थे .	02	

Teaching Plan for Theory (Second Semester) **Class : B A Part I MLT**

Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
	नाटक: आई रिटायर होतेय - अशोक पाटोळे	*(34)*	
	अर्वाचीन मराठी कविता - (संपादित)	(39)	
अ)	नाटक: आई रिटायर होतेय - अशोक पाटोळे		
01	नाट्य संकल्पनेचा परिचय	05	
02	नाट्य वांग्मयाचा संशिप्त इतिहास	04	
03	अशोक पडोळे यांच्या साहित्य प्रवासाचा परिचय	02	
04	आई रिटायर्ड होते या नाटकाचे कथानक	06	
05	नाटकातील पात्राचा परिचय	05	
06	वाण्ग्मयीन मुल्यमापन	03	
07	स्त्रीप्रदान नाटक म्हणजे आई रिटायर्ड होते	06	
08	समारोप	03	
ब)	**अर्वाचीन मराठी कविता** (संपादित)		
	कवी/कवयित्री कविता		
01	8) सुरेश भट – अ) उषःकाल होता होता	06	

	ब) एवढे दे पांडुरंगा क) साय		
02	9) दिलीप चित्रे - अ) शतके ब) देवा ह्याही देशात पाऊस पाड क) हरवले जेथे ज्ञानदेव तुकाराम	06	
03	10) यशवंत मनोहर – अ) मी येतो तेव्हा ब) तडफड क) मोडलो मी नाही	06	
04	11) ना. धो महानोर - अ) या नभाने या भुईला ब) मीच माझा एककल्ली क) मोडलेल्या माणसाचे दुःख ओले झेलताना	05	
05	12) विठ्ठल वाघ – अ) मेंढरं ब) साहेबराव पाटील क) माणूस	06	
06	13) प्रभू राजगडकर - अ) मल्टी अटीट्युड टॉवर्डस् आदिवासी ब) गोंगलु क) निकाल	05	
07	14) कल्पना दुधाळ – अ) चूल ब) बाय व गाय क) मायेच्या पदराखालून	05	

Teaching Plan for Tutorial (Fourth Semester) **Class : B A Part II MLT**

Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	अ) आत्मकथन- आठवणीचे पक्षी लेखक प्र. ई. सोनकांबळे	(44)	
02	ब) लीळाचरित्रातील निवडक कथा- संपादक- राजेंद्र राऊत	(30)	
	अ)आत्मकथन- आठवणीचे पक्षी		
	1) प्रास्ताविक	05	
	2) दलित साहित्याचा संक्षिप्त इतिहास	06	
	3) दलित स्वकथना ची वहिवाट	05	
	4) आत्मकथनाची कथा	12	
	5) कथना तील मुख्य पात्र	09	
	6) कथनाचे वांग्मयीन मूल्यमापन	05	
	7) समारोप	02	
	ब) लीळाचरित्रातील निवडक कथा		

	1) प्रास्ताविक	04	
	2) महानुभाव यांचे साहित्य	03	
	3) लीळाचरित्र च्या निमित्ताने	04	
	4) लीळाचरित्रातील कथाकथन	09	
	5) लीळाचरित्र च्या आधारे चक्रधरांचे व्यक्तित्व	03	
	6) लीळाचरित्राचा मुख्य विषय (चक्रधर स्वामी)	02	
	7) सामाजिक व वांग्मयीन मूल्यमापन	03	
	8) समारोप	02	

Teaching Plan for Theory (Sixth Semester) **Class : B A Part III MARATHI**

Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
	विभाग अ) वैचारिक	(25)	
01	1) डॉ. पंजाबराव देशमुख – - डॉ. वी. भी. कोलते	08	
02	2)राजर्षी शाहू: वसा आणि वारसा – गोविंद पानसरे	07	
03	3)स्वराज्य सकल्पिका राष्ट्रमाता जिजाऊ – अशोक राणा	10	
	विभाग ब) ललित	(18)	
01	1)मरणाहून आपेश वोखटे – भाऊसाहेबांची बखर	05	
02	2)अरणी – मारुती चितमपल्ली	07	
03	3)ढग – सखा कलाल	06	
	विभाग क) कविता	(15)	
01	1) पोरसवदा होतीस – बा.सी. मर्ढेकर	04	
02	2) विझता विझता स्वतःला – नारायण सुर्वे	04	
03	3) बैलाचा मृत्यू – वसंत आ. डहाके	02	
04	4) काय कराल? - ना. कु. कवठेकर	03	
05	5) शेतकरी – बबन सराडकर	02	
	विभाग ड) व्यवहारिक मराठी	(04)	
01	**1) जाहिरात निवेदन** - संदर्भ ग्रंथ : उपयोजित मराठी मधील प्रकरण 6 वे	02	
02	**2) जाहिरात लेखन** - संदर्भ ग्रंथ: उपयोजित मराठी मधील प्रकरण 8 वे	02	

Teaching Plan for Theory(Sixth Semester) **Class : B A III MLT**

Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	**1) एक होता कार्व्हर** – अनुवाद – वीना गवाणकर	(50)	
	1) प्रास्ताविक	06	
	2) चरित्रांचा थोडक्यात इतिहास	06	
	3) अनुवादित आत्मचरित्रांचा परिचय	06	
	4) मनोगताच्या निमित्त्याने	04	
	5) मेरीचं पोर, ज्ञानासाठी दाही दिशा	04	
	6) प्रारंभाचा शेवट , स्वातंत्र्य ग्रस्त, विपन्न ऑलाबॉमा	06	

	7) 'मी येत आहे' , कर्मभूमीत, अंगा आली रे अअंगणी	05	
	8) केमर्जीस्ट, पोरा तू आम्हाला धन्य केलेस, मी न माझा पूर्ण	05	
	9) विज्ञान तुम्हाला स्वतंत्र बनवील, भूमिपुत्र, दुरितांचे तिमिर जावो	04	
	10) सुखिया जाला, महानिर्वाण, कार्व्हर यांच्या समाधीवरील शिलालेख, जॉर्ज वॉशिंग्टन कार्व्हर जीवन प्रवास, समारोप	04	
02	**2) भाषा विज्ञान परिचय** – संपादक- डॉ. मालशे, डॉ. पुंडे , डॉ. अंजली सोमण	(30)	
	1) भाषेचे स्वरूप आणि उपयोग	12	
	2) स्वनविज्ञान	09	
	3) स्वनिम विचार	09	

PROGRAMS SCHEDULE (2021 - 22)

Sr. No.	Particulars	To be organized in
01	प्रवेशित विद्यार्थ्यांचे स्वागत	सप्टे २०२१
02	गांधी जयंती	२ ऑक्टो २०२१
03	अब्दुल कलाम जयंती/वाचन प्रेरणा दिन आभासी पद्धतीने साजरा	१५ ऑक्टो २०२१
04	मराठी अभ्यास मंडळाचे उदघाटन	१५ जानेवारी २०२१
05	वाचन प्रेरणादिन	३० आक्टो २०२१
06	साने गुरुजी जयंती	२४ डिसेंबर २०२१
08	संविधान दिवस	२८ नोव्हेंबर २०२१
09	आभासी काव्य वाचन	मे २०२१
11	अभ्यासक्रम सिंव्हावलोकन	जून २०२१
12	आभासी विद्यापीठ परीक्षा मार्गदर्शन	जुलै २०२१

SATPUDA EDUCATION SOCIETY, JALGAON (JAMOD)'S

ARTS & COMMERCE COLLEGE

WARVAT BAKAL DIST- BULDANA

DEPRTMENTAL ACADEMIC

CALENDAR 2021-22

Departmental Academic Calendar (2021-22)

Sr. No.	Activity	Commencement	Cessation	Total Days	
01	First Session	30/08/2021	15/01/2022	105	
02	Admission Process	01/09/2021	18/09/2021	14	
03	Teaching Days (Odd Semesters)	27/09/2021	15/01/2022	83	**83**
04	Induction Program for First Year Students	20/09/2021	25/09/2021	06	
05	First Term Vacation	01/11/2021	06/11/2021	06	
06	Odd Semesters University Exam	17/01/2022	05/02/2022	19	
07	Teaching Days (Even Semesters)	07/02/2022	31/05/2022	90	**90**
08	Second Term Vacation	01/06/2022	30/06/2022	26	
09	Even Semesters University Exam	01/06/2021	30/06/2022	30	
10	Commencement of next Academic session	01/07/2022			

Sr. No.	Public Holiday	Day & Date
01	Ganesh Chaturthi	Friday, 10 September, 2021
02	Gauri Punjan	Monday, 13 September, 2021
03	Gandhi Jayanti	Saturday, 02 October, 2021
04	Sarvpitri Amavasya	Wednesday, 06 October, 2021
05	Dasara	Friday,15 October,2021
06	Id E Milad	Tuesday, 19 October, 2021
07	Gurunanak Jayanti	Friday, 19 November, 2021
08	Christmas	Saturday, 25 December, 2021
09	Makar sankranti	Friday,14 January 2022
10	Republic Day	Wednesday, 26 January, 2022
11	Chhatrapati Shivaji Maharaj Jayanti	Saturday, 19 February, 2022
12	Mahashivratri	Tuesday, 1 March, 2022
13	Holi (Second Day)	Friday, 18 March, 2022
14	Gudi Padwa	Saturday, 02 April, 2022
15	Dr. Babasaheb Ambedkar Jayanti	Thursday, 14 April, 2022
16	Good Friday	Friday, 15 April, 2022
17	Ramjan Id	Tuesday,03 May, 2022
18	Buddha Pournima	Monday,16 May,2022

Time Table

Faculty: ARTS Subject: Economics

Period	1	2	3	4	5	6
Day / Time	11:00 to 11:48	11:48 to 12:36	12:36 to 1:24	1:34 to 2:22	2:22 to 3:10	3:10 to 3:58
MON	III		I		II	
TUE		II	III			
WED			II	I		
THUS	I		III			
FRI		II		I		III
SAT	7.30 to 8.18	8.18 to 9.06	9.06 to 9.54	10.04 to 10.52	10.52 to 11.40	11.40 to 12.28
	I	II		II		

Allotted Workload

Subject : Economics Year : 2021-22

Sr. No.	Class	No. of periods per week			Paper Allotted
		Lectures	Tutorials	Practical	
1	BA I (A)	05	----	----	
2	BA II	05	----	----	
3	BA III	05	----	----	

Total Workload per week 15 (Theory) = 15 (12 hrs.)

Teaching Periods Available per month during the session 2021-22

Faculty: ARTS Subject: Economics

		ODD SEMESTER								EVEN SEMESTER					
Class	Periods	AUG-21	SEPT -21	OCT -21	NOV -21	DEC -21	JAN -22	Total	JAN - 22	FEB -22	MAR -22	April -22	MAY -22	JUN-22	Total
BA I	Theory	01	20	19	15	22	10	87	10	18	21	19	20	00	88
BA II	Theory	00	00	03	16	21	10	50	10	18	20	20	20	00	88
BA III	Theory	00	00	08	16	22	10	56	11	18	20	19	20	00	88

TEACHING PLAN OF DEPARTMENT OF ECONOMICS			
Theory BA SEM I	Sr. No.	Topic to be covered	Lectures Available
	01	Introduction to Economics	18
	02	Demand and Supply	18
	03	Cost and Revenue Analysis	17
	04	Market Structures	17
	05	Factors of Production	17
Theory BA SEM II	Sr. No.	Topic to be covered	Lectures Available
	01	Geographical and Economy Features of Maharashtra	18
	02	Population Features of Maharashtra	18
	03	Agricultural Economy	17
	04	Industry and Infrastructure in Maharashtra	17
	05	Economy of Vidarbha	18
Theory BA SEM III	Sr. No.	Topic to be covered	Lectures Available
	01	Introduction to Macro Economics	10
	02	Money and Value of Money	10
	03	Inflation and Deflation	10
	04	Production and Employment	11
	05	International Trade	09
Theory BA SEM IV	Sr. No.	Topic to be covered	Lectures Available
	01	Commercial bank	*18*
	02	Central Bank	18
	03	Co-operative Bank and Nabard	18
	04	International Monetary Fund & World Bank	17
	05	Recent Servicesin banking Sector	17
Theory BA SEM V	Sr. No.	Topic to be covered	Lectures Available
	01	Indian Economy and Planning	12
	02	Agriculture	11
	03	Industry	11
	04	External sectors and Important areas of concern	11
	05	Environment and pollution	11
Theory BA SEM VI	Sr. No.	Topic to be covered	Lectures Available
	01	Introduction of Demography	18
	02	Fertality and Mortality	17
	03	Migration of population	18
	04	Urbanization of population	17
	05	Population and Development	18

ACADEMIC ACTION PLAN 2021-22
Department of Economics

01	Name of the Department		Economics
02	Name of faculty members with qualification		Dr.Subhash Gurjar (M.A.Eco,M.phil,Ph.d,SET)
03	Refresher Course/ Orientation Program/ Short Term Course/ Any Others		01
04	Research Publication	i) Book Publication	01
		ii) Chapter in Book	01
		iii) Research Articles in UGC CARE listed Journal	01
		iv) Research Paper in conference/ seminar (Presentation)	02
		v) Research Paper in conference/ seminar proceeding (Publication)	01
		vi) Conference/ Seminar/ Workshop (To be attended)	03
		vii) Resource Person/ Chairperson	01
		viii) Ph. D registered/Ongoing/Awarded	Awarded
		xv) Ph. D guide and no. of students registered /to be registered under	Ph.d Guide
		xvi) Minor/ Major Project	---
05	Conference/ Seminar/ Workshop (To be organized)		01
06	Collaboration		01
07	Consultancy		Nil
08	Extension Activities and Social Responsibility		Social awareness program
09	Academic Activities to be organized (Guest lecture, class room seminar, contest, education tour, celebration of birth and death anniversary of national leaders, no. of visiting & guest faculties etc.)		Guest lecture :- 01 Seminar :- 02 Education tour :- 02 Bank visit :- 01 Farm visit :- 01
10	Innovative and Best Practices • Name of the title of the practice. • Introduction • Objectives • Theme/ context • The practice • Evidence of success • Problems encountered and resources required		Banking awareness
11	Any other if you wish to add		---
12	Curriculum Enrichment (Draft the letter to the concerned BoS of University)		Paper setting Moderation Discuss the syllabus

Head,Dept.of Economics
Arts & Commerce College
Warvat Bakal

SATPUDA EDUCATION SOCIETY, JALGAON (JAMOD)'S

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WARVAT BAKAL DIST- BULDANA

DEPARTMENT OF POL-SCIENCE

DEPRTMENTAL ACADEMIC CALENDAR 2021-2022

Departmental Academic Calendar (2021-2022)

Sr. No.	Activity	Commencement	Cessation	Total Days
01	First Session	30/08/2021	15/01/2022	105
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03	Teaching Days (Odd Semesters)	27/09/2021	15/01/2022	**83**
04	Academic Session (Second Session)	17/01/2022	31/05/2022	109
05	Induction Program for First Year Students	20/09/2021	25/09/2021	06
06	First Term Vacation	01/11/2021	06/11/2021	06
07	Odd Semesters University Exam	17/01/2022	05/02/2022	19
09	Teaching Days (Even Semester)	07/02/2022	31/05/2022	**90**
10	Second Term Vacation	01/06/2022	30/06/2022	26
11	Even Semesters University Exam	01/06/2022	30/06/2022	30
12	Commencement of next Academic session	01/07/2022		

Sr. No.	Public Holiday	Day & Date
01		
02	Ganesh Chaturthi	Friday 10 September 2021
03	Gauri Pujan	Monday 13 September 2021
04	Gandhi Jayanti	Saturday 02 October 2021
05	Sarvpitri Amavasya	Wednesday 06 October 2021
06	Dasara	Friday, 15 October 2021
07	Id E Milad	Tuesday 19 October 2021
08	Gurunanak Jayanti	Friday 19 November 2021
09	Christmas	Saturday 25 December, 2021
10	Republic Day	Wednesday 26 January, 2022
11	Chhatrapati Shivaji Maharaj Jayanti	Saturday 19 February, 2022
12	Mahashivratri	Tuesday 01March, 2022
13	Holi (Second Day)	Friday 18 March, 2022
14	Good Friday	Friday, 15 April, 2022
15	Dr. Babasaheb Ambedkar Jayanti	Thursday 14 April, 2022
16	Ramzan Id	Tuesday, 03 May, 2022
17	Buddha Pournima.	Monday 16 May 2022

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Time Table

Faculty : ARTS Subject : Pol-Science

Period	1	2	3	4	5	6
Day / Time	11:00 to 11:48	11:48 to 12:36	12:36 to 1:24	1:34 to 2:22	2:22 to 3:10	3:10 to 3:58
MON	II	III			I	
TUE	I		II	III		
WED		I	III			
THUS	III	I	II			
FRI			II	III		
SAT	II			I		

Allotted Workload

Subject : Pol-Science Year : 2021-2022

Sr. No.	Class	No. of periods per week			Paper Allotted
		Lectures	Tutorials	Practical	
1	BA I (A)	05	-	----	
2	BA II	05	-	----	
3	BA III	05	-	----	
	Total	15	----	-	

Total Workload per week – 15 Period

Faculty: ARTS Subject : Pol-Science

		ODD SEMESTER								EVEN SEMESTER				
Class	Periods	AUG-21	SEPT-21	OCT-21	NOV-21	DEC-21	JAN-22	TOTAL	FEB-22	MAR-22	APR-22	MAY-22	JUN-22	Total
BA I	Theory	-	12	16	15	16	10	69	16	18	19	20	-	**73**
BA II	Theory	-	10	15	14	15	09	63	15	16	21	18	-	**70**
BA III	Theory	-	12	14	15	13	10	64	16	14	20	17	-	**67**

Teaching Plan for Theory	Class : B A Part I - (First Semester)	SUB : Pol-Science	
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	Unit-I	21	
02	Unit-II	19	
03	Unit-III	20	
04	Unit-IV	19	
05	Unit-V	20	
Teaching Plan for Theory	**Class : B A Part I - (Second Semester)**	**SUB : Pol-Science**	
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	Election Commission of India	18	
02	State Executive	15	
03	State Legislature of Maharashtra	13	
04	Local Seif Government of Maharashtra	14	
05	Women Participation in Panchayat Raj	15	
Teaching Plan for Theory	**Class : B A Part II -(Third Semester)**	**SUB: Pol-Science**	
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	Constitution of U.K.	20	
02	Parliamentary System of U.K.	19	
03	Constitution of U.S.A.	20	
04	Legislature of U.S.A.	19	
05	SAARC	20	
Teaching Plan for Theory	**Class : B A Part II (Fourth Semester)**	**SUB ; Pol-Science**	
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	Constitution Of CHINA	*18*	
02	Executive Of China	15	
03	United Nation Organization (UNO)	14	
04	Strcture of UNO	14	
05	Indo-China Relations –Major Issues	15	
Teaching Plan for Theory	**Class : B A Part III (Fifth Semester)**	**SUB : Pol-Science**	
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	Leadership	21	
02	Reservation	19	
03	Nationalism	20	
04	Communalism	19	
05	Terrorism	20	
Teaching Plan for Theory	**Class : B A III (Sixth Semester)**	**SUB : Pol-Science**	
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	Concept of State	18	
02	Concept of Democracy	15	
03	Concept of Nationalism	13	
04	Concept of Socialism	14	
05	Behaviouralism and Sovereignty	15	

PROGRAMS SCHEDULE (2021 - 22)

Sr. No.	Particulars	To be organized in
01	Constitutional Day	26 November 2021
02	Human Rights Day	10 December 2021
03	Study Forum	18 December 2021
04	National Essay Competition	11 January 2022
05	Guest Lecturer	12 January 2022 Dr V K Gaikwad
06	One day Interdisciplinary National Conference	28 Feb 2022 Topic-75 years of Indian Democracy
07	Guest Lecturer	08 March 2022 Dr Shubhangi Rathi. Sub-Women Law &Gender Equality

SATPUDA EDUCATION SOCIETY, JALGAON (JAMOD)'S

ARTS & COMMERCE COLLEGE

WARVAT BAKAL DIST- BULDANA

DEPARTMENT OF HISTORY

DEPRTMENTAL ACADEMIC CALENDAR 2021-22

Departmental Academic Calendar (2021-22)

Sr. No.	Activity	Commencement	Cessation	Total Days
01	First Session	30/08/2021	15/01/2022	105
02	Admission Process	01/09/2021	18/09/2021	14
03	Teaching Days (Odd Semesters)	27/09/2021	15/01/2021	83
04	Induction Program for First Year Students	20/09/2021	25/09/2021	06
05	First Term Vacation	01/11/2021	06/11/2021	06
06	Odd Semesters University Exam	17/01/2022	05/02/2022	19
07	Academic Session (Second Session)	17/01/2022	31/05/2022	109
08	Teaching Days (Even Semesters)	07/02/2022	31/05/2022	90
09	Second Term Vacation	01/06/2022	30/06/2022	26
10	Even Semesters University Exam	01/06/2022	30/06/2022	30
11	Commencement of next Academic session	01/07/2022		

Sr. No.	Public Holiday	Day & Date
01	Ganesh Chaturthi	Friday, 10 September, 2021
02	Gauri Pujan	Monday, 13 September, 2021
03	Mahatma Gandhi Jayanti	Saturday,02 October, 2021
04	Sarvpitri Amavasya	Wednesday, 06 October, 2021
05	Dasara	Friday, 15 October, 2021
06	Id E Milad	Saturday,02 October, 2021
07	Gurunanak Jayanti	Friday, 19 November, 2021
08	Christmas	Saturday,25 December, 2021
09	Mahashivratri	Friday, 14 January, 2022
10	Republic Day	Wednesday, 26 January, 2022
11	Chhatrapati Shivaji Maharaj Jayanti	Saturday, 19 February, 2022
12	Mahashivratri	Tuesday,01 March,2022
13	Holi (Second Day)	Friday, 18 March, 2022
14	Gudhi Padwa	Saturday, 02 April,2022
15	Dr. Babasaheb Ambedkar Jayanti	Thursday, 14 April, 2022
16	Ramzan Id (Id-Ui-Fitar)	Tuesday, 03 May, 2022
17	Buddha Pournima	Monday, 16 May, 2022

Time Table

Faculty: ARTS Subject: HISTORY

	1	2	3	4	5	6
Day / Time	11:00 to 11:48	11:48 to 12:36	12:36 to 1:24	1:34 to 2:22	2:22 to 3:10	3:10 to 3:58
MON		B.A. II		B.A.I	B.A. III	
TUE		B.A. I		B.A. II	B.A. III	
WED	B.A. III				B.A.II	B.A. I
THUS	B.A. II	B.A. I				
FRI	B.A. I		B.A. III			
SAT	B.A. III	B.A. II				

Allotted Workload

Subject: HISTORY Year: 2021-22

Sr. No.	Class	No. of periods per week			Paper Allotted
		Lectures	Tutorials	Practical	
1	BA I (A)	05	--	--	
2	BA II	05	--	--	
3	BA III	05	--	--	
Total Workload per week (L+T+P) : 15 (L) = 15 (12 Hrs)					

Teaching Periods Available per month during the session 2021-22

Faculty :ARTS Subject : HISTORY

			ODD SEMESTER						EVEN SEMESTER					
Class	Periods		SEPT-21	OCT-21	NOV-21	DEC-21	JAN-22	Total	FEB-21	MAR-22	APR-22	MAY-22		Total
BA I	Theory		04	19	16	23	10	**72**	16	21	19	20		**76**
	Tutorial		--	--	--	--	--	--	--	--	--	--		--
BA II	Theory		04	19	17	21	11	**72**	15	22	18	20		**75**
	Tutorial		--	--	--	--	--	--	--	--	--	--		--
BA III	Theory		03	19	16	21	11	**80**	15	20	20	20		**75**
	Tutorial			--	--	--	--	--	--	--	--	--		

Teaching Plan for Theory (First Semester) Class: B. A. Part - I (History of India Earliest Time to 700 A.D.)				
Sr. No.	Unit	Topic to be covered	Lectures Available	Lectures Utilized
01	Unit -I	1) Survey of the Sources of Ancient India	15	
		2) Harppan Civilization		
		3) Vedic Age		
02	Unit -II	1) Rise of Religious Movement	10	
		2) Rise of the Territorial State		
03	Unit -III	2) Mouryan and Post Mauryan Period	15	
		(Shungas, Kushanas, Satvahana.)		
04	Unit -IV	1) Gupta Dynasty	17	
		2) Vakatak Dynasty		
		3) Vardhan Empire		
05	Unit -V	1) Educational in Ancient India	15	
		2) Position of the Women in Ancient India		
		3) Judicial Administration in Ancient India		
		4) Art and Architecture in Ancient India		
Teaching Plan for Theory (Second Semester) Class : B. A. Part - I (History of India from 701 to 1526 A.D)				
Sr. No.	Unit	Topic to be covered	Lecture Available	Lecture Utilized
01	Unit -I	1) Arab and Turks Invasion	15	
		2) Establishment of Sultanat		
		3) Qutbuddin Aibak		
02	Unit -II	1) Iltutamish	17	
		2) Razia		
		3) Balban		
		4) Allauddin Khilji's Political and Administrative Policy		
		5) Allauddin Khilji's Economical Policy		
03	Unit -III	1)Mahammad Tughluq	15	
		2) Firoz Shah Tughluq		
		3) Invasion of Taimur		
		4) The Saiyyids, the Lodis and the Decline of the Sultanate		
04	Unit -IV	1)The Bahamanis Kingdom	15	
		2) The Vijaynagar Empire		
		3) Political Structure during Sultanate Period		
05	Unit -V	1)State and Society	14	
		2) Social Status of Women		
		3) Economical and Technological Development		
		4) Arts and Education		
		5) Religious Movements		
Teaching Plan for Theory (Third Semester), Class : B. A. Part- II, (History of India From 1226 to 1756 A.D.				
Sr. No.	Unit	Topic to be covered	Lectures Available	Lectures Utilized
01	Unit -I	1) Survey of the Sources of Medieval India	17	
		2) Establishment and Cansolidation of Mughal Empire		
		3) Mughal Policy		

02	Unit -II	1) Mughal Ruling Classes	15	
		2) Mughals Relation with India Power		
		3) Declined of Mughal Empire		
03	Unit -III	*1) Mughal Economy*	10	
		2) Mughal Society		
		3) Religion		
		4) Cultural Life		
04	Unit -IV	1) Sources of Maratha History	20	
		2) Emergence of Maratha Power		
		3) Maratha Power Under Shivaji		
		4) Maratha Power Under Sambhaji		
		5) The Maratha War of Independence		
05	Unit - V	1) Political Administration Under Maratha	10	
		2) Military System Under Maratha		
		3) Judicial Administration Under Maratha		
		4) Fiscal Administration of Maratha		
		5) Religious Policy of Maratha		

Teaching Plan for Theory (Forth Semester) Class : B. A. Part - II (History of India From 1757 to 1947 A.D.)

Sr. No.	Unit	Topic to be covered	Lectures Available	Lectures Utilized
01	Unit -I	1) Advent of European Power	15	
		2) Tool of Expansion of British Dominion in India		
		3) Economic Changes		
02	Unit -II	1) Revolt of 1857	17	
		2) Socio-religious Movement		
		3) Modern Education		
03	Unit -III	1) Nationalism	15	
		2) India National Congres (Early Phase)		
		3) India National Congres (Leter Phase)		
04	Unit - IV	1) Early Gandhian Programme	17	
		2) Non Co-oparation Movement		
		3) Civil Disobedience Movement		
		4) Quite India Movement		
05	Unit - V	1) Constitutional Development	11	
		2) Revolutionary Movement		
		3) Subhashchandra Bose and Azad Hind Army		
		4) India Towards Indipendence		

Teaching Plan for Theory (Fifth Semester) Class : B. A. Part - III (History of Modern World From 1780 to 1920 A.D.)

Sr. No.	Unit	Topic to be covered	Lectures Available	Lectures Utilized
01	Unit - I	1) French Revolution	15	
		2) Emergence of Nepolian Bonaparte		
		3) Congress of Vienna 1815 A.D.		
02	Unit - II	1) Making of the Nation	20	
		2) Foreign policy of Germany Under Bismarck		
		3) Germany Under Kaiser William II		
03	Unit - III	1) Triple Entente	15	
		2) Russo-Japan War		
		3) First World War		
04	Unit - IV	1) The Entry of USA In to First World War		
		2) Concept of Communism, Capitalism , Socialism		

		3) The Russian Revolution	15	
05	Unit - V	1) Paris Peace Conference	15	
		2) Versailles Treaty And Other		
		3) The League of Nation Aims, Objective, Structure		

Teaching Plan for Theory (Sixth Semester) Class : B. A. Part - III (History of Modern World From 1921 to 1965 A.D.)

Sr. No.	Unit	Topic to be covered	Lectures Available	Lectures Utilized
01	Unit - I	1)Rise of Fascism in Italy	15	
		2)Rise of Nazism in Germany		
		3)Rise of Stalin in Russia		
		4)The Great Economic Depression 1929		
02	Unit - II	1)Causes and Result of The Second World War	15	
		2) Entry of the USA into the Second World War		
		3)Diplomatic Conferences during the War Period		
03	Unit - III	1)United Nations Organization	20	
		2)The Emergence of the USA as world Power		
		3)The Emergence of the USSR as World Power		
04	Unit - IV	1)Post War World	10	
		2)The Doctrine, The Marshal Plan, Point Four Programme.		
		3)Military Alliances – NATO, SEATO, CENTO, Warsaw		
05	Unit - V	1)The Suez Crisis	15	
		2)European Unity and Disunity, European Common Market, Common Wealth of Nation, The Berlin Crisis, Quba Crisis.		

PROGRAMS SCHEDULE (2021 - 22)

Sr. No.	Particulars	To be organized in
01	Study Circle Formation	NOVEMBER 2021
02	Guest Lecture	FEBRUARY 2022
03	Educational Tour	FEBRUARY 2022
07	Elocution	NOVEMBER 2021 & MARCH 2022
08	Seminar	SEPTEMBER 2021 & MARCH 2022
09	Group Discussion	OCTOBER 2021 & MARCH 2022

H.O.D
(HISTORY)
Arts & Commerce College
Warvat Bakal, Dtst. Buldana

SATPUDA EDUCATION SOCIETY, JALGAON (JAMOD)'S

ARTS & COMMERCE COLLEGE

WARVAT BAKAL DIST- BULDANA

DEPARTMENT OF COMMERCE

DEPRTMENTAL ACADEMIC CALENDAR 2021-22

Departmental Academic Calendar (2021-22)

Sr. No.	Activity	Commencement	Cessation	TotalDays
01	First Session	30/08/2021	15/01/2022	105
02	Admission Process	01/09/2021	18/09/2021	14
03	Teaching Days(Odd Semesters)	27/09/2021	15/01/2022	83
04	Induction Program for First Year Students	20/09/2021	25/09/2021	06
05	FirstTermVacation	01/11/2021	06/11/2021	06
06	Odd Semesters University Exam	17/01/2022	05/02/2022	19
07	Academic Session (Second Session)	17/01/2022	31/05/2022	109
08	Teaching Days (Even Semesters)	07/02/2022	31/05/2022	90
09	Second Term Vacation	01/06/2022	30/06/2022	26
10	Even Semesters University Exam	01/06/2022	30/06/2022	30
11	Commencement of next Academic session	01/07/2022		

Sr. No.	Public Holiday	Day & Date
01	Ganesh Chaturthi	Friday, 10September, 2021
02	Gauri Poojan	Monday, 13September, 2021
03	Mahatma Gandhi Jayanti	Saturday,02 October, 2021
04	Sarvpitri Amavasya	Wednesday, 06October, 2021
05	Dasara	Friday, 15October, 2021
06	Id E Milad	Saturday,02 October, 2021
07	Gurunanak Jayanti	Friday, 19November, 2021
08	Christmas	Saturday,25 December, 2021
09	Mahashivratri	Friday, 14January, 2022
10	Republic Day	Wednesday, 26 January, 2022
11	Chhatrapati Shivaji Maharaj Jayanti	Saturday, 19 February, 2022
12	Mahashivratri	Tuesday,01 March,2022
13	Holi (Second Day)	Friday, 18 March, 2022
14	GudhiPadwa	Saturday, 02 April,2022
15	Dr. Babasaheb Ambedkar Jayanti	Thursday, 14 April, 2022
16	Ramzan Id (Id-Ui-Fitar)	Tuesday, 03 May, 2022
17	Buddha Pournima	Monday, 16 May, 2022

Time Table — Dr S W Rane

Faculty: Commerce — Subject: BEC, ITA, STA, CMA, I &WWW

Period	1	2	3	4	5	6
Day / Time	11:00 to 11:48	11:48 to 12:36	12:36 to 1:24	1:34 to 2:22	2:22 to 3:10	3:10 to 3:58
MON	II	III	I		III	
TUE	II	III	I		III	
WED	II	III	I		III	
THUS	III	I	II		III	
FRI	III	I	II		II	
Period	1	2	3	4	5	6
Day / Time	07:30 to 08:18	08:18 to 09:06	09:06 to 09:54	10:04 to 10:52	10:52 to 11:40	11:40 to 12:28
SAT		III	II			

Allotted Workload

Subject: COMMERCE — Year: 2021-22

Sr. No.	Class	No. of periods per week			Paper Allotted
		Lectures	Tutorials	Practical	
1	B.Com I	05	----	----	
2	B.Com II	07	----	----	
3	B.Com III	10	----	----	

Total Workload per week (L+T+P) : 22 (L) + 00 (T) = 22 (17 hrs. 36 m)

Teaching Periods Available per month during the session 2021-22

Faculty : COMMERCE — **Subject : BEC, ITA, BMS,CMA,I&WWW**

		ODD SEMESTER						EVEN SEMESTER				
Class	Periods	SEPT-21	OCT-21	NOV-21	DEC-21	JAN-22	Total	FEB-22	MAR-22	APR-22	MAY - 22	Total
B.Com I (PEC, BEC)	Theory	04	19	16	23	10	72	20	21	19	20	80
		--	--	--	--	--	00		--	--	--	00
B.Com II (ITA, STA)	TH. (ITA)	04	19	16	23	10	72	20	21	19	20	80
	TH. (BMS)	00	08	05	08	05	26	07	07	08	08	30
B.Com III (CMA, I&WWW)	TH. (CMA)	04	19	16	23	10	72	20	21	19	20	80
	TH. (I&WWW)	04	19	17	21	11	72	19	22	19	20	80

Teaching Plan for Theory (First Semester) Class : B com Part I (PEC)			
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	INTRODUCTION	15	
02	UTILITY APPROACH	15	
03	ELASTICITY OF DEMAND	14	
04	PRODUCTION FUNCTION	14	
05	COST AND REVENUE	14	
Teaching Plan for Tutorial (Second Semester) Class : B com Part I (BEC)			
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	BUSINESS AND MANEGERIAL ECONOMICS	16	
02	MARKET STRUCTURE	16	
03	MARKET STRUCTURE	17	
04	FACTORS PRICING	16	
05	FACTORS PRICING	15	
Teaching Plan for Theory (Third Semester) Class : B com Part II (AUD)			
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	MEANING OF AUDITING	14	
02	INTERNAL CHECK SYSTEM	14	
03	COMPANY AUDITOR	15	
04	AUDIT OF DIVISIBLE PROFIT	15	
05	AUDIT OF BANKING	14	
Teaching Plan for Theory (Fourth Semester) Class : B COM II (IT)			
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	BASIC CONCEPT-INCOME TAX	15	
02	COMPUTATION OF INCOME FROM SALARY	16	
03	INCOME FROM OTHER SOURCES	17	
04	INCOME TAX AUTHORITIES	16	
05	RETURN OF INCOME	16	
Teaching Plan for Theory (Third Semester) Class : B com Part II (BMS)			
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	MATHEMATICS OF FINANCE	13	
02	RATIO AND PROPORTION	13	
Teaching Plan for Theory (Fourth Semester) Class : B COM Part II (BST)			
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	CONCEPT OF DISPERSION	15	
02	CO-EFFICIENT OF DISPERSION	15	
Teaching Plan for Theory (Fifth Semester) Class : B com Part III (CAC)			
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	COST ACCOUNTING	*16*	
02	MATERIAL COST	16	
03	LABOUR COST	14	
04	OVERHEADS	14	
05	PROCESS COSTING	12	
Teaching Plan for Theory (Sixth Semester) Class : B com Part III (MAC)			
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	MANAGEMENT ACCOUNTING	17	
02	BREAK-EVEN-ANALYSIS	15	
03	RATIO ANALYSIS	16	
04	BUDGET	16	
05	BUDGETARY CONTROL	16	
Teaching Plan for Theory (Fifth Semester) Class : B COM Part III (I&WW-I)			
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	NETWORK	15	
02	INTERNET	16	
03	ELECTRONIC MAIL	15	
04	THE WORLD WIDE WEB (W3C)	16	
05	DESIGNING WEBSITE/WEBPAGE	10	

Teaching Plan for Theory (Sixth Semester) Class : B com Part III (I&WW-II)			
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	WEB BROWSING	16	
02	WEB DIRECTORY	16	
03	SOCIAL NETWORKING	17	
04	GOOGLE DRIVE	15	
05	M.S. FRONT PAGE EXPRESS	16	

PROGRAMS SCHEDULE (2021 - 22)

Sr. No.	Particulars	Date
01	Teacher Day celebrates	05/09/2021
02	Online Welcome Program of First Year Students	04/10/2021
03	Online Bridge Course For First Year Students	05/10/2021 – 12/10/2021
04	Online Quiz Competition On Mahatama Gandhi Jayanti	07/10/2021
05	Study Circle Formation	10/12/2021
06	Debate	05/01/2022
07	Group Discussion	09/03/2022
08	World Consumer Day	15/03/2022
09	Seminar	20/04/2022
10	Guest Lecture	07/05/2022

Time Table Dr. S J Tale

Faculty : Commerce Subject : B.COM Part I PBM, PBO, CFS-I/II,
B.COM Part II COA, CAT,
B.Com Part III BRFC, CLAW, EOE-I/II

Period	1	2	3	4	5	6
Day / Time	11:00 to 11:48	11:48 to 12:36	12:36 to 1:24	1:34 to 2:22	2:22 to 3:10	3:10 to 3:58
MON		B.Com II	B.Com III	B.Com I	B.Com I	
TUE		B.Com I	B.Com III	B.Com III	B.Com II	
WED		B.Com II	B.Com III	B.Com III	B.Com I	
THUS		B.Com II	B.Com I	B.Com III	B.Com I	
FRI	B.Com I	B.Com II	B.Com III	B.Com III		
Period	1	2	3	4	5	6
Day / Time	07:30 to 08:18	08:18 to 09:06	09:06 to 09:54	10:04 to 10:52	10:52 to 11:40	11:40 to 12:28
SAT	B.Com III	B.Com I		B.Com III		

Allotted Workload

Subject : COMMERCE Year : 2021-22

Sr. No.	Class	No. of periods per week			Paper Allotted
		Lectures	Tutorials	Practical	
1	B.Com I	08	----	----	
2	B.Com II	05	----	----	
3	B.Com III	10	----	----	

Total Workload per week (L+T+P) : 23 (L) + 00 (T) = 23 (18 hrs. 24 m)

Teaching Periods Available per month during the session 2021-22

		ODD SEMESTER						EVEN SEMESTER				
Class	Periods	SEPT-21	OCT-21	NOV-21	DEC-21	JAN-22	Total	FEB-22	MAR-22	APR-22	MAY-22	Total
B.Com I SEM I (PBO, CFS-I)	PBO (T)	04	19	16	23	10	72	20	21	19	20	80
	CFS-I (T/P)	04	19	16	23	10	72	20	21	19	20	80
B.Com II SEM III (COA)	COA (T)	04	19	16	23	10	72	20	21	19	20	80
B.Com III SEM V (BRFC/ EOE-I)	BRFC (T)	04	19	16	23	10	72	20	21	19	20	80
	CO (T)	04	19	17	21	11	72	19	22	19	20	80

Teaching Plan for Theory (First Semester) Class : B com Part I (PBO)			
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	Commerce and Industry	15	
02	Business	15	
03	Merger and Acquisition	14	
04	New Enterprises	14	
05	Trade in India	14	
Teaching Plan for Tutorial (First Semester) Class : B com Part I (CFS-I)			
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	Fundamentals of Computer	15	
02	Computer Organization	15	
03	Memory organization of Computer	14	
04	Input/Output Devices of Computer System	14	
05	Word Processing Working with Text IMS-WORD 2007]	14	
Teaching Plan for Theory (Second Semester) Class: B com Part I (PBM)			
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	Management Concept	17	
02	Planning	16	
03	0rganizing	16	
04	Directing	16	
05	Controlling	15	
Teaching Plan for Tutorial (Second Semester) Class : B com Part I (CFS-II)			
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	Operating System	17	
02	0perating System [Advance]	16	
03	Modern communications {Concepts only}:	16	
04	Word Processing working with Table and t3raphics: IMS-WORD 20071	16	
05	PowerPoint Presentation	15	
Teaching Plan for Theory (Third Semester) Class : B com Part II (COA)			
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	Issue, Forfeiture and Re-issue of Shares.	14	
02	Final Accounts of Company	14	
03	Profit Prior to Incorporations.	15	
04	Amalgamation of Company	15	
05	Absorption of Company	14	
Teaching Plan for Theory (Fourth Semester) Class : B COM II (CAT)			
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	Final Accounts of Banking Company	15	
02	Final Accounts of Fire and Accident Insurance Company	16	
03	Liquidation of Company	17	
04	Valuation of Goodwill	16	
05	Valuation of Shares	16	
Teaching Plan for Theory (Fifth Semester) Class : B com Part III(BRFC)			
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	Indian Contract Act 1872	15	
02	Special Contacts	15	
03	Sales of Goods Act, 1930 and Consumer Protection Act, 1986	14	
04	Negotiable Instrument Aet, 1881	14	
05	Goods and Sewices Tax Act, 2017	14	
Teaching Plan for Theory (Fifth Semester) Class : B COM Part III (EOE-I)			
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	Basics of E-Commerce	15	
02	E-Commerce in India	15	
03	Retail E-Commerce	14	
04	B28 E-Commerce	14	
05	E- Payment and E-Banking	14	
Teaching Plan for Theory (Sixth Semester) Class : B com Part III (CLAW)			
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized

01	Introduction; Definition, Silent Features of Company, Act 2013	16	
02	Incorporation of Company	16	
03	Share Capital of Company	16	
04	Securities Market	16	
05	Company Secretary and Company Meetings	16	
Teaching Plan for Theory (Sixth Semester)	**Class : B COM Part III (EOE-II)**		
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	Internet E-Commerce Business Models	16	
02	B2C Internet Marketing	16	
03	B28 Online Marketing	16	
04	E-Governance	16	
05	E- Governance Models	16	

Time Table Mr S R Bhaltadak

Faculty : COMMERCE Subject :FAC,IFS,ITB,BST,EOD

Period	1	2	3	4	5	6
Day / Time	11:00 to 11:48	11:48 to 12:36	12:36 to 1:24	1:34 to 2:22	2:22 to 3:10	3:10 to 3:58
MON	III (EOD)	I (FAC)		II (IFS)		II (ITB)
TUE	III (EOD)	II(IFS)	II (ITB)	I (FAC)		II (BST)
WED	III (EOD)	I (FAC)	II (BST)	II (ITB)		
THUS	II (ITB)	III (EOD)		II (IFS)	II (BST)	
FRI		III (EOD)	I (FAC)	II (IFS)		
SAT	I (FAC)	II (IFS)		II (ITB)		

Allotted Workload

Subject: FAC,IFS,ITB,BST,EOD Year : 2021-22

Sr. No.	Class	No. of periods per week			Paper Allotted
		Lectures	Tutorials	Practical	
1	B.COM.I (FAC)	05	----	----	
2	B.COM.II (IFS)	05	----	----	
3	B.COM. II (ITB)	05	----	----	
4	B.COM.II (BST)	03	---	----	
5	B.COM.III (EOD)	05	----	-----	

Total Workload per week (L+T+P) : 23 (L) + 00 (T)+00(P) = 23 (18.24 Hrs)

Teaching Periods Available per month during the session 2021-22

Mr. S. R. Bhaltadak Faculty: COMMERCE Subject: FAC,IFS,ITB,BST,EOD

		ODD SEMESTER						EVEN SEMESTER				
Class	Periods	SEPT-21	OCT-21	NOV-21	DEC-21	JAN-22	Total	FEB-22	MAR-22	APR-22	MAY - 22	Total
B.Com I (FAC)	Theory	03	20	16	21	11	71	15	20	20	20	75
B.Com II (IFS, ITB, BST)	TH. (IFS)	03	22	16	21	11	73	14	20	19	20	73
	TH. (ITB)	04	19	17	21	11	72	16	22	19	20	77
	TH. (BMS)	03	11	10	12	06	42	09	14	11	12	46
B.Com III (EOD)	TH. (EOD)	04	19	16	23	10	72	16	21	18	20	76

Teaching Plan for Theory (First Sem.) Class: B.Com. Part I Sub-Advanced Accountancy

Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	INTRODUCTION OF BOOK KEEPING & ACCOUNTANCY	12	
02	ACCOUNTING TRANSACTIONS & RECTIFICATION OF ERRORS, SUB-SIDIARY BOOK	16	
03	FINAL ACCOUNTS OF INDIVIDUALS	14	
04	DEPRICIATION METHODS	15	
05	RECONCILLIATION STATEMENTS	14	
	TOTAL	71	

Teaching Plan for Theory (Second Sem.) Class: B.Com. Part I Sub- Financial Accounting

Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	ACCOUNTS OF NON-TRADING INSTITUTIONS	14	
02	ACCOUNTS OF CO-OPERATIVE SOCIETIES	14	
03	ACCOUNTS FOR AGRICULTURE FARMS	14	
04	HIRE PURCHASE & INSTALMENTS PURCHASE ACCOUNTS	16	
05	INSOLAVANCY ACCOUNTS OF INDIVIDUALS	17	
	TOTAL	75	

Teaching Plan for Theory (Third Sem.) Class: B.Com. Part II Sub- Monetary System

Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	MONEY	14	
02	VALUE OF MONEY	14	
03	PRICE FLUCTUATIONS	15	
04	MONEY MARKET	15	
05	CAPITAL MARKET	15	
	TOTAL	73	

Teaching Plan for Theory (Fourth Sem.) Class: B.Com. Part II Sub- Indian Financial System

Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	INDIAN FINANCIAL MARKET	15	
02	INDIAN BANKS	14	
03	COMMERCIAL BANKS	15	
04	RESERVE BANK OF INDIA	15	
05	STOCK EXCHANGE	14	
	TOTAL	73	

Teaching Plan for Theory (Third Sem.) Class: B.Com. Part II Sub- Information Technplogy & . Business Data Processing-I

Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized

01	DATA & DATA PROCESSING	11	
02	DATABASE	10	
03	DATABASE MANAGEMENT SYSTEM	10	
04	SPREADSHEET PACKAGE	17	
05	FORMULAS,FUNCTIONS AND CHART IN EXCELS	24	
	TOTAL	**72**	
Teaching Plan for Theory (Fourth Sem.) Class: B.Com. Part II Sub- Information Technology & Business Data Processing-II			
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	INFORMATION TECHNOLOGY	06	
02	COMPUTERISED ACCOUNTING PACKAGE	06	
03	ACCOUNTING SOFTWARE	07	
04	WORKING IN TALLY	12	
05	REPORTS & ADVANCED FEATURES IN TALLY	46	
	TOTAL	**77**	
Teaching Plan for Theory (Third Sem.) Class: B.Com. Part II Sub- Business Mathematics			
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	NATURAL NUMBERS,INTEGERS	*06*	
02	H.C.F. & L.C.M.	14	
03	PERCENTAGE-DISCOUNT ,COMMISSION & BROKERAGE	11	
04	AVERAGE, PROFIT & LOSS	11	
	TOTAL	**42**	
Teaching Plan for Theory (Fourth Sem.) Class: B.Com. Part II Sub - Business Statistics			
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	INTRODUCTION OF STATISTICS	11	
02	INDEX NUMBERS	14	
03	ANALYSYS OF UNIVERSAL DATA	21	
	TOTAL	**46**	
Teaching Plan for Theory (Fifth Sem.) Class : B.Com. Part III Sub- Business Environment			
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	INDIAN BUSINESS ENVIRONMENT	14	
02	INDIAN AGRICULTURAL ENVIRONMENT	14	
03	INDIAN INDUSTRIAL ENVIRONMENT	15	
04	INDIAN SERVICE ENVIRONMENT	15	
05	INDIA & FOREIGN TRADE ENVIRONMENT	15	
	TOTAL	**72**	
Teaching Plan for Theory (Sixth Sem.) Class: B.Com. Part III Sub- Economics Of Development			
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	ECONOMIC DEVELOPMENT	15	
02	ECONOMIC GROWTH MODELS	15	
03	ECONOMIC GROWTH MODELS	16	
04	GROWTH- BALANCED & UNBALANCED	15	
05	DEVELOPMENT OF CAPITAL- HUMAN & FINANCIAL	15	
	TOTAL	76	

SATPUDA EDUCATION SOCIETY, JALGAON (JAMOD)'S

ARTS & COMMERCE COLLEGE

WARVAT BAKAL DIST- BULDANA

DEPARTMENT OF CHEMISTRY

DEPRTMENTAL ACADEMIC CALENDAR 2021-22

Department of Chemistry

ACADEMIC CALENDER 2021-2022

1. Session- I: From Monday, 5th July, 2021 to Saturday, 15th January,2022
2. Diwali Vacation: From Monday, 1st November to Saturday, 6th November 2021
3. Session- II: From Monday, 17th January, 2022 to Tuesday, 31st May 2022
4. Summer Vacation: From Wednesday, 1st June, 2022 to Thursday, 30th June, 2022

Days available during Academic Year 2021-2022

Sr. No.	Activity	Commencement	Cessation	Total Days
1	First Session %	Monday, 30 August, 2021	Saturday, 15th January, 2022	105
2	Teaching Days (First Session)	Monday, 27th September, 2021	Saturday, 15th January, 2022	83
3.	First Term Vacation	Monday, 1st November 2021	Saturday, 6th November 2021	06
4.	Non-instructional days	Monday, 5th July, 2021	Saturday, 24th July, 2021	18
5.	Second Session	Monday, 17th January, 2022	Tuesday, 31st May 2022	109
6.	Teaching Days (Second Session)	Monday, 7th February 2022	Tuesday, 31st May 2022	90
7.	Preparation for Summer Examination/ Non Instructional Days	Wednesday, 1st June, 2022	Thursday, 30th June, 2022	
8.	Second Term Vacation	Wednesday, 1st June, 2022	Thursday, 30th June, 2022	26

Vide the SGB Amravati University Gazette, following Public Holidays are declared for 2021 - 2022

Sr. No.	Public Holiday	Day & Date
1.	Ganesh Chaturthi	Friday, 10th September, 2021
2.	Gauri Poojan	Monday, 13th September, 2021
3.	Mahatma Gandhi Jayanti	Saturday, 2nd October, 2021
4.	Sarvapitri Amawasyya	Wednesday, 6th October, 2021
5.	Dasara	Friday, 15th October, 2021
6.	Id-E-Milad	Tuesday, 19th October, 2021
7.	Guru Nanak Jayanti	Friday, 19th November, 2021
8.	Christmas	Saturday, 25th December, 2021
9.	Makar Sankranti	Friday, 14th January, 2022
10.	Republic Day	Wednesday, 26th January, 2022
11.	Chhatrapati Shivaji Maharaj Jayanti	Saturday, 19th February, 2022
12.	Mahashivratri	Tuesday, 1st March, 2022
13.	Holi (Second Day)	Friday, 18th March, 2022
14.	Gudhi Padwa	Saturday, 2nd April, 2022
15.	Dr. Babasaheb Ambedkar Jayanti / Mahavir Jayanti	Thursday, 14th April, 2022
16.	Good Friday	Friday, 15th April, 2022
17.	Ramzan Id (Id-Ul-Fitar)	Tuesday, 3rd May, 2022
18.	Buddha Poornima	Monday, 16th May, 2022

PROGRAMS SCHEDULE (2021-2022)

Sr. No.	Particulars	Date
01	Chemistry Study Circle Inauguration	29/11/2021
02	Fire Extinguisher Uses and Handling	29/12/2021
03	Seminar Competition	04/01/2022
04	National Science Day	28/02/2022
06	Guest Lecture	03/03/2022

Time Table

Mr. Nityanand Devidas Dahake

Faculty: Science **Subject: Chemistry**

Period	1	2	3	4	5	6	7	8	9
Day / Time	8:00 to 8:48 (P)	8:48 to 9:36 (P)	9.36 to 10:24 (P)	11:00 to 11:48	11:48 to 12:36	12:36 to 1:24	2:30 to 3:18 (P)	3:18 to 4:6 (P)	3: to 4:54 (P)
MON	P	P	P		T				
TUE	P	P	P			T			
WED	P	P	P			T	P	P	P
THUS	P	P	P		T		P	P	P
FRI	P	P	P				P	P	P
Day / Time				07:30 To 08.18	08:18To 09:06	09:16 To 10.04	10.04 to 12.28 To 12.28 to 2.52		
SAT					T		P	P	P

Allotted Workload

Subject: Chemistry Year: 2021-2022

Sr. No.	Class	No. of periods per week			Paper Allotted
		Lectures	Tutorials	Practical	
1	B.Sc.-1	02		4 * 3 = 12	--
2	B.Sc.-2	02		2 * 3 = 06	--
3	B.Sc.-3	01		4 * 3 = 12	--
Total Workload per week (L+P): 05 (L) + 30 (P) = 35 (L) (28 hrs.)					

Teaching Periods Available per month during the session 2021-2022

Faculty: Science **Subject: Chemistry**

		Odd semester						Even semester				
		Sep	**Oct**	**Nov**	**Dec**	**Jan**	**Total**	**Feb**	**Mar**	**Apr**	**May**	**Total**
BSc.-1	**Theory**	10	08	07	10	07	42	08	10	07	08	33
	Practical	84	96	72	96	108	456	84	84	96	96	360
BSc.-2	**Theory**	08	07	10	08	09	42	08	08	08	08	32
	Practical	48	42	60	48	54	252	48	48	48	48	192
BSc.-3	**Theory**	04	04	04	03	05	20	03	04	04	04	15
	Practical	120	96	84	120	84	504	96	120	84	96	396

Teaching Plan for Theory (First Semester)		**Class: BSc Part-I**	
Sr. No.	**Topic to be covered**	**Lectures Available**	**Lectures Utilized**
Unit-4 Aromatic Hydrocarbons			
	A] Nomenclature and Isomerism of Aromatic Compounds. Structure of Benzene: Kekule structure and Molecular orbital structure. B] Aromaticity and Huckel's rule Aromatic, antiaromatic and nonaromatic systems. C] Mechanism of Electrophilic Aromatic Substitution: Nitration, Friedel Craft Alkylation and Acylation. Nuclear and Side Chain Halogenation, Birch Reduction. D] Orientation: Effect of substituent groups. Activating and deactivating groups. Theory of reactivity and orientation on the basis of inductive and resonance effects (-CH3, -OH, -NO2 and –Cl groups).	21	
Unit-5 Thermodynamics			
	Adiabatic and Isothermal processes. Work done in adiabatic and isothermal processes, Evaluation of different expressions showing relationship between pressure, volume and temperature. First law of Thermodynamics and its limitations, Need of Second law. Carnot's heat engine, derivation of expression for the work done and efficiency of Carnot's engine. Statements of Second law of thermodynamics. Concept of Entropy, Physical significance of Entropy, Derivation of expression for the Entropy change for an ideal gas in terms of pressure, temperature and volume. Entropy changes for an ideal gas for isothermal, isoberic and isochoric processes, Entropy of fusion, sublimation, vapourization, transition and its calculations. Entropy changes for reversible and irreversible processes. Entropy changes as a criterion for spontaneity. Numerical.	21	
Teaching Plan for Practical (First Semester)		**Class: BSc Part-I**	

Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
	Exercise 1: Inorganic Qualitative analysis Semimicro qualitative analysis of inorganic salt mixture containing two acidic radicals and two basic radicals of same or different groups. At least six mixtures to be given. Analysis of basic radicals to be done by using spot test reagents. Following radicals to be given carbonate, nitrite, sulphite, sulphide, chloride, bromide, iodide, nitrate and sulphate, silver(I), lead (II), copper(II), bismuth(III), cadmium(II), tin(II), arsenic(III), antimony(III), iron(III), chromium(III), aluminium (III), nickel(II), cobalt(II), manganese(II), zinc(II), calcium(II), strontium(II), barium(II), magnesium(II). **Exercise II: Organic Preparations** 1. Preparation of acetanilide (Acetylation). 2. Preparation of Benzanilide (Benzoylation). 3. Preparation of m-di-Nitrobenzene (Nitration). 4. Preparation of tri-Bromoaniline from Aniline (Bromination). 5. Preparation of Benzoic acid from Benzamide (Hydrolysis). 6. Preparation of Benzoic acid from benzaldehyde (Oxidation). 7. Preparation of phenylazo – ß – naphthol dye (Diazotisation). 8. Preparation of sulphanilic acid from aniline (Sulphonation). Organic Preparations Using Green Chemistry Concept 9. Acetylation of primary amine (Preparation of acetanilide). 10. Base catalysed Aldol Condensation (Synthesis of dibanzal propanone).	456	
Teaching Plan for Theory (Third Semester)		**Class: BSc Part-2**	
Sr. No.	**Topic to be covered**	**Lectures Available**	**Lectures Utilized**
Unit-4 Stereochemistry			
	A] Optical isomerism: Element of symmetry, chirality, asymmetric carbon atom, enantiomers, diastereoisomers, relative and absolute configurations, DL and RS nomenclature, racemization and resolution (by chemical method). B] Geometrical isomerism: Cis-trans & E-Z nomenclature, Methods of structure determination. C] Conformational isomerism: Bayer's Strain theory and its limitations. Stability of cycloalkanes, conformational isomers of ethane, n-butane and cyclohexane, their energy level diagrams. Newman & Sawhorse projection formulae.	21	
Unit-5 Thermodynamics and Equilibrium			
	(i) Gibbs and Helmholtz's free energy function. Physical significance of Gibb's free energy, Change in free energy as a criterion of spontaneity and equilibrium. Variation of free energy G with P & T. Gibb's-Helmholtz's equation in terms of G and its application. (ii) Partial molal function, chemical potential, derivations of Gibb's-Duhem equation. Chemical potential of an ideal gas in gaseous mixture. Derivation of vant Hoff's isotherm and its application to equilibrium state. Derivation of vant Hoff's equation and its applications. (iii) Numerical.	21	
Teaching Plan for Practical (Third Semester)		**Class: BSc Part-2**	
	Exercise I: a) Volumetric Analysis (Standard solutions to be prepared by students only) 16 Laboratory sessions 1) Prepare 0.1N oxalic acid standard solution and find out the acid neutralizing capacity of an antacid using NaOH as an intermediate solution. 2) Prepare 0.1N H_2SO_4 solution and find out its exact normality using NaOH as an intermediate solution and 0.1N oxalic acid as standard solution. 3) To determine the strength of oxalic acid by titration with $KMnO_4$. 4) To determine percentage purity of Ferrous Ammonium	252	

	Sulphate (FAS) by titration with KMnO4. 5) To determine strength of FAS by titration with K2Cr2O7 using internal indicator. 6) To determine strength of K2Cr2O7 by titration with FAS using internal indicator. 7) Estimation of copper (II) in commercial copper sulphate sample by iodometric titration **b) Gravimetric Analysis** Estimation of Ba2+ as BaSO 4, Fe3+ as Fe2O3 using china and silica crucible and Ni2+ as Ni-DMG using sintered glass crucible. **Exercise II: Physical Chemistry** refractive index by Abbe's refractometer. 2) To construct phase diagram of phenol-water system and to determine consolute temperature for the system. 3) To determine transition temperature of MnCl2.4H2O. 4) To study kinetics of hydrolysis of methyl acetate catalyzed by acid. 5) To study kinetics of saponification of ethyl acetate by NaOH. (Equal concentration) 6) To determine partition coefficient of benzoic acid between benzene and water. 7) To determine partition coefficient of iodine between CCl4/Kerosene and water. 8) To determine solubility of benzoic acid at different temperature and heat of solution.		
Teaching Plan for Theory (Fifth Semester)		**Class: BSc Part-3**	
Sr. No.	**Topic to be covered**	**Lectures Available**	**Lectures Utilized**
Unit-3 Heterocyclic Compounds			
	A) Heterocyclic compounds: Nomenclature, Pyrrole: Synthesis from acetylene, succinimide and furan, Basicity, Electrophilic substitution reactions (orientation) – nitration, Sulphonation, acetylation and halogenation, Molecular orbital structure. Pyridine: Synthesis from acetylene and Penta methylene diamine hydrochloride, Basicity, Electrophilic substitution reactions (orientation) – nitration, Sulphonation, Nucleophilic substitution reactions (orientation)- with NaNH2, C6H5Li and KOH. B] Organometallic compounds: Grignard reagents: Methyl magnesium bromide- Synthesis from methyl bromide (only reaction) Synthetic applications: Electrophilic substitution reactions-formation of alkanes, alkenes, higher alkynes and other organometallic compounds, Nucleophilic substitution reactions- Reaction with aldehydes and ketones, ethylene oxide, acetyl chloride, methyl cyanide and CO2.Methyl lithium-Synthesis and reaction with water, formaldehyde, acetaldehyde, acetone, ethylene oxide and CO2.	20	
Teaching Plan for Practical (Fifth Semester)		**Class: BSc Part-3**	
Sr. No.	**Topic to be covered**	**Lectures Available**	**Lectures Utilized**
	Exercise 1: Inorganic Preparations 1. Preparation of tetraamminecopper (II)sulphate. 2. Preparation of hexaamminenickel (II)chloride. 3. Preparation of potassiumtrioxalate aluminate (III). 4. Preparation of Prussian blue. 5. Preparation of chrome alum. 6. Preparation of sodium thiosulphate and dithionite. (Comment on VB structure, magnetic properties and color of 1, 2 and 3 complexes) **Exercise II: Physical Chemistry experiments** (Standard oxalic acid solution should be prepared by the students) 1.To determine strength of given HCl solution conductometrically. 2. To determine strength of given CH3COOH solution	504	

	conductometrically. 3.To determine strength of given HCl solution potentiometrically. 4. To determine strength of HCl and CH3COOH in a given mixture conductometrically. 5.To determine redox potential of Fe+2/Fe+3 system potentiometrically. 6. To determine molecular weight by Rast's method. 7.To determine specific rotation of optically active compound by Polarimeter.		
Teaching Plan for Theory (Second Semester)		**Class: BSc Part-1**	
Sr. No.	**Topic to be covered**	**Lectures Available**	**Lectures Utilized**
Unit 3 Alkyl and Aryl Halides			
	A] Alkyl Halides: Synthesis of vinyl chloride from acetylene and allyl chloride from propylene, Reactions of both with aqueous and alcoholic KOH, Comparison of reactivity of vinyl an allyl chloride. B] Aryl Halides: Synthesis chlorobenzene from benzene, phenol and benzene diazonium chloride, Synthesis of benzyl chloride from toluene and benzyl alcohol, Reactions of both with aqueous KOH, NH_3 and sodium ethoxide, Comparison of reactivity of chlorobenzene and benzyl chloride. Benzyne intermediate mechanism. C] Alcohols: Dihydric alcohols: Ethylene glycol- Preparation from ethylene, ethylene chloride and ethylene oxide, Reactions- with Na, PCl_5, CH3COOH, ZnCl2, conc. H2SO4 and dehydration with heat. Trihydric alcohols: Glycerol- Preparation from propylene, Reactions with Na, HCl, PCl5, HNO3 and KHSO4. Pinacol- pinacolone rearrangement (mechanism).	16	
Unit 5 Physical Properties and Molecular Structure			
	A] Electrical Properties: (i) Polar and non-polar molecules. Dipole moment. (ii) Induced polarization and orientation polarization. Clausius Mossotti equation (only qualitative treatment). (iii) Measurement of dipole moment by temperature and refractivity methods. (iv) Applications of dipole moment for the determination of molecular structure. i.e., percentage ionic character of covalent bonding, molecular geometry, cis-trans isomers, ortho, meta and para isomers of a disubstituted benzene. B] Magnetic Properties: (i) Paramagnetic and diamagnetic substances, origin of Para magnetism, diamagnetism, ferromagnetism and antiferromagnetic. (ii) Volume, specific, mass and molar susceptibility. Relationship between molar magnetic susceptibility and magnetic moment. (iii) Relationship between magnetic moment and number of unpaired electrons. (iv) Gouy's balance method for determination of magnetic susceptibility. (v) Application of magnetic moment in the determination of molecular structure. (vi) Numerical.	17	
Teaching Plan for Practical (Second Semester)		**Class: BSc Part-1**	
Sr. No.	**Topic to be covered**	**Lectures Available**	**Lectures Utilized**
	Exercise I: Organic Qualitative Analysis Complete analysis of simple organic compounds containing one or two functional groups and involving following steps: 1) Preliminary examinations 2) Detection of the elements 3) Detection of functional groups 4) Determination of m.p./ b.p. 5) Preparation of derivative and its m.p./ b.p. 6) Performance of spot test if any. 1) Acids: Oxalic acid, Benzoic acid, Salicylic acid, Phthalic acid. 2) Phenols: Resorcinol, á-naphthol, â-naphthol. 3) Aldehydes: Benzaldehyde, Glucose. 4) Bases: Aniline, p-Toluidine 5) Nitro compounds: m-Dinitrobenzene. 6) Amides: Benzamide, Urea, Acetamide. 7) Hydrocarbons: Naphthalene, Anthracene. 8) Halogen compounds: Chloroform, Chlorobenzene. **Exercise II: Physical Chemistry Experiments**	360	

	1) To determine surface tension of a given unknown liquid by Stalagmometer (Density measurement is must). 2) To determine coefficient of viscosity of unknown liquid by Ostwald's viscometer (Density measurement is must). 3) To compare cleaning power of detergent samples by Stalagmometer. 4) To determine parachor value of -CH2- group by Stalagmometer. 5) To determine unknown percentage composition of given ethanol-water mixture by viscometer. 6) To determine activation energy of a reaction between K2S2O8 and KI. 7) To determine heat of solution of KNO3.		
Teaching Plan for Theory (Fourth Semester) **Class: BSc Part-2**			
Sr. No.	**Topic to be covered**	**Lectures Available**	**Lectures Utilized**
Unit 2 Inner Transition Series elements and Metallurgy			
	A] Inner transition elements: Definition, Lanthanides and Actinides. Comparative study of Lanthanides with respect to following properties:(i) Electronic configuration (ii) Atomic and ionic radii lanthanide contraction definition, cause and effect of lanthanide contraction (iii) Oxidation states (iv) Magnetic properties (v) Color of salts (vi) Complex formation behavior. Occurrence of lanthanides. Isolation of lanthanides by ion exchange method. Actinides- Electronic configuration and oxidation states. Comparison of lanthanides and actinides. B] General Principles of Metallurgy: Definition of metallurgy, steps in metallurgy. Ore dressing by gravity separation, froth floatation and electromagnetic separation. Calcination, roasting, smelting and refining of metals. Meaning of terms hydrometallurgy and pyrometallurgy.	16	
Unit 5 Elementary Quantum Mechanics			
	(i) Limitations of classical mechanics. Plank's quantum theory (postulates only). Photoelectric effect - Experiments, observation and Einstein's explanation. Compton effect and its explanation. (ii) de Broglie hypothesis of matter waves. de Broglie's equation. Heisenberg's uncertainty principle. (iii) Classical wave equation, derivation of time independent Schrodinger's wave equation in one-dimension and its extension to a three-dimensional space. Well behaved wave function, physical significance of wave function (Born interpretation). (iv) Application of Schrodinger wave equation to a particle in one dimensional box and its extension to a three-dimensional box. Concept of atomic orbital. (v) Numerical	16	
Teaching Plan for Practical (Fourth Semester) **Class: BSc Part-2**			
Sr. No.	**Topic to be covered**	**Lectures Available**	**Lectures Utilized**
	Exercise I: Inorganic estimations 1) Chromatographic separation of binary mixture containing Cu (II), Co (II) and Ni (II) ions by paper chromatography and determination of Rf values. 2) Estimation of Zn (II) by complexometric titration. 3) To determine the strength of unknown calcium salt solution by complexometric titration. 4) Estimation of hardness of water by complexometric titration. 5) Colorimetric or spectrophotometric estimation of Cu (II) in commercial copper sulphate sample as ammonia complex. 6) To determination of concentration of unknown KMnO4 solution from standard solutions of KMnO 4 by colorimetrically or spectrophotometrically. **Exercise II: Organic Chemistry Practicals** 1. Isolation of casein from milk. 2. Isolation of nicotine from tobacco leaves. 3. Isolation of caffine from tea leaves. 4. Isolation of lycopene from tomato juice. 5. Estimation of glucose. 6. Estimation of acetamide. 7. Determination of equivalent weight of an organic acid.	192	

Teaching Plan for Theory (Sixth Semester) Class: BSc Part-3			
Sr. No.	**Topic to be covered**	**Lectures Available**	**Lectures Utilized**
Unit 1 Kinetic Aspects of Metal Complexes			
	A] Kinetic Aspects of Metal Complexes: Thermodynamic and kinetic stability of the complexes, factors affecting stability of complexes. Brief idea about substitution reactions, SN1-dissociative and SN2-associative mechanism. Labile and inert complexes. Factors affecting lability of complexes namely arrangement of d-electrons (on the basis of VB theory), size of central metal ion, charge of central metal ion, geometry of complexes. Substitution reactions in square planar complexes mechanism. B] Analytical Chemistry: 1) Spectrophotometry and Colorimetry: Concept of ë max, Beer-Lambert's law (Only statement and final equation, no derivation). Calibration curve and its importance. Validity and limitations of Beer-Lambert's law. Verification of Beer's law. Block diagram of colorimeter and spectrophotometer with brief description of each component and its function. Difference between colorimetric and spectrophotometric technique for determination of concentration of metal ion (Example of determination of Cu (II). 2) Paper Chromatography: Definition and classification of chromatographic techniques. Principle of differential migration. Principle and technique of paper chromatography -ascending, descending and circular, Rf value and factors affecting Rf value.		

Teaching Plan for Theory (Sixth Semester) Class: BSc Part-3			
Sr. No.	**Topic to be covered**	**Lectures Available**	**Lectures Utilized**
	Exercise I: Organic Chemistry Experiments 1. Estimation of formaldehyde. 2. Estimation of glycine. 3. Estimation of ascorbic acid (vitamin C). 4. Estimation of phenol by bromination method. 5. Estimation of aniline by bromination method. 6. Estimation of urea by hypobromite method. 7. Estimation of unsaturation by bromination method. 8. Determination of iodine value of oil. 9. Determination of equivalent weight of an ester by saponification. 10. Separation of a mixture of methyl orange and methylene blue by thin layer chromatography (using benzene). 11. Separation of a mixture of 2,4-dinitro phenyls of acetaldehyde and benzaldehyde by thin layer chromatography(using benzene : petroleum ether = 3:1). 12. Separation of a mixture of dyes by thin layer chromatography (using cyclohexane:ethyl acetate = 8.5:1.5). 13. Separation of a mixture of 2,4-dinitro phenyls of acetaldehyde and benzaldehyde by thin layer chromatography (using toluene: petroleum ether). **Exercise II: Physical Chemistry experiments** 1. To determine dissociation constant of weak acid by conductometry. 2. To determine dissociation constant of weak acid by potentiometry. 3. To study potentiometric titration of KCl and AgNO3. 4. To determine dissociation constant of dibasic acid by pH-metry. 5. To verify Beer's Lambart's law using KMnO4/K2Cr2O7. 6. To determine pH of a soil sample by pH-meter. 7. To determine solubility and solubility product of sparingly soluble salts conductometrically. 8. To study strong acid and strong base titration by pH-metry	396	

Time Table

Faculty : Dr. V. D. Ingale Subject : CHEMISTRY

Period	1	2	3	4	5	6	
Day / Time	08:00 to 10:24	11:00 to 11:48	11:48 to 12:36	12:36 to 01:24	01:24 to 2:22	2:30 to 4:54	
MON	II (P) B_1		III (T)			II (P) B_2	
TUE	II (P) B_1					II (P) B_2	
WED	III (P)C_1						
THUS	III (P)C_1		II (T)				
FRI	I (P) A_1		I (T)			I (P) A_2	
		7:30 to 8:18	8:18 to 9:06	9:16 to 10:04		10.04to 12.28	12.28 to 2.52
SAT				II (T)		I(P) A_1	I(P) A_2

Allotted Workload

Subject : CHEMISTRY Year : 2021-2022

Sr. No.	Class	No. of periods per week			Unit Allotted
		Lectures	Tutorials	Practical	
1	B.Sc I	01	---	4×3=12	01
2	B.Sc II	02	---	4×3=12	02
3	B.Sc III	01	---	2×3=06	01
4	**Total**	**04**	**---**	**30**	**04**

Total Workload per week (L+T+P) : 04 (L) + 30 (P) = 34 (27 Hrs.)

Teaching Periods Available per month during the session 2021-22

Faculty: Dr. V D Ingale Subject: CHEMISTRY

		ODD SEMESTER						EVEN SEMESTER				
Class	Periods	SEPT-21	OCT-21	NOV-21	DEC-21	JAN-22	Total	FEB-22	MAR-22	APR-22	MAY-22	Total
BSc I	Theory	00	04	02	05	01	**12**	03	03	04	04	**14**
	Practical	00	48	30	48	24	**150**	30	42	48	48	**168**
BSc II	Theory	01	08	06	08	05	**28**	05	09	07	08	**29**
	Practical	12	42	48	48	30	**180**	42	48	48	48	**186**
BSc III	Theory	01	04	04	04	03	**16**	04	04	04	04	**16**
	Practical	12	42	36	60	24	**174**	12	30	21	24	**87**

Syllabus:

Teaching Plan for Theory (First Semester) Class : BSc Part I			
Sr. No.	Topic to be covered	Lectures Available **12L**	Lectures Utilized
01	**Unit-III**	**12**	
	a)Electronic Displacement: Inductive effect, Electromeric effect, Resonance and Hyperconjugation (definition, and applications of these effects)	03	
	b)Reactive Intermediates: Carbocation's, Carbanions and free radicals: their generation stability and reactions	02	
	c) Aliphatic Hydrocarbon: Alkanes: Methods of formation: i) Wurtz reaction and ii) Corey House reaction, Reactions: i) Halogenation (With mechanism), ii) Aromatization . [2] Alkenes: Methods of formation (With mechanism): i) Dehydrohalogenation of alkyl halides (E1 & E2) ii) Dehydration of alcohols, Reactions: Electrophilic and free radical addition of HX and X_2 (with mechanism)	03	
	Alkynes: Preparation from vicinal and germinal dihalides, Reaction Hydrogenation	02	
	Alkadienes: Classification,1,3-Butadiene- Preparation from cyclohexene, Reactions- Addition of H_2 , Br_2 and HBr.	02	
Teaching Plan for Practical (First Semester) Class : BSc Part I			
Sr. No.	Topic to be covered	Lectures Available **150L**	Lectures Utilized
01	**Exercise 1: Inorganic Qualitative analysis** Semi micro qualitative analysis of inorganic salt mixture containing two acidic radicals and two basic radicals of same or different groups. At least six mixtures to be given. Analysis of basic radicals to be done by using spot test reagents. Following radicals to be given carbonate, nitrite, sulphite, sulphide, chloride, bromide, iodide, nitrate and sulphate, Ag(I), Pb(II),Co(II), Bi (III), Cd(II),Sn(II), As(III), Sb (III), Fe(III), Cr(III), Al(III), Ni(II), Co(II), Mn(II), Zn(II), Ca(II), Sr(II),Ba (II), Mg(II)	**120**	
	Mixture-1	18	
	Mixture-2	18	
	Mixture-3	18	
	Mixture-4	18	
	Mixture-5	12	
	Mixture-6	12	
	Mixture-7	12	
	Mixture-8	12	
02	**EXERCISE II: Organic Preparations (10)**	**30**	
	1. Preparation of acetanilide (Acetylation).	3	
	2. Preparation of Benzanilide (Benzoylation).	3	
	3. Preparation of m-di-Nitrobenzene (Nitration).	3	
	4. Preparation of tri-Bromoaniline from Aniline (Bromination).	3	
	5. Preparation of Benzoic acid from Benzamide (Hydrolysis).	3	
	6. Preparation of Benzoic acid from benzaldehyde (Oxidation).	3	
	7. Preparation of phenylazo – ß – naphthalol dye (Diazotization).	3	
	8. Preparation of sulphanilic acid from aniline (Sulphonation). Organic Preparations Using Green Chemistry Concept	3	
	9. Acetylation of primary amine (Preparation of acetanilide).	3	
	10. Base catalyzed Aldol Condensation (Synthesis of dibenzal propanone).	3	
Teaching Plan for Theory (Second Semester) Class : BSc Part I			
Sr. No.	Topic to be covered	Lectures Available **14L**	Lectures Utilized

01	**UNIT-I**		
	a)Polarisation: Definition, polarising power, polarizability, effect of polarization on nature of bond. Fajan's rules of polarisation and its applications	04	
	b) Covalent bonding: Directional nature of covalent bond. Hybridisation, types of hybridisation to explain geometries of NH_4^+ ion, PCl_5, SF_6 and IF_7	04	
	c) Acids and Bases: Theory of solvent systems and Lux-Flood concept of acids and bases. Hard and soft acids and bases. Pearsons HSAB or SHAB principle with important applications	06	
Teaching Plan for Practical (Second Semester)		**Class : BSc Part I**	
Sr. No.	Topic to be covered	Lectures Available **168L**	Lectures Utilized
01	**EXERCISE I: Organic Qualitative Analysis (06)** 1) Preliminary examinations 2) Detection of the elements 3) Detection of functional groups 4) Determination of m.p./ b.p. 5) Preparation of derivative and its m.p./ b.p. 6) Performance of spot test if any.	**138**	
	1) Acids : Oxalic acid, Benzoic acid, Salicylic acid, Phthalic acid.	18	
	2) Phenols : Resorcinol, α-naphthol, β-naphthol.	18	
	3) Aldehydes : Benzaldehyde, Glucose.	18	
	4) Bases : Aniline, p-Toluidine	18	
	5) Nitro compounds: m-Dinitrobenzene.	18	
	6) Amides : Benzamide, Urea, Acetamide.	18	
	7) Hydrocarbons: Naphthalene, Anthracene.	15	
	8) Halogen compounds : Chloroform, Chlorobenzene	15	
02	**EXERCISE II: Physical Chemistry Exp. (07)**	**30**	
	1) To determine surface tension of a given unknown liquid by Stalagmometer (Density measurement is must).	4	
	2) To determine coefficient of viscosity of unknown liquid by Ostwald's viscometer (Density measurement is must).	4	
	3) To compare cleaning power of detergent samples by Stalagmometer.	5	
	4) To determine parachor value of $-CH_2-$ group by Stalagmometer.	4	
	5) To determine unknown percentage composition of given ethanol-water mixture by viscometer.	4	
	6) To determine activation energy of a reaction between $K_2S_2O_8$ and KI.	5	
	7) To determine heat of solution of KNO_3	4	
Teaching Plan for Theory (Third Semester)		**Class : BSc Part II**	
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	**UNIT-I & III**	**28L**	
02	**UNIT-I**	**14**	
	a) Covalent Bonding: Molecular Orbital Theory. Postulates of MO theory. LCAO approximation. Formation of bonding and antibonding MOs. Rules for LCAO. MO energy level diagram. Concept of bond order. MO structure of homonuclear diatomic molecules of namely He_2, H_2, N_2 and O_2 . Stability sequence of species of O_2 i.e. O_2, O_2^+, O_2^{2+}, $O_2^-$and O_2^{2-}. Paramagnetic nature of O_2. MO structure of heteronuclear diatomic molecules viz. NO, HF and CO (Coulson's structure). Explanation of important properties of CO viz. – triple 15 16 bond, almost nonpolar nature, electron donor and acceptor behaviour. Comparison of VB and MO theories	06	
	b) Metallic Bonding: Free electron theory and properties of metals such as electrical and thermal conduction, malleability, ductility and metallic lusture. VB theory or Resonance theory of metals. Band theory to explain nature of conductors, insulators and semiconductors (both intrinsic and extrinsic).	03	
	c)VSEPR Theory: Various rules under VSEPR theory to explain molecular geometry (following examples may be taken to explain various rules- $BeCl_2$, BF_3, CH_4, NH_4^+, PCl_5, SF_6, IF_7, $SnCl_2$, NH_3, H_2O, SF_4, ClF_3,	05	

	BrF_5, XeF_6, SOF_4, COF_2, PCl_3,). Limitations of VSEPR theory.		
03	**UNIT-III**	**14**	
	A] Aldehydes and Ketones: Preparation of acetaldehyde from ethanol, ethylidene chloride and acetylene. Preparation of benzaldehyde from benzene (Gattermann-Koch reaction) and toluene. Preparation of acetone from isopropyl alcohol, isopropylidene chloride and propyne. Preparation of acetophenone from benzene and ethyl benzene. Structure of carbonyl group, acidity of á-hydrogen in carbonyl compounds. Reactions of aldehydes & ketones: Cannizaro's, Reformatsky, Perkin with mechanism, Mannich reaction, Benzoin and Aldol condensations. Clemmensen, Wolf-Kishner, MPV and $LiAlH_4$ reductions.	08	
	B] Carboxylic acids: Structure and reactivity of carboxylic groups. Acidity of carboxylic acids, effects of substituents on acids strength. Oxalic acid: Preparation from ethylene glycol and cyanogen. Reactions: Reaction with ethyl alcohol, ammonia, glycerol and action of heat. Lactic acid: Preparation from acetaldehyde and pyruvic acid. Reactions: Reaction with ethanol, PCl_5, action of heat, oxidation and reduction. Benzoic acid: Preparation from toluene, benzyl alcohol, phenyl cyanide and benzamide. Reactions : Reactionwith ethanol, PCl_5 and ammonia. Salicylic acid: Preparation by Reimer-Tiemann reaction. Reactions: Reaction with CH_3COCl,CH_3OH and C_6H_5OH	06	
Teaching Plan for Practical (Third Semester)		**Class : BSc Part II**	
Sr. No.	Topic to be covered	Lectures Available **180L**	Lectures Utilized
01	**EXERCISE I: a) Volumetric Analysis (07)**	**100**	
	1) Prepare 0.1N oxalic acid standard solution and find out the acid neutralizing capacity of an antacid using NaOH as an intermediate solution.	15	
	2) Prepare 0.1N H_2SO_4 solution and find out its exact normality using NaOH as an intermediate solution and 0.1N oxalic acid as standard solution.	15	
	3) To determine the strength of oxalic acid by titration with KMnO4.	14	
	4) To determine percentage purity of Ferrous Ammonium Sulphate (FAS) by titration with $KMnO_4$.	14	
	5) To determine strength of FAS by titration with $K_2Cr_2O_7$using internal indicator.	14	
	6) To determine strength of $K_2Cr_2O_7$by titration with FAS using internal indicator.	14	
	7) Estimation of copper (II) in commercial copper sulphate sample by iodometric titration	14	
02	**b) Gravimetric Analysis (03):**	**20**	
	Estimation of Ba^{2+} as $BaSO_4$	6	
	Estimation of Fe^{3+} as Fe_2O_3 using china and silica crucible	7	
	Estimation of Ni^{2+} as Ni-DMG using sintered glass crucible	7	
03	**EXERCISE II: Physical Chemistry Experiment (08)**	**60**	
	1) To determine refractive index by Abbe's refractometer.	8	
	2) To construct phase diagram of phenol-water system and to determine consolute temperature for the system.	8	
	3) To determine transition temperature of $MnCl_2.4H_2O$.	7	
	4) To study kinetics of hydrolysis of methyl acetate catalyzed by acid.	7	
	5) To study kinetics of saponification of ethyl acetate by NaOH. (Equal concentration)	7	
	6) To determine partition coefficient of benzoic acid between benzene and water.	8	
	7) To determine partition coefficient of iodine between CCl_4/Kerosene and water.	8	
	8) To determine solubility of benzoic acid at different temperature and heat of solution.	7	
Teaching Plan for Theory (Fourth Semester)		**Class : BSc Part II**	
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	**UNIT-III & UNIT-IV**	**29**	
02	**UNIT-III**	***14***	

	a)Polynuclear Hydrocarbon: Naphthalene - Haworth synthesis, orbital picture, Reactions – electrophilic substitution (orientation) Preparation of naphthols from naphthalene sulphonic acids and naphthylamines from naphthols.	04	
	b)Reactive Methylene Compounds: Malonic Ester: Synthesis from acetic acid, Synthetic applications- Synthesis of acetic acid , succinic acid, glutaric acid, crotonic acid and malonyl urea. Acetoacetic ester: Synthesis from ethyl acetate, Synthetic applications- Synthesis of acetic acid, propionic acid, isobutyric acid, succinic acid, glutaric acid, crotonic acid, acetyl acetone and 4-methyl uracil	06	
	c)Carbohydrates: Constitution of glucose, cyclic structure, Pyranose and Furanose structure, Epimerization, conversion of glucose to fructose and vice-versa, Introduction to fructose, ribose, 2- deoxyribose, maltose, sucrose. (their structures onlydetermination not needed).	04	
03	**UNIT-IV**	**15**	
	a)Aromatic Nitro Compounds: Nitrobenzene: Synthesis from benzene, Reduction of nitrobenzene in acidic, neutral and alkaline medium	03	
	b)Amino Compounds: Basicity and effect of substituents. Methods of preparation of aniline from nitrobenzene, Reactions: with acetyl and benzoyl chlorides,Br_2(aq) and $Br_2(CS_2)$, Carbylamine reaction, alkylation,Hoffmann's exhaustive methylation and its mechanism.	04	
	c)Diazonium Salts: Preparation benzene diazonium chloride, Synthetic applications- Preparation of benzene,phenol, halobenzene,nitrobenzene,benzonitrile, coupling with phenol and aniline	03	
	d)amino Acids and Proteins: Classification, Strecker and Gabrial phthalimide synthesis, Zwitterion structure, Isoelectric point, peptide synthesis, Structure determination of polypeptides by end group analysis	04	
04	**UNIT TEST**	01	

Teaching Plan for Practical l (Fourth Semester) Class : BSc Part II

Sr. No.	Topic to be covered	Lectures Available **186L**	Lectures Utilized
01	**EXERCISE I: Inorganic Estimation (06)**	**126**	
	1) Chromatographic separation of binary mixture containing Cu(II), Co(II) and Ni(II) ions by paper chromatography and determination of Rf values.	21	
	2) Estimation of Zn(II) by complexometric titration.	21	
	3) To determine the strength of unknown calcium salt solution by complexometric titration.	21	
	4) Estimation of hardness of water by complexometric titration.	21	
	5) Colorimetric or spectrophotometric estimation of Cu(II) in commercial copper sulphate sample as ammonia complex.	21	
	6) To determination of concentration of unknown $KMnO_4$ solution from standard solutions of $KMnO_4$ by calorimetrically or spectrophotometrically	21	
02	**EXERCISE II: Organic Practical (07)**	**60**	
	1. Isolation of casein from milk.	8	
	2. Isolation of nicotine from tobacco leaves.	9	
	3. Isolation of caffeine from tea leaves.	9	
	4. Isolation of lycopene from tomato juice.	8	
	5. Estimation of glucose.	9	
	6. Estimation of acetamide.	9	
	7. Determination of equivalent weight of an organic acid	8	

Teaching Plan for Theory (Fifth Semester) Class : BSc Part III

Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	**UNIT-IV**	**16**	
04	**UNIT-IV**		
	a)Dyes: Classification on the basis of structure and mode of application, Preparation and uses of Methyl orange, Crystal violet, Phenolphthalein , Alizarin and Indigo	05	
	b)Drugs: Analgesic and antipyretics: Synthesis and uses of phenylbutazone. Sulpha drugs: Synthesis and uses of sulphanilamide and sulphadiazine. Antimalarials: Synthesis of chloroquine from 4,7 dichloroquinoline and its uses	05	
	c)Pesticides: Insecticides: Synthesis and uses of malathion. Herbicides: Synthesis and uses of 2,4 dichloro phenoxy acetic acid (2,4-D).	05	

	Fungicides: Synthesis and uses of thiram (tetramethyl thiuram disulphide.		
05	**UNIT TEST**	01	
Teaching Plan for Practical (Fifth Semester)		**Class : BSc Part III**	
Sr. No.	Topic to be covered	Lectures Available **174L**	Lectures Utilized
01	**EXERCISE I: Inorganic Preparation (06)**	**60**	
	1. Preparation of tetraamminecopper (II)sulphate.	6	
	2. Preparation of hexaamminenickel (II)chloride.	6	
	3. Preparation of potassiumtrioxalate aluminate (III).	6	
	4. Preparation of Prussian blue.	6	
	5. Preparation of chrome alum.	6	
	6. Preparation of sodium thiosulphate and dithionite. (Comment on VB structure, magnetic properties and color of 1, 2 and 3 complexes)	6	
02	**EXERCISE II: Physical Chemistry Experiments (06)**	**114**	
	1. To determine strength of given HCl solution conductometrically.	17	
	2. To determine strength of given CH_3COOH solution conductometrically.	17	
	3. To determine strength of given HCl solution potentiometrically.	16	
	4. To determine strength of HCl and CH_3COOH in a given mixture conductometrically.	16	
	5. To determine redox potential of Fe^{+2}/Fe^{+3} system potentiometrically.	16	
	6. To determine molecular weight by Rast's method.	16	
	7. To determine specific rotation of optically active compound by Polarimeter.	16	
Teaching Plan for Theory (Sixth Semester)		**Class : BSc Part III**	
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	**UNIT-II**	**16**	
04	**UNIT-II**		
	a**)Organometallic Chemistry**: Definition, nomenclature and classification of organometallic compounds. Metal carbonyls- definition and classification. Preparation, properties, structure and bonding in $Ni(CO)_4$, $Fe(CO)_5$, $Cr(CO)_6$. Nature of M-C bond in metal carbonyls.	05	
	b)Inorganic Polymer: Definition and classification. Silicones: preparation, properties structure and bonding and applications. Phosphonitrile halides polymers- preparation, properties, structure and bonding in cyclic polymers	05	
	c)Bioinorganic Chemistry: Essential and trace elements in biological processes. Biological role of Na^+, K^+, Ca^{2+} and Mg^{2+} ions. Metalloporphyrins-Haemoglobin and Myoglobin and their role in oxygen transport	05	
05	**UNIT TEST**	01	
Teaching Plan for Practical (Sixth Semester)		**Class : BSc Part III**	
Sr. No.	Topic to be covered	Lectures Available **87L**	Lectures Utilized
01	**EXERCISE I: Organic Chemistry Preparation (13)**	**47**	
	1. Estimation of formaldehyde.	3	
	2. Estimation of glycine.	4	
	3. Estimation of ascorbic acid (vitamine C).	4	
	4. Estimation of phenol by bromination method.	4	
	5. Estimation of aniline by bromination method.	4	
	6. Estimation of urea by hypobromite method.	4	
	7. Estimation of unsaturation by bromination method.	4	
	8. Determination of iodine value of oil.	4	
	9. Determination of equivalent weight of an ester by saponification.	4	
	10. Separation of a mixture of methyl orange and methylene blue by thin layer chromatography (using benzene).	4	
	11. Separation of a mixture of 2,4-dinitro phenyls of acetaldehyde and benzaldehyde by thin layer chromatography(using benzene : petroleum ether = 3:1).	4	
	12. Separation of a mixture of dyes by thin layer chromatography (using cyclohexane:ethyl acetate = 8.5:1.5).	4	

	13. Separation of a mixture of 2,4-dinitro phenyls of acetaldehyde and benzaldehyde by thin layer chromatography (using toluene: petroleum ether).	3	
02	**EXERCISE II: Physical Chemistry Experiments (08)**	**40**	
	1. To determine dissociation constant of weak acid by conductometry.	5	
	2. To determine dissociation constant of weak acid by potentiometry.	5	
	3. To study potentiometric titration of KCl and $AgNO_3$.	5	
	4. To determine dissociation constant of dibasic acid by pH-metry.	5	
	5. To verify Beer's Lambart's law using $KMnO_4$ /$K_2Cr_2O_7$.	5	
	6. To determine pH of a soil sample by pH-meter.	5	
	7. To determine solubility and solubility product of sparingly soluble salts conductometrically.	5	
	8. To study strong acid and strong base titration by pH-metry. Distribution of Marks for Practical Examination	5	

Time Table:

Name: Mr. Nilesh S. Shelke

Faculty: SCIENCE Subject: CHEMISTRY

Period	1	2	3	4	5	6
	Practical	Theory				Practical
Day/ Time	8 to 10:24 (pract)	11:00 to 11:48	11:48 to 12:36	12:36 to 1:24	1:34 to 2:22	2:22 to 4:46(Pract.)
MON	II (Pract) B-1					II (Pract) B-2
TUE	II (Pract) B-1	III(Theory)				II (Pract) B-2
WED				II(Theory)		III (Pract) C-2
THUS						III (Pract) C-2
FRI	I (Pract) A-1	III(Theory)				I (Pract) A -2
		7:30 - 8:18	8:18 - 9:06	9:16 - 10:04	10:04- 12:28	12:28 -2:52
SAT		I (Theory)			I (Pract) A-1	I (Pract) A-2

Allotted Workload

Subject : CHEMISTRY Year : 2021-22

Sr. No.	Class	Work load		
		Lecture (Theory)	Practical	Paper Alloted
1	B.Sc. - I	01	4 × 3 = 12	1
2	B.Sc. – II	01	4 × 3 = 12	1
3	B.Sc. - III	02	2 × 3 = 06	1
Total Workload per week (Th +Pract.): 04 (The) + 30 (Pract.) = 34 (27 Hrs. 12 min.)				

Teaching Periods Available per month during the session 2021-22

Faculty: SCIENCE Subject: CHEMISTRY

		ODD SEMESTER						EVEN SEMESTER				
Class	Periods	SEP-2021	OCT -2021	NOV-2021	DEC -2021	JAN -2022	**Total**	FEB-2022	MAR-2022	APR -2022	MAY-2022	Total
BSc-I	Theory	--	04	03	03	03	**17**	03	04	04	04	**15**
	Practical	--	48	30	48	24	**150**	30	42	48	48	**168**
BSc –II	Theory	01	03	03	05	02	**14**	04	05	04	04	**17**
	Practical	12	42	48	48	24	**174**	42	48	48	48	**186**
BSc- III	Theory	01	07	06	09	04	**27**	08	07	08	08	**31**
	Practical	06	21	18	30	12	**87**	18	30	21	24	**93**

Teaching Plan for Theory (First Semester) Class : BSc Part I

Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
	Unit- I	**17**	
01	**Periodic Properties**	**15**	
A]	**Periodic Properties:** Atomic and ionic radii. - Types of atomic radii (only definitions - covalent radius, metallic radius, Van der Wall's radius and ionic radius). Periodic trends in atomic and ionic radii. Ionization energy, electron affinity and electronegativity (definition and periodic trends). Effect of ionization energy and electronegativity on different properties of elements namely metallic and non-metallic character, relative reactivity, oxidizing and reducing properties., Scales of electronegativity Pauling scale and Mulliken Scales. Electronegativity and partial ionic character of a covalent bond. Screening effect, screening constant and effective nuclear charge. Slater's rules for calculating screening constant. Problems.	8	
B]	**Ionic bonding:** Definition of ionic bond, types of cations. Factors affecting ionic bond formation (energetic of ionic bond formation ionization energy, electron affinity and lattice energy). Born Lande equation (no derivation) to calculate lattice energy. Born-Haber's cycle to determine lattice energy. Solvation and salvation energy, factors affecting salvation energy, Determination of salvation energy. Solubility of ionic solids, lattice energy and salvation energy	4	
C]	**Unit Test**	01	

Teaching Plan for Practical (First Semester) Class : BSc Part I

Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	**Exercise 1: Inorganic Qualitative analysis**	**80**	
	Semi micro qualitative analysis of inorganic salt mixture containing two acidic radicals and two basic radicals of same or different groups. Analysis of basic radicals to be done by using spot test reagents. Following radicals to be given carbonate, nitrite, sulphite, sulphide, chloride, bromide, iodide, nitrate and sulphate, Ag(I), Pb(II),Co(II), Bi (III), Cd(II),Sn(II), As(III), Sb (III), Fe(III), Cr(III), Al(III), Ni(II), Co(II), Mn(II), Zn(II), Ca(II), Sr(II),Ba (II), Mg(II).		
02	**Exercise II: Organic Preparations**	**70**	
	1. Preparation of acetanilide (Acetylation).	6	
	2. Preparation of Benzanilide (Benzoylation).	6	

	3. Preparation of m-di-Nitrobenzene (Nitration).	6	
	4. Preparation of tri-Bromoaniline from Aniline (Bromination).	9	
	5. Preparation of Benzoic acid from Benzamide (Hydrolysis).	6	
	6. Preparation of Benzoic acid from benzaldehyde (Oxidation).	6	
	7. Preparation of phenylazo – ß – naphthalol dye (Diazotization).	9	
	8. Preparation of sulphanilic acid from aniline (Sulphonation). organic Preparations Using Green Chemistry Concept	9	
	9. Acetylation of primary amine (Preparation of acetanilide).	7	
	10. Base catalyzed Aldol Condensation (Synthesis of dibenzal propanone).	6	

Teaching Plan for Theory (Second Semester) **Class : BSc Part I**

Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
	Unit II – P Block , Noble, Acids and Bases	**15**	
01	**Unit- II**	**15**	
A]	**P-Block Elements-** Comparative study of 16th and 17th group elements with reference to electronic configuration, ionization energy and oxidation states. Oxidising properties of halogens with reference to oxidation potential. Interhalogen compounds, structure and bondings. Introduction to fluorocarbons.	06	
B]	**Noble Gases-** Inertness of noble gases. Compounds of noble gases-only structure and bonding in XeF_2, XeF_4 ,XeF_6 , XeO_3 and XeO_4	02	
C]	**Acids and Bases-** Theory of solvent systems and Lux-Flood concept of acids and bases. Hard and soft acids and bases. Pearsons HSAB or SHAB principle with important applications. [6]	06	
D]	**Unit Test**	01	

Teaching Plan for Practical (Second Semester) **Class : BSc Part I**

Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	**Exercise I: Organic Qualitative Analysis**	**84**	
	1) Preliminary examinations	03	
	2) Detection of the elements	03	
	3) Detection of functional groups	03	
	4) Determination of m.p./ b.p.	03	
	5) Preparation of derivative and its m.p./ b.p.	06	
	6) Performance of spot test if any. 1) Acids: Oxalic acid, Benzoic acid, Salicylic acid, Phthalic acid	06	
	2) Phenols: Resorcinol, á-naphthol, â-naphthol.	09	
	3) Aldehydes: Benzaldehyde, Glucose.	09	
	4) Bases: Aniline, p-Toluidine	09	
	5) Nitro compounds: m-Dinitrobenzene.	09	
	6) Amides: Benzamide, Urea, Acetamide.	09	
	7) Hydrocarbons: Naphthalene, Anthracene	06	
	8) Halogen compounds: Chloroform, Chlorobenzene.	09	
02	**Exercise II: Physical Chemistry Experiments**	**84**	
	1) To determine surface tension of a given unknown liquid by Stalagmometer (Density measurement is must).	12	
	2) To determine coefficient of viscosity of unknown liquid by Ostwald's viscometer (Density measurement is must).	12	
	3) To compare cleaning power of detergent samples by Stalagmometer.	12	
	4) To determine parachor value of $-CH_2-$ group by Stalagmometer.	12	
	5) To determine unknown percentage composition of given ethanol-water mixture by viscometer.	12	
	6) To determine activation energy of a reaction between $K_2S_2O_8$ and KI.	12	
	7) To determine heat of solution of KNO_3	12	

Teaching Plan for Theory (Third Semester) **Class : BSc Part II**

Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	**Unit II –Liquid State & Electrochemistry**	**14**	
A]	**Liquid state:** (i) Surface tension, determination and its S.I. Unit. Effect of temperature	**04**	

	on surface tension, derivation of expression for relative surface tension by Drop number method. Application of surface tension. (ii) Viscosity, determination and its S.I. Unit. Effect of temperature on viscosity, derivation of expression for relative viscosity by Ostwald's viscometer method. Applications of viscosity.		
B]	**Electrochemistry:** (i) Conductance of electrolyte solution. Specific, equivalent and molar conductance. Determination of conductance of electrolyte solution, variation of specific and equivalent conductance with dilution for strong electrolyte. Conductometric titrations. Applications of conductometric titration. (ii) Migration of ions under the influence of electric field. Transport number of ions. Determination of transport number by Hottorf's method and Moving boundary method (iii) Kohlrausch's law of independent migration of ions. Determination of l¥ and degree of dissociation a of a weak electrolyte. Determination of dissociation constant of weak electrolyte. (iv) Numericals	**09**	
C]	**Unit Test**	**01**	

Teaching Plan for Practical (Third Semester) **Class : BSc Part II**

Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	**Exercise I: Volumetric Analysis**	**87**	
A)	**1)** Prepare 0.1N oxalic acid standard solution and find out the acid neutralizing capacity of an antacid using NaOH as an intermediate solution.	06	
	2) Prepare 0.1N H_2SO_4 solution and find out its exact normality using NaOH as an intermediate solution and 0.1N oxalic acid as standard solution.	09	
	3) To determine the strength of oxalic acid by titration with KMnO4.	12	
	4) To determine percentage purity of Ferrous Ammonium Sulphate (FAS) by titration with $KMnO_4$.		
	5) To determine strength of FAS by titration with $K_2Cr_2O_7$using internal indicator.	12	
	6) To determine strength of $K_2Cr_2O_7$by titration with FAS using internal indicator.	12	
	7) Estimation of copper (II) in commercial copper sulphate sample by iodometric titration.	12	
B)	**Gravimetric Analysis:** Estimation of Ba^{2+} as $BaSO_4$, Fe^{3+} as Fe_2O_3 using china and silica crucible and Ni^{2+} as Ni-DMG using sintered glass crucible	24	
C)	**Exercise-II: Physical Chemistry experiments**	**87**	
	1) To determine refractive index by Abbe's refractometer.	09	
	2) To construct phase diagram of phenol-water system and to determine consolute temperature for the system.	12	
	3) To determine transition temperature of $MnCl_2.4H_2O$.	09	
	4) To study kinetics of hydrolysis of methyl acetate catalyzed by acid.	12	
	5) To study kinetics of saponification of ethyl acetate by NaOH. (Equal concentration)	09	
	6) To determine partition coefficient of benzoic acid between benzene and water.	12	
	7) To determine partition coefficient of iodine between CCl_4/Kerosene and water.	12	
	8) To determine solubility of benzoic acid at different temperature and heat of solution.	12	

Teaching Plan for Theory (Fourth Semester) **Class : BSc Part II**

Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	**Unit- I Crystalline Solid**	**17**	

A]	**Symmetry in crystal:** plane of symmetry, axis of symmetry and point of symmetry. Law of constancy of interfacial angles. Elements of symmetry in cubic crystals. Laws of symmetry. Law of rational indices, Weiss and Miller indices of a lattice planes, calculation of interplaner distance d(h,k,l) from Miller indices in a cubic system. Seven crystal systems and fourteen Bravais lattices, Bravais lattices of cubic system.	09	
B]	**Type of cubic crystal:** Simple cubic system (S.C.C.), body centered cubic system (B.C.C.) and face centered cubic system (F.C.C.). Calculation of number of constituent units in S.C.C., B.C.C. and F.C.C. Ratio of interplaner distances for 100, 110 and 111 lattice plane in S.C.C., B.C.C. and F.C.C. (No geometrical derivation). Derivation of Bragg's equation for X-ray diffraction, Bragg's X-ray spectrometer method for the determination of crystal structure of NaCl and KCl. Anomalous behaviour of KCl towards X-ray. Numericals	07	
C]	**Unit Test**	01	

Teaching Plan for Practical (Fourth Semester) **Class : BSc Part II**

Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	**Exercise I: Inorganic estimations**	**93**	
	1) Chromatographic separation of binary mixture containing Cu(II), Co(II) and Ni(II) ions by paper chromatography and determination of Rf values.	18	
	2) Estimation of Zn(II) by complexometric titration.	15	
	3) To determine the strength of unknown calcium salt solution by complexometric titration.	15	
	4) Estimation of hardness of water by complexometric titration.	15	
	5) Colorimetric or spectrophotometric estimation of Cu(II) in commercial copper sulphate sample as ammonia complex.	15	
	6)To determination of concentration of unknown $KMnO_4$ solution from standard solutions of $KMnO_4$ by colorimetrically or spectrophotometrically.	15	
02	**Exercise II: Organic Chemistry Practicals**	**93**	
	1. Isolation of casein from milk.	12	
	2. Isolation of nicotine from tobacco leaves.	12	
	3. Isolation of caffine from tea leaves.	12	
	4. Isolation of lycopene from tomato juice.	12	
	5. Estimation of glucose.	15	
	6. Estimation of acetamide.	15	
	7. Determination of equivalent weight of an organic acid.	15	

Teaching Plan for Theory (Fifth Semester) **Class : BSc Part III**

Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
	Unit-V & Unit-VI	**27**	
01	**Unit V-Photochemistry**	**14**	
A]	**Photochemical and thermal reactions.** Lambert's law - Statement and derivation. Beer's law - Statement and derivation. Reasons for deviation from Beer's law. Laws of photochemistry. Quantum yield of photochemical reaction. Reasons for high and low quantum yield. Experimental determination of quantum yield. Photosensitized reaction.	06	
B]	**Kinetics of photochemical reaction** decomposition of HI. Fluorescence and Phosphorescence. Selection rule for electronic transition. Internal conversion and inter-system crossing. Explanation of fluorescence and phosphorescence on the basis of Joblonski diagram. Chemiluminescence and Bioluminescence with	07	

	examples. Numericals.		
C]	**Unit Test**	01	
02	**Unit VI – Molecular spectroscopy**	**13**	
A]	**Electromagnetic radiation** Characteristics of electromagnetic radiation in terms of wavelength, wave number, frequency and energy of photon. Spectrum of electromagnetic radiation.Types of spectra - Emission and absorption spectra, atomic and molecular spectra, line and band spectra Translational, vibrational, rotational and electronic motion. The degree of freedom in each motion. Energy level diagram of a molecule indicating electronic, **Vibrational and rotational transitions.** Condition for pure rotational spectrum (i.e.microwave active molecules), selection rule for rotational transition. Derivation of expression for moment of inertia of a diatomic rigid rotor. Isotope effect. Applications of microwave spectroscopy for the determination of moment of inertia and bonding. Condition for exhibiting vibrational spectra (i.e. IR active molecule), selection rule for vibrational transition. Vibrational energy levels of a simple harmonic oscillator. zero point energy, position of a spectral line. Determination of force constant of a covalent bond.	09	
B]	**Raman spectroscopy-** Raman effect - Raman's spectrum of a molecule. Condition for exhibiting Raman spectrum (i.e. Raman active molecule), selection rule for rotational transitions. Pure rotational spectrum of diatomic molecule, vibrational Raman spectrum of a diatomic molecule. Numericals.	03	
C]	**Unit Test**	01	

Teaching Plan for Practical (Fifth Semester) **Class : BSc Part III**

Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	**Exercise 1: Inorganic Preparations**	**42**	
	1. Preparation of tetraamminecopper(II)sulphate.	06	
	2. Preparation of hexaamminenickel(II)chloride.	06	
	3. Preparation of potassiumtrioxalate aluminate(III).	06	
	4. Preparation of Prussian blue.	06	
	5. Preparation of chrome alum.	06	
	6. Preparation of sodium thiosulphate and dithionite. Comment on VB structure, magnetic properties and color of 1, 2 and 3 complexes	12	
02	**Exercise II: Physical Chemistry experiments**	**45**	
	1. To determine strength of given HCl solution conductometrically.	06	
	2. To determine strength of given CH_3COOH solution conductometrically.	06	
	3. To determine strength of given HCl solution potentiometrically.	06	
	4. To determine strength of HCl and CH_3COOH in a given mixture conductometrically.	06	
	5. To determine redox potential of Fe^{+2}/Fe^{+3} system potentiometrically.	06	
	6. To determine molecular weight by Rast's method.	06	
	7. To determine specific rotation of optically active compound by Polarimeter.	09	

Teaching Plan for Theory(Sixth Semester) **Class : BSc Part III**

Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
	Unit-V & Unit- VI	**31**	
01	**Unit-V - Elementary Quantum Mechanics**	**16**	
A]	**Classical quantum mechanics:** Plank's quantum theory (postulates only). Photoelectric effect - experiments, observation and Einstein's explanation. Compton effect and its explanation. De Broglie hypothesis of matter waves. de Broglie's equation. Heisenberg's uncertainty principle. Classical wave equation, derivation of time independent equation.	10	

B]	**Schrodinger's wave equation**: Schrodinger's wave equation in one-dimension and its extension to a three-dimensional space. Well behaved wave function, physical significance of wave function (Born interpretation). Application of Schrodinger wave equation to a particle in one-dimensional box and its extension to a three-dimensional box. Concept of atomic orbital. Numericals based on Schrodinger wave equation.	04	
C]	**Unit Test**	01	
02	**Unit VI- Electrochemistry & Nuclear Chemistry**	**15**	
A]	**Electrochemistry:** Types of electrode - Standard hydrogen electrode, Calomel electrode, Quinhydrone electrode and Glass electrode. Principle of Potentiometric titration. Study of acid-base, redox and precipitation titration. pH of a solution and pH scale. Determination of pH of a solution using hydrogen, quinhydrone and glass electrodes. Advantage and disadvantage of these electrodes. pH-metric titrations. Determination of pka of a weak acid by pH-metric measurement. Concentration cells - Types of concentration cells, concentration cell without transfer and determination of its emf. Numericals	06	
B]	**Nuclear Chemistry:** Shell model of a nucleus - Assumptions, evidences for existence of magic numbers, advantages and limitations. Liquid drop model of a nucleus - Assumptions, similarities between nucleus and liquid drop, advantages and limitations, explanation of nuclear fission reaction on the basis of liquid drop model. Nuclear force and its explanation on the basis of Meson theory. Characteristics of nuclear reaction, difference between nuclear and chemical reactions. Calculation of Q value of a nuclear reaction. Characteristics of nuclear fission reaction, fission yield. Fission reaction as an alternative source of energy. Nuclear fusion reaction - Characteristic of a nuclear fusion reaction. Thermonuclear reactions as a source of energy of sun and other stars. Fusion reactions as a potential future source of energy. Applications of radio isotopes in industry, agriculture, medicines and bio-sciences with two examples each. Numericals.	06	
C]	**Unit Test**	01	

Teaching Plan for Practical (Sixth Semester) **Class : BSc Part III**

Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	**Exercise I: Organic Chemistry Experiments**	**43**	
	1. Estimation of formaldehyde.	03	
	2. Estimation of glycine.	03	
	3. Estimation of ascorbic acid (vitamine C).	03	
	4. Estimation of phenol by bromination method.	03	
	5. Estimation of aniline by bromination method.	03	
	6. Estimation of urea by hypobromite method.	03	
	7. Estimation of unsaturation by bromination method.	03	
	8. Determination of iodine value of oil.	03	
	9. Determination of equivalent weight of an ester by saponification.	03	
	10. Separation of a mixture of methyl orange and methylene blue by thin layer chromatography (using benzene).	03	
	11. Separation of a mixture of 2,4-dinitro phenyls of acetaldehyde and benzaldehyde by thin layer chromatography(using benzene : petroleum ether = 3:1).	03	
	12. Separation of a mixture of dyes by thin layer chromatography (using cyclohexane:ethyl acetate = 8.5:1.5).	03	
	13. Separation of a mixture of 2,4-dinitro phenyls of acetaldehyde and benzaldehyde by thin layer chromatography (using toluene: petroleum ether).	07	
02	**Exercise II: Physical Chemistry experiments**	**50**	

	1. To determine dissociation constant of weak acid by conductometry.	06	
	2. To determine dissociation constant of weak acid by potentiometry.	06	
	3. To study potentiometric titration of KCl and $AgNO_3$.	06	
	4. To determine dissociation constant of dibasic acid by pH-metry.	06	
	5. To verify Beer's Lambart's law using $KMnO_4$ /$K_2Cr_2O_7$.	06	
	6. To determine pH of a soil sample by pH-meter.	06	
	7. To determine solubility and solubility product of sparingly soluble salts conductometrically.	06	
	8. To study strong acid and strong base titration by pH-metry. Distribution of Marks for Practical Examination	08	

Time Table

Name: Mr. K P Sabale

Faculty: SCIENCE Subject: CHEMISTRY

Period	1	2	3	4	5	6
	Practical	**Theory**				**Practical**
Day / Time	8 to 10:24(Pr)	11:00 to 11:48	11:48 to 12:36	12:36 to 1:24	1:34 to 2:22	2:22 to 4:46(Pr)
MON	II(B_1)			I(T)		II(B_2)
TUE	II(B_1)		I(T)			II(B_2)
WED	III(C_1)		III(T)			III(C_2)
THUS	III(C_1)		III(T)			III(C_2)
FRI	I(A_1)			II(T)		--
		7:30 to 8:18	8:18 to 9:06	9:06 to 9:54	10:04 to 12:28	12:28 to 2:52
SAT					BSc-I(P)(A_1)	--

Allotted Workload

Subject: CHEMISTRY Year: 2021-22

Sr. No.	Class	workload		
		Lectures	Practical	Paper Allotted
1	BSc-I	02	2 x 3 = 6	2
2	BSc-II	01	4 x 3 = 12	1
3	BSc-III	02	4 x 3 = 12	2
4	Total	05(Th)	30(Pr)	05
Total Workload per week (L+P): 05 (L) + 30 (Pr) = 35 (28 Hrs.)				

Teaching Periods Available per month during the session 2021-22

Faculty: SCIENCE Subject: CHEMISTRY

		ODD SEMESTER						EVEN SEMESTER				
Class	Periods	SEP-2021	OCT -2021	NOV-2021	DEC -2021	JAN -2022	**Total**	FEB-2022	MAR-2022	APR -2022	MAY-2022	Total
BSc-I	Theory	02	07	08	08	04	**29**	07	08	08	08	**31**
	Practical	--	24	15	24	12	**75**	15	21	24	24	**84**
BSc –II	Theory	--	04	02	05	01	**12**	03	03	04	04	**14**
	Practical	12	42	48	48	24	**174**	42	48	48	48	**186**
BSc- III	Theory	02	07	06	10	04	**29**	06	10	07	08	**31**
	Practical	12	42	36	60	24	**174**	36	60	42	48	**186**

Teaching Plan for Theory (First Semester)	**Class : B.Sc Part I**		
Sr. No.	**Topic to be covered**	**Lectures Available**	**Lectures Utilized**
	Unit- II & Unit-VI	**29**	
01	**Unit II**	**15**	
A]	**S-Block element:** Comparative study of 1st and 2nd group elements with reference to electronic configuration, ionisation energy, oxidation states, reactivity and flame colouration. Diagonal relationship between Li and Mg.	04	
B]	**P-Block element:** Comparative study of 13th, 14th and 15th group elements with reference to electronic configuration, ionisation energy, oxidation states. Concept of inert pair effect. Diagonal relationship between Be and Al. Structure of diamond and graphite. Abnormal behaviour of nitrogen. Hydrides of boron- preparation(from BCl_3 and $NaBH_4$ two), properties(action of heat, water, alkali and oxygen), structure and bonding in diborane. Carbides, types of carbides and fullerenes.	10	
C]	**Unit Test**	01	
02	**Unit-VI**	**14**	
A]	**Gaseous State:** Postulates of Kinetic theory of gases, Derivation of Kinetic gas equation. RMS, Average and Most probable velocities and their relationship. Maxwell-Boltzmann distribution law of molecular velocities (only qualitative treatment), Mean free path, collision number and collision diameter. Deviation of real gases from ideal gas behavior. Vanderwaal's equation of state and its derivation for real gases. Critical phenomenon, Andrew's experiment – isotherm of CO_2 .Critical state, critical constant, Pc, Vc and Tc in terms of Vander Waal's constants 'a' and 'b'. Reduced equation of state and its derivation. Law of corresponding state. Numericals.	11	
B]	**Phase Rule:** Statement of phase rule, explanation of phase, number of components and degree of freedom. Application of phase rule to water and sulfur system.	02	
C]	**Unit Test**	01	

Teaching Plan for Practical (First Semester)	**Class : BSc Part I**		
Sr. No.	**Topic to be covered**	**Lectures Available**	**Lectures Utilized**
01	**Exercise 1: Inorganic Qualitative analysis**	**40**	

	Semi micro qualitative analysis of inorganic salt mixture containing two acidic radicals and two basic radicals of same or different groups. At least six mixtures to be given. Analysis of basic radicals to be done by using spot test reagents. Following radicals to be given carbonate, nitrite, sulphite, sulphide, chloride, bromide, iodide, nitrate and sulphate, Ag(I), Pb(II),Co(II), Bi (III), Cd(II),Sn(II), As(III), Sb (III), Fe(III), Cr(III), Al(III), Ni(II), Co(II), Mn(II), Zn(II), Ca(II), Sr(II),Ba (II), Mg(II).		
02	**Exercise II: Organic Preparations**	**35**	
	1. Preparation of acetanilide (Acetylation). **2**. Preparation of Benzanilide (Benzoylation). **3**. Preparation of m-di-Nitrobenzene (Nitration). **4**. Preparation of tri-Bromoaniline from Aniline (Bromination). **5**. Preparation of Benzoic acid from Benzamide (Hydrolysis). **6**. Preparation of Benzoic acid from benzaldehyde (Oxidation). **7**. Preparation of phenylazo – ß – naphthalol dye (Diazotization). **8**. Preparation of sulphanilic acid from aniline (Sulphonation). Organic Preparations Using Green Chemistry Concept **9**. Acetylation of primary amine (Preparation of acetanilide). **10**. Base catalyzed Aldol Condensation (Synthesis of dibenzal propanone).		

Teaching Plan for Theory (Second Semester) **Class : BSc Part I**

Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
	Unit IV & Unit-VI	**31**	
01	**Unit- IV**	**16**	
A]	**Phenols:** Methods of formations a) from aniline b) from cumene. Acidic character, Reaction of Phenols- a) Carboxylation (Kolb's reaction), b) Fries Rearrangement, c) Claisen Rearrengement and d) Reimer – Tiemann reaction**.**	07	
B]	**Ethers:** Diethyl ether- Preparation by Williamson's synthesis and continuous etherification process, Reactions-with cold and hot HI.	04	
C]	**Epoxides:** Synthesis of ethylene oxide from ethylene and styrene oxide from styrene. Ring opening reactions of both catalysed by acid and alkali.	04	
D]	**Unit Test**	01	
02	**Unit-VI- Chemical Kinetics**	**15**	
A]	Explanation of terms like rate of reaction, order of a reaction and molecularity. Definition with one example of zero, first and second order reaction. Half life period of a reaction. Derivation of rate equation for first and second order reaction with equal initial concentration and different initial concentration of a reactant. Characteristics of first and second order reaction. Examples of first and second order reaction and their kinetics study with modified rate equation viz. the reactions **(i)** decomposition of H_2O_2, **(ii)** reaction between $K_2S_2O_8$ and KI, **(iii)** hydrolysis of methyl acetate catalyzed by acid, **(iv)** saponification of ethyl acetate by NaOH and **(v)** inversion of canesugar. Determination of order of a reaction by integration, graphical, equifractional change, vant Hoff's differential method and Ostwald's isolation method. Effect of temperature on reaction rates. Arrhenius equation, activation energy and its determination using Arrhenius equation. Numericals.	14	
B]	**Unit Test**	01	

Teaching Plan for Practical (Second Semester) **Class : BSc Part I**

Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	**Exercise I: Organic Qualitative Analysis**	**42**	
	1) Preliminary examinations 2) Detection of the elements 3) Detection of functional groups 4) Determination of m.p./ b.p. 5) Preparation of derivative and its m.p./ b.p. 6) Performance of spot test if any.		

	1) Acids : Oxalic acid, Benzoic acid, Salicylic acid, Phthalic acid. 2) Phenols : Resorcinol, á-naphthol, â-naphthol. 3) Aldehydes : Benzaldehyde, Glucose. 4) Bases : Aniline, p-Toluidine 5) Nitro compounds: m-Dinitrobenzene. 6) Amides : Benzamide, Urea, Acetamide. 7) Hydrocarbons: Naphthalene, Anthracene. 8) Halogen compounds : Chloroform, Chlorobenzene.		
02	**Exercise II: Physical Chemistry Experiments**	**42**	
	1) To determine surface tension of a given unknown liquid by Stalagmometer (Density measurement is must). 2) To determine coefficient of viscosity of unknown liquid by Ostwald's viscometer (Density measurement is must). 3) To compare cleaning power of detergent samples by Stalagmometer. 4) To determine parachor value of -CH_2 - group by Stalagmometer. 5) To determine unknown percentage composition of given ethanol-water mixture by viscometer. 6) To determine activation energy of a reaction between $K_2S_2O_8$ and KI. 7) To determine heat of solution of KNO_3		

Teaching Plan for Theory (Third Semester) **Class : BSc Part II**

Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	**Unit II - Theory of Quantitative Inorganic Analysis**	**12***	
A]	**Volumetric Analysis:** **(a) Introduction:-**Volumetric analysis, titrant, titrate, end point, equivalence point, indicator etc. Requirements of volumetric analysis. Definition of standard solution, primary standard substance. Requirements of primary standard substance. Terms to express concentrations namely-molarity, normality, molality, mole fraction and percentage. (Simple numericals expected). **(b) Acid-Base titrations:-** Types of acid base titrations. pH variations during acid base titration. Acid base indicators. Modern theory (Quinoniod theory) of acid base indicators. Choice of suitable indicators for different acid base titrations. **(c) Redox Titrations:-**General principles involved in redox titrations (redox reactions, redox potentials, oxidant, reductant, oxidation number). Brief idea about use of $KMnO_4$, $K_2Cr_2O_7$ as oxidants in acidic medium in redox titrations. Use of I_2 in iodometry and iodimetry. Redox indicators-external and internal indicators. Use of starch as an indicator. Iodometric estimation of Cu (II).	**08**	
B]	**Gravimetric Analysis:** Definition. Theoretical principles underlying various steps involved in gravimetric analysis with reference to estimation of barium as barium sulphate. Coprecipitation and post precipitation.(Definition, types and factors affecting).	**04**	
C]	**Unit Test**	**01**	

Teaching Plan for Practical (Third Semester) **Class : BSc Part II**

Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	**Exercise I: Volumetric Analysis**	**87**	
A)	**1)** Prepare 0.1N oxalic acid standard solution and find out the acid neutralizing capacity of an antacid using NaOH as an intermediate solution. **2)** Prepare 0.1N H_2SO_4 solution and find out its exact normality using NaOH as an intermediate solution and 0.1N oxalic acid as standard solution. **3)** To determine the strength of oxalic acid by titration with KMnO4. **4)** To determine percentage purity of Ferrous Ammonium Sulphate (FAS) by titration with $KMnO_4$. **5)** To determine strength of FAS by titration with $K_2Cr_2O_7$using internal indicator. **6)** To determine strength of $K_2Cr_2O_7$by titration with FAS using internal		

	indicator. **7)** Estimation of copper (II) in commercial copper sulphate sample by iodometric titration.		
B)	**Gravimetric Analysis** Estimation of Ba^{2+} as $BaSO_4$, Fe^{3+} as Fe_2O_3 using china and silica crucible and Ni^{2+} as Ni-DMG using sintered glass crucible		
C)	**Exercise-II: Physical Chemistry experiments**	**87**	
	1) To determine refractive index by Abbe's refractometer. **2)** To construct phase diagram of phenol-water system and to determine consolute temperature for the system. **3)** To determine transition temperature of $MnCl_2.4H_2O$. **4)** To study kinetics of hydrolysis of methyl acetate catalyzed by acid. **5)** To study kinetics of saponification of ethyl acetate by NaOH. (Equal concentration) **6)** To determine partition coefficient of benzoic acid between benzene and water. **7)** To determine partition coefficient of iodine between CCl_4/Kerosene and water. **8)** To determine solubility of benzoic acid at different temperature and heat of solution.		

Teaching Plan for Theory (Fourth Semester) **Class : BSc Part II**

Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	**Unit- I**	***14***	
A]	**Chemistry of elements of transition series:** Definition of transition elements. General characteristics of transition elements. Comparative study of first transition series elements (3d) with reference to following properties: **(i)** Electronic configuration **(ii)** Atomic and ionic size **(iii)** Ionization energy **(iv)** Metallic nature **(v)** Oxidation states **(vi)** Magnetic properties **(vii)** Color of salts **(viii)** Catalytic properties **(ix)** Complex formation behavior. Study of 4d and 5d series elements-Electronic configuration. Comparison of 3d series elements with 4d and 5d series elements with respect to size, oxidation states, magnetic properties and color.	10	
B]	**Extraction of elements:** Principles involved in extraction of elements. Major methods of extraction of elements. Factors affecting choice of extraction method. Thermodynamics of reduction processes-Ellingham diagrams for oxides and importance of this diagram (only preliminary ideas).	03	
C]	**Unit Test**	01	

Teaching Plan for Practical (Fourth Semester) **Class : BSc Part II**

Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	**Exercise I: Inorganic estimations**	**93**	
	1) Chromatographic separation of binary mixture containing Cu(II), Co(II) and Ni(II) ions by paper chromatography and determination of Rf values. **2)** Estimation of Zn(II) by complexometric titration. **3)** To determine the strength of unknown calcium salt solution by complexometric titration. **4)** Estimation of hardness of water by complexometric titration. **5)** Colorimetric or spectrophotometric estimation of Cu(II) in commercial copper sulphate sample as ammonia complex. **6)** To determination of concentration of unknown $KMnO_4$ solution from standard solutions of $KMnO_4$ by colorimetrically or spectrophotometrically.		
02	**Exercise II: Organic Chemistry Practicals**	**93**	
	1. Isolation of casein from milk. **2**. Isolation of nicotine from tobacco leaves. **3**. Isolation of caffine from tea leaves. **4**. Isolation of lycopene from tomato juice. **5**. Estimation of glucose. **6**. Estimation of acetamide.		

	7. Determination of equivalent weight of an organic acid.		
Teaching Plan for Theory (Fifth Semester)		**Class : BSc Part III**	
Sr. No.	**Topic to be covered**	**Lectures Available**	**Lectures Utilized**
	Unit-I & Unit-II	**29**	
01	**Unit-I**	**15**	
A]	**Coordination Compounds:** Important terms namely molecular or addition compounds, double salts, complex salts, complex ion, ligand, coordination number, central metal ion, etc. Werner's theory of coordination and its experimental verification on the basis of conductance data and formation of AgCl precipitate in case of cobaltammines. Sidgwick's electronic interpretation and its drawbacks, effective atomic number. IUPAC rules for nomenclature of coordination compounds. Structural isomerism-ionization, linkage and coordination in complexes. Geometrical isomerism in octahedral complexes of the type Ma4b2, Ma3b3 , Ma2b2c2, Ma4 bc, M(AA)2b2 . Square planar complexes of the type Ma2b2 and Ma2bc. Optical isomerism in octahedral complexes of type Ma2b2c2, Mabcdef, M(AA)3, M(AA)2b2 and tetrahedral complexes of the type Mabcd and M(AA)2 . Optical isomerism in square planar complexes. Valence bond theory as applied to structure and bonding in complexes of 3d-series elements (Only 4 and 6 coordinates complexes). Inner and outer orbital complexes. Magnetic properties of complexes of 3d series elements. Limitations of VB theory.	11	
B]	**Chelates :** Definition, classification and applications of chelates in analytical chemistry. Stability of chelate with special reference to chelate effect.	03	
C]	**Unit Test**	01	
02	**Unit II**	**14**	
A]	**Crystal Field Theory (CFT):** Postulates of CFT, Crystal field splitting in octahedral, distorted octahedral, square planar tetrahedral complexes, concept of CFSE, high spin and low spin complexes on the basis of Ä0 and pairing energy, distribution of electrons in t2g and eg orbitals in high spin and low spin octahedral complexes. Factor affecting magnitude of crystal field splitting in octahedral complexes.	07	
B]	**Electronic Spectra of Transition Metal Complexes :** Introduction to spectra, selection rules for d-d transitions, spectroscopic terms-determination of ground term symbols for d^1 to d^{10},spectra of d^1 and d^9 octahedral complexes, Orgel diagram for d^1 and d^9 states, electronic spectrum of $[Ti(H_2O)_6]^{3+}$ complex ion. Spectrochemical series.	06	
C]	**Unit Test**	01	
Teaching Plan for Practical (Fifth Semester)		**Class : BSc Part III**	
Sr. No.	**Topic to be covered**	**Lectures Available**	**Lectures Utilized**
01	**Exercise 1: Inorganic Preparations**	**87**	
	1. Preparation of tetraamminecopper(II)sulphate. **2**. Preparation of hexaamminenickel(II)chloride. **3**. Preparation of potassiumtrioxalate aluminate(III). **4**. Preparation of Prussian blue. **5**. Preparation of chrome alum. **6**. Preparation of sodium thiosulphate and dithionite. (Comment on VB structure, magnetic properties and color of 1, 2 and 3 complexes)		
02	**Exercise II: Physical Chemistry experiments**	**87**	
	1. To determine strength of given HCl solution conductometrically. **2**. To determine strength of given CH_3COOH solution conductometrically. **3**. To determine strength of given HCl solution potentiometrically. **4**. To determine strength of HCl and CH_3COOH in a given mixture conductometrically. **5**. To determine redox potential of Fe^{+2}/Fe^{+3} system potentiometrically. **6**. To determine molecular weight by Rast's method. **7**. To determine specific rotation of optically active compound by Polarimeter.		

Teaching Plan for Theory(Sixth Semester)		Class : BSc Part III	
Sr. No.	**Topic to be covered**	**Lectures Available**	**Lectures Utilized**
	Unit-III & Unit- IV	**31**	
01	**Unit-III**	**16**	
A]	**Electronic spectroscopy:** Introduction, theory, instrumentation, types of electronic transitions, presentation of electronic spectrum, terms used- chromophore, auxochrome, bathochromic shift, hypsochromic shift, hyperchromic effect and hypochromic effect , Applications in the structure determination of dienes, á,â-unsaturated aldehydes and ketones, aromatic compounds.	07	
B]	**Infrared spectroscopy:** Introduction, Types of molecular vibrations- stretching and bending, Calculation of vibrational modes, force constant, instrumentation, interpretation of IR, H-stretching, triple bond, double bond and Finger print regions, IR spectra of H_2O, CO_2, C_2H_5OH, CH_3CHO, CH_3COOH and CH_3CONH_2.	08	
C]	**Unit Test**	01	
02	**Unit IV**	**15**	
A]	**NMR spectroscopy:** Introduction, spin quantum number, instrumentation, Aspects of NMR- number of signals(equivalent and non-equivalent protons), positions of signals(chemical shift), intensities of signals, splitting of signals(spin-spin coupling), coupling constant, applications	08	
B]	**Mass spectroscopy:** Introduction, theory, instrumentation-(ion sources), Mass spectra of neopentane and methanol, molecular ion peak, base peak, metastable peak, Rules of fragmentation, applications.	06	
C]	**Unit Test**	01	

Teaching Plan for Practical (Sixth Semester)		Class : BSc Part III	
Sr. No.	**Topic to be covered**	**Lectures Available**	**Lectures Utilized**
01	**Exercise I: Organic Chemistry Experiments**	**93**	
	1. Estimation of formaldehyde. **2**. Estimation of glycine. **3**. Estimation of ascorbic acid (vitamine C). **4**. Estimation of phenol by bromination method. **5**. Estimation of aniline by bromination method. **6**. Estimation of urea by hypobromite method. **7**. Estimation of unsaturation by bromination method. **8**. Determination of iodine value of oil. **9**. Determination of equivalent weight of an ester by saponification. **10**. Separation of a mixture of methyl orange and methylene blue by thin layer chromatography (using benzene). **11.** Separation of a mixture of 2,4-dinitro phenyls of acetaldehyde and benzaldehyde by thin layer chromatography(using benzene : petroleum ether = 3:1). **12.** Separation of a mixture of dyes by thin layer chromatography (using cyclohexane:ethyl acetate = 8.5:1.5). **13.** Separation of a mixture of 2,4-dinitro phenyls of acetaldehyde and benzaldehyde by thin layer chromatography (using toluene: petroleum ether).		
02	**Exercise II: Physical Chemistry experiments**	**93**	
	1. To determine dissociation constant of weak acid by conductometry. **2**. To determine dissociation constant of weak acid by potentiometry. **3**. To study potentiometric titration of KCl and $AgNO_3$. **4**. To determine dissociation constant of dibasic acid by pH-metry. **5**. To verify Beer's Lambart's law using $KMnO_4$ /$K_2Cr_2O_7$. **6**. To determine pH of a soil sample by pH-meter. **7**. To determine solubility and solubility product of sparingly soluble salts conductometrically. **8**. To study strong acid and strong base titration by pH-metry. Distribution of Marks for Practical Examination		

ACADEMIC ACTION PLAN 2021-2022

Department of Chemistry

01	Name of the Department		Department of Chemistry
02	Name of faculty members with qualification		N.D.Dahake (M.Sc., SET, PhD.-Reg.), Dr. V. D. Ingale (M.Sc., PhD) K.P. Sabale (M.Sc., NET, PhD. - Reg.) N.S. Shelke (M.Sc., SET, PhD.-Reg.)
03	Refresher Course/ Orientation Program/ Short Term Course/ Any Others		04
04	Research Publication	i) Book Publication	02
		ii) Chapter in Book	04
		iii) Research Articles in UGC CARE listed Journal	04
		iv) Research Paper in conference/ seminar (Presentation)	04
		v) Research Paper in conference/ seminar proceeding (Publication)	04
		vi) Conference/ Seminar/ Workshop (To be attended)	04
		vii) Resource Person/ Chairperson	04
		viii) Ph. D registered/Ongoing/Awarded	NIL
		xv) Ph. D guide and no. of students registered /to be registered under	NIL
		xvi) Minor/ Major Project	01
05	Conference/ Seminar/ Workshop (To be organized)		02
06	Collaboration		02
07	Consultancy		02
08	Extension Activities and Social Responsibility		02

09	Academic Activities to be organized (Guest lecture, class room seminar, contest, education tour, celebration of birth and death anniversary of national leaders, no. of visiting & guest faculties etc.)	01 Each
10	Innovative and Best Practices Best Practice should have:- • Name of the title of the practice. • Introduction • Objectives • Theme/ context • The practice • Evidence of success • Problems encountered and resources required	1.TDS measurement of water of nearby villages 2.P^H measurement of nearby fields.
11	Any other if you wish to add	NIL
12	Curriculum Enrichment (Draft the letter to the concerned BoS of University)	NIL
13	Student Enrolment & Profile	

प्रा.एन.डी. उगले
सहा.प्राध्यापक व विभाग प्रमुख
कला,वाणिज्य महाविद्यालय,
बरक्ट बकाल

SATPUDA EDUCATION SOCIETY, JALGAON (JAMOD)'S

ARTS & COMMERCE COLLEGE

WARVAT BAKAL DIST- BULDANA

DEPARTMENT OF BOTANY

DEPRTMENTAL ACADEMIC CALENDAR 2021-22

Academic Calendar (2021-22)

Sr. No.	Activity	Commencement	Cessation	Total Days
01	First Session	30/08/2021	15/01/2022	105
02	Admission Process	01/09/2021	18/09/2021	14
03	Teaching Days (Odd Semesters)	27/09/2021	15/01/2022	**83**
04	Induction Program for First Year Students	20/09/2021	25/09/2021	06
05	First Term Vacation	01/11/2021	06/11/2021	06
06	Odd Semesters University Exam	17/01/2022	05/02/2022	19
07	Second Session	17/01/2022	31/05/2022	109
08	Teaching Days (Even Semesters)	07/02/2022	31/05/2022	**90**
09	Second Term Vacation	01/06/2022	30/06/2022	26
10	Even Semesters University Exam	01/06/2022	30/06/2022	30
11	Commencement of next Academic session 2022-23	01/07/2022		

Sr. No.	Public Holiday	Day & Date
01	Ganesh Chaturthi	Friday, 10th September, 2021
02	Gauri Pujan	Monday, 13th September, 2021
03	Mahatma Gandhi Jayanti	Saturday, 02 October, 2021
04	Sarvapitri Amavasya	Wednesday, 6th October 2021
05	Dasara	Friday, 15th October 2021
06	Id E- Milad	Tuesday, 19th October, 2021
07	Gurunanak Jayanti	Friday, 19th November, 2021
08	Christmas	Saturday, 25 December, 2021
09	Makar Sankranti	Friday, 14th January, 2022
10	Republic Day	Wednesday, 26 January, 2022
11	Chhatrapati Shivaji Maharaj Jayanti	Saturday, 19 February, 2022
12	Mahashivratri	Tuesday, 1st March, 2022
13	Holi (Second Day)	Friday, 18th March, 2022
14	Gudhi Padwa	Saturday, 02nd April, 2022
15	Dr. Babasaheb Ambedkar Jayanti	Thursday, 14thApril,2022
16	Good Friday	Friday, 15th April, 2022

Time Table:

Name: Mr. S. S. Mhasal

Faculty: SCIENCE Subject: BOTANY

Period	1	2	3	4	5	6
	Practical	Theory				Practical
Day/ Time	8:30 to 10:54	11:00 to 11:48	11:48 to 12:36	12:36 to 1:24	1:34 to 2:22	2:30 to 4:54
MON			III (T)			I (Pract.) Batch:(C+D)
TUE	I (Pract.) Batch:(A+B)					
WED						II (Pract.) Batch:(C+D+E)
THUS	II (Pract.) Batch:(A+B)		I (T)			
FRI		I (T)				III (Pract.) Batch:(C+D+E)
		7:30 - 8:18	8:18 - 9:06	9:16 - 10:04	10:04-12:28	12:28 -2:52 2.30-4.54
SAT			I (T)			III (Pract.) Batch:(C+D+E)

Allotted Workload

Subject: BOTANY Year: 2021-22

Sr. No.	Class	Work load		
		Lecture (Theory)	Practical	Paper Allotted
1	BSc. - I	03	2 × 3 = 06	1
2	BSc. – II	--	2 × 3 = 06	-
3	BSc. - III	01	2 × 3 = 06	1

Total Workload per week 04 THEORY + 06 PRACTICALS (17 Hrs. 36 min.)

Teaching Periods Available per month during the session 2021-22

Faculty: SCIENCE Subject: BOTANY

		ODD SEMESTER						EVEN SEMESTER				
Class	**Periods**	**SEP - 2021**	**OCT - 2021**	**NOV -2021**	**DEC -2021**	**JAN - 2022**	**Total**	**FEB-2022**	**MAR-2022**	**APR - 2022**	**MAY-2022**	**Total**
BSc-I	**Theory**	**01**	**12**	**08**	**13**	**09**	**43**	**11**	**12**	**11**	**12**	**46**
	Practical	**06**	**21**	**24**	**24**	**18**	**93**	**24**	**24**	**24**	**24**	**96**
BSc – II	**Theory**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
	Practical	**06**	**24**	**18**	**30**	**18**	**96**	**24**	**30**	**18**	**24**	**96**
BSc-III	**Theory**	**01**	**04**	**04**	**04**	**03**	**16**	**04**	**04**	**04**	**04**	**16**
	Practical	**-**	**24**	**15**	**24**	**18**	**81**	**21**	**21**	**24**	**24**	**90**

Teaching Plan for Theory (First Semester)		**Class : BSc. Part I**	
Sr. No.	Topic to be covered	Lectures Available	Duration
01	**Unit-IV : Bryophyte**	13	September 2021 to October 2021
02	**Unit-V : Pteridophyte**	15	November 2021 to December 2021
03	**Unit-VI : Application of Microbes Cryptogams**	15	December 2021 to January 2022
Teaching Plan for Practical (First Semester)		**Class : BSc. Part I**	
Sr. No.	Topic to be covered	Lectures Available	Duration
01	**ALGAE**	27	September 2021 to October 2021
02	**FUNGI AND PLANT PATHOLOGY**	24	November2021
03	**BRYOPHYTES**	24	December 2021
04	**PTERIDOPHYTES**	18	January 2022
Teaching Plan for Theory (Second Semester) Class : BSc. I			
Sr. No.	Topic to be covered	Lectures Available	Duration
01	**UNIT-IV: Morphology**	15	February 2022 to March 2022
02	**UNIT-V: Morphology and Utilization of Plants**	14	March 2022 April 2022
03	**UNIT-VI: Utilization of Plants**	14	April 2022 to May 2022
Teaching Plan for Practical (Second Semester)		**Class : BSc. I**	
Sr. No.	Topic to be covered	Lectures Available	Duration
01	Gymnosperms: Morphology and anatomy of the following members-Pinus.	09	February 2022
02	Gymnosperms: Morphology and anatomy of the following members Gnetum	06	February 2022
03	Preparation of double stained permanent mount of Pinus stem, needle.	09	February 2022
04	Preparation of double stained permanent mount of Gnetum stem and leaf.	09	March 2022

05	Detailed morphological study of types of root with its modifications.	09	March 2022
06	Detailed morphological study of types of stem with its modifications.	06	March 2022
07	Detailed morphological study of types of leaf with its modifications.	09	April 2022
08	Study of Forms of corolla.	09	April 2022
09	Study of Types of placentation.	06	April 2022
10	Study of Morphology of fruits.	09	May 2022
11	Morphology of plant parts used and medicinal plants prescribed in syllabi	09	May 2022
12	Utilization of plants: Spices, fiber yielding plants and food plants prescribed in syllabi.	06	May 2022

Teaching Plan for Practical (Third Semester) Class : BSc. II

Sr. No.	Topic to be covered	Lectures Available	Duration
01	Embryology of Angiosperms: Observation of wide range of flowers available in the locality and methods of their pollination.	06	September 2021
02	Study through permanent slides of T.S. of anthers, microsporogenesis, L.S. of ovule, types of endosperms and embryo of Capsella .	06	October 2021
03	Mounting of T.S. of anthers, Pollen grains and pollinia.	12	October 2021
04	Anatomy of angiosperms : Preparation of double stained slides of root. (Dicot. & Monocot.)	06	October 2021
05	Anatomy of angiosperms : Preparation of double stained slides of stem. (Dicot. & Monocot.)	06	November 2021
06	Anatomy of angiosperms : Preparation of double stained slides of leaf. (Dicot. & Monocot.)	06	November 2021
07	Taxonomic description of family,**Verbanaceae** – *Lantana.*	06	November 2021
08	Taxonomic description of family,**Malvaceae**-*Hibiscus.*	06	December 2021
09	Taxonomic description of family,**Fabaceae**-*Crotalaria.*	06	December 2021
10	Taxonomic description of family,**Caesalpinoidae**-*Caesalpinea.*	06	December 2021
11	Taxonomic description of family,**Asteraceae**-*Tridax.*	06	December 2021
12	Taxonomic description of family,**Apiaceae**-*Corindrum.*	06	December 2021
13	Taxonomic description of family,**Apocynaceae**-*Vinca.*	03	January 2022
14	Taxonomic description of family,**Asclepiadaceae**-*Calatropis.*	03	January 2022
15	Taxonomic description of family,**Solanaceae**-*Datura.*	03	January 2022
16	Taxonomic description of family,**Lamiaceae**-	03	January 2022

	Oscimum.		
17	Group discussion, record book checking, certification	03	January 2022
Teaching Plan for Practical (Fourth Semester)		**Class : BSc. II**	
Sr. No.	Topic to be covered	Lectures Available	Duration
01	Squash preparation for the study of various stages of mitosis	12	February 2022
02	Smear preparation for the study of various stages of meiosis.	12	February 2022
03	To prove Mendel's Monohybrid ratio.	06	March 2022
04	To prove Mendel's Dihybrid ratio.	06	March 2022
05	Problems based on Interaction of genes	18	March 2022
06	To demonstrate test for glucose in grapes, & sucrose in cane sugar / beet root.	12	April 2022
07	To demonstrate test for protein.	06	April 2022
08	To demonstrate the lipid test in oily seeds.	06	May 2022
09	To demonstrate the test for starch / cellulose.	06	May 2022
10	To demonstrate the activity of enzyme amylase from germinating Wheat grains.	12	May 2022
Teaching Plan for Theory (Fifth Semester)		**Class : BSc. III**	
Sr. No.	Topic to be covered	Lectures Available	Duration
01	**Plant Water Relations**	19	September 2021 to January 2022
Teaching Plan for Practical (Fifth Semester)		**Class : BSc. III**	
Sr. No.	Topic to be covered	Lectures Available	Duration
01	To study the effect of temperature and organic solvent on permeability of plasma membrane.	03	October 2021
02	To determine the path of water (ascent of sap)	06	October 2021
03	To determine the rate of transpiration by Ganongs photometer.	06	October 2021
04	To determine rate of photosynthesis under varying quality of light and CO_2 concentration.	03	October 2021
05	Separation of chloroplast pigments by paper chromatography method.	06	October 2021
06	To study antagonism of salts.	09	November 2021
07	To study effect of IAA and Gibberellins on seed germination.	03	November 2021
08	To demonstrate exo and endosmosis.	03	November 2021
09	To demonstrate fermentation.	03	December 2021
10	To demonstrate transpiration by Bell jar.	03	December 2021
11	To demonstrate anaerobic respiration in germinating seeds.	03	December 2021
12	To demonstrate the phenomenon of nastic movement with help of *Mimosa pudica*	03	December 2021
13	Study of morphological and anatomical adaptations in hydrophytes – *Hydrilla*and*Nymphaea.*	06	December 2021
14	Study of morphological and anatomical adaptations in xerophytes - *Nerium, Casuarina.*	06	December 2021

15	Determination of pH of different soils and water samples by pH papers	09	January 2022
16	Study of meteorological instruments -Rain gauge, Hygrometer.	09	January 2022
Teaching Plan for Theory(Sixth Semester)		**Class : BSc. III**	
Sr. No.	Topic to be covered	Lectures Available	Duration
01	**Unit-I : DNA the genetic material :**	16	February 2022 to May 2022
Teaching Plan for Practical (Sixth Semester)		**Class : BSc. III**	
Sr. No.	Topic to be covered	Lectures Available	Duration
01	Isolation of DNA by crude method	18	February 2022
02	Demonstration of Centrifugation	03	February 2022
03	Working Principle and application of Autoclave	12	March 2022
04	Working Principle and application of Laminar Air Flow	09	March 2022
05	Cleaning and Sterilization of Glassware	12	April 2022
06	Demonstration of technique of Micropropogation	12	April 2022
07	Preparation of Artificial Seed.	09	May 2022
08	Pollen viability test.	09	May 2022
09	Group discussion, record book checking, certification	06	May 2022

Time Table:

Name: Dr. Kishor B. Theng

Faculty: SCIENCE Subject: BOTANY

Period	1	2	3	4	5	6
	Practical	Theory				Practical
Day/ Time	8:30 to 10:54	11:00 to 11:48	11:48 to 12:36	12:36 to 1:24	1:34 to 2:22	2:30 to 4:54
MON	I (Pract.) Batch:(A+B)		I (T)			
TUE		I (T)				I (Pract.) Batch:(C+D)
WED	II (Pract.) Batch:(A+B)	I (T)				
THUS		III(T)				II (Pract.) Batch:(C+D+E)
FRI	III (Pract.) Batch:(A+B)			III(T)		I (Pract) A -2
		7:30 - 8:18	8:18 - 9:06	9:16 - 10:04	10:04-12:28	12:28 -2:52 2.30-4.54
SAT						III (Pract.) Batch:(C+D+E)

Allotted Workload

Subject: BOTANY Year: 2021-22

Sr. No.	Class	Work load		
		Lecture (Theory)	Practical	Paper Allotted
1	BSc. - I	03	2 × 3 = 06	1
2	BSc. – II	--	2 × 3 = 06	-
3	BSc. - III	02	2 × 3 = 06	1

Total Workload per week (Th +Pract.): 05 (The) + 18 (Pract.) = 23 (18 Hrs. 15min.)

Teaching Periods Available per month during the session 2021-22

Faculty: SCIENCE Subject: BOTANY

		ODD SEMESTER						EVEN SEMESTER				
Class	Periods	SEP-2021	OCT -2021	NOV-2021	DEC -2021	JAN -2022	**Total**	FEB-2022	MAR-2022	APR -2022	MAY-2022	Total
BSc-I	Theory	03	10	11	13	06	**43**	10	13	12	12	**47**
	Practical	06	**21**	**24**	**27**	**12**	**90**	**21**	**24**	**24**	**24**	**93**
BSc –II	Theory	--	--	--	--	--	**--**	--	--	--	--	**--**
	Practical	06	21	18	30	12	**87**	18	30	21	24	**93**
BSc- III	Theory	01	08	05	10	03	**27**	06	08	07	08	**29**
	Practical	**06**	**24**	**15**	**24**	**09**	**78**	**15**	**21**	**24**	**24**	**84**

Teaching Plan for Theory (First Semester) **Class : BSc. Part I**

Sr. No.	Topic to be covered	Lectures Available	Duration
01	**UNIT-I : Plant Diversity**	14	September 2021 to November 21
02	**UNIT-II: Algae**	14	November 2021 to December 2021
03	**UNIT-III : Fungi**	15	December 2021 to January 2022

Teaching Plan for Practical (First Semester) **Class : BSc. Part I**

Sr. No.	Topic to be covered	Lectures Available	Duration
01	**ALGAE :-** Preparation of temporary mount, identification with reason of following algal materials- Oedogonium, Hydrodictyon	**06**	September 2021
02	Preparation of temporary mount, identification with reason of following algal materials- Chara	**06**	October 2021
03	Preparation of temporary mount, identification with reason of following algal materials- Vaucheria	**03**	October 2021
04	Preparation of temporary mount, identification with reason of following algal materials- Ectocarpus	**03**	October 2021
05	Preparation of temporary mount, identification with reason of following algal materials- Sargassum	**06**	October 2021
06	Preparation of temporary mount, identification with reason of following algal materials- Batrachospermum	**06**	October 2021
07	**FUNGI AND PLANT PATHOLOGY**	**06**	November 2021

	Study of genus Albugo&Uncinula		
08	Study of genus Penicillium&Agaricus	**06**	November 2021
09	Study of genus Puccinia&Cercospora	**06**	November 2021
10	Study of Crustose, Fruticose& Foliose Liche	**06**	November 2021
11	Study of symptoms of fungal, viral, bacterial and Mycoplasmal diseases	**06**	December 2021
12	Collection of fungal specimen & infected plant part from local region	**06**	December 2021
13	Demonstration of Mushroom Cultivation Technology	**03**	December 2021
14	**BRYOPHYTES** Study of external and anatomy features of vegetative and reproductive parts of genera – Marchantia, Anthoceros	**03**	December 2021
15	Study of external and anatomy features of vegetative and reproductive parts of genera Funaria, Polytrichum and Sphagnum.	**06**	December 2021 & January 2022
16	**PTERIDOPHYTES** Study of Pteridophyte external and anatomy features of vegetative and reproductive parts of genera –Lycopodium& Equisetum	**03**	January 2022
17	Study of Pteridophyte external and anatomy features of vegetative and reproductive parts of genera – Osmunda&Selaginella	**03**	January 2022
18	Study of Pteridophyte external and anatomy features of vegetative and reproductive parts of genera – Adiantum&Marsilea	**03**	February 2022
19	Study of fossil specimen.	**03**	February 2022

Teaching Plan for Theory (Second Semester) **Class: BSc. I**

Sr. No.	Topic to be covered	Lectures Available	Duration
01	**UNIT-I : Palaeobotany**	15	February 2022 to March 2022
02	**UNIT-II : Gymnosperms**	15	March 2022 to April 2022
03	**UNIT-III : Morphology**	17	April 2022 to May 2022

Teaching Plan for Practical (Second Semester) **Class: BSc. I**

Sr. No.	Topic to be covered	Lectures Available	Duration
01	Gymnosperms: Morphology and anatomy of the -Pinus.	**09**	February 2022
02	Gymnosperms: Morphology and anatomy of the Gnetum	**09**	February 2022
03	Preparation of double stained permanent mount of Pinus stem, needle.	**09**	February and March 2022
04	Preparation of double stained permanent mount of Gnetum stem and leaf.	**09**	March 2022
05	Detailed morphological study of types of root with its modifications.	**09**	March 2022
06	Detailed morphological study of types of stem with its modifications.	**09**	April 2022
07	Detailed morphological study of types of leaf with its modifications.	**06**	April 2022
08	Study of Forms of corolla.	**06**	April 2022
09	Study of Types of placentation.	**06**	April, May 2022
10	Study of Morphology of fruits.	**06**	May 2022

11	Morphology of plant parts used and medicinal plants prescribed in syllabi	**06**	May 2022
12	Utilization of plants: Spices, fiber yielding plants and food plants prescribed in syllabi.	**06**	May 2022
13	Record checking, certification & group discussion	**03**	May 2022
Teaching Plan for Practical (Third Semester)			**Class : BSc. II**
Sr. No.	Topic to be covered	Lectures Available	Duration
01	Embryology of Angiosperms: Observation of wide range of flowers available in the locality and methods of their pollination.	**06**	September 2021
02	Study through permanent slides of T.S. of anthers, microsporogenesis, L.S. of ovule, types of endosperms and embryo of Capsella .	**06**	October 2021
03	Mounting of T.S. of anthers, Pollen grains and pollinia.	**06**	October 2021
04	Anatomy of angiosperms : Preparation of double stained slides of root. (Dicot. & Monocot.)	**06**	October 2021
05	Anatomy of angiosperms : Preparation of double stained slides of stem. (Dicot. & Monocot.)	**06**	October, November 2021
06	Anatomy of angiosperms : Preparation of double stained slides of leaf. (Dicot. & Monocot.)	**06**	November 2021
07	Taxonomic description of family,**Verbanaceae** – *Lantana.*	**06**	November 2021
08	Taxonomic description of family,**Malvaceae**-*Hibiscus.*	**06**	November, December 2021
09	Taxonomic description of family,**Fabaceae**-*Crotalaria.*	**06**	December 2021
10	Taxonomic description of family,**Caesalpinoidae**- *Caesalpinea.*	**06**	December 2021
11	Taxonomic description of family,**Asteraceae**-*Tridax.*	**06**	December 2021
12	Taxonomic description of family,**Apiaceae**-*Corindrum.*	**06**	December 2021
13	Taxonomic description of family,**Apocynaceae**-*Vinca.*	**03**	December 2021
14	Taxonomic description of family,**Asclepiadaceae**-*Calatropis*.	**03**	January 2022
15	Taxonomic description of family,**Solanaceae**-*Datura.*	**03**	January 2022
16	Taxonomic description of family,**Lamiaceae**-*Oscimum.*	**03**	January 2022
17	Record checking, certification & group discussion	**03**	January 2022
Teaching Plan for Practical (Fourth Semester)			**Class : BSc. II**
Sr. No.	Topic to be covered	Lectures Available	Duration
01	Squash preparation for the study of various stages of mitosis	**12**	February 2022
02	Smear preparation for the study of various stages of meiosis.	**12**	February, March 2022
03	To prove Mendel's Monohybrid ratio.	**06**	March 2022

04	To prove Mendel's Dihybrid ratio.	**06**	March 2022
05	Problems based on Interaction of genes	**30**	March, April 2022
06	To demonstrate test for glucose in grapes, & sucrose in cane sugar / beet root.	**06**	April, May 2022
07	To demonstrate test for protein.	**06**	May 2022
08	To demonstrate the lipid test in oily seeds.	**06**	May 2022
09	To demonstrate the test for starch / cellulose.	**06**	May 2022
10	To demonstrate the activity of enzyme amylase from germinating Wheat grains.	**03**	May 2022

Teaching Plan for Theory (Fifth Semester) **Class : BSc. III**

Sr. No.	Topic to be covered	Lectures Available	Duration
01	**Unit - II: Metabolism-**	14	September 2021 to November 2021
02	**Unit - III: Metabolism and growth**	13	December 2021 to January 2022

Teaching Plan for Practical (Fifth Semester) **Class : BSc. III**

Sr. No.	Topic to be covered	Lectures Available	Duration
01	To study the effect of temperature and organic solvent on permeability of plasma membrane.	06	September 2021
02	To determine the path of water (ascent of sap)	06	October 2021
03	To determine the rate of transpiration by Ganongs photometer.	06	October 2021
04	To determine rate of photosynthesis under varying quality of light and CO2 concentration.	06	October 2021
05	Separation of chloroplast pigments by paper chromatography method.	06	October 2021
06	To study antagonism of salts.	03	November2021
07	To study effect of IAA and Gibberellins on seed germination.	03	November2021
08	To demonstrate exo and endosmosis.	03	November2021
09	To demonstrate fermentation.	03	November2021
10	To demonstrate transpiration by Bell jar.	03	November2021
11	To demonstrate anaerobic respiration in germinating seeds.	03	December 2021
12	To demonstrate the phenomenon of nastic movement with help of *Mimosa pudica*	06	December 2021
13	Study of morphological and anatomical adaptations in hydrophytes – *Hydrilla*and*Nymphaea.*	06	December 2021
14	Study of morphological and anatomical adaptations in xerophytes –*Nerium, Casuarina.*	06	December 2021
15	Determination of pH of different soils and water samples by pH papers	06	December, January 2022
16	Study of meteorological instruments –Rain gauge, Hygrometer.	03	January 2022
17	Record checking, certification & group	03	January 2022

	discussion		
Teaching Plan for Theory (Sixth Semester)			**Class : BSc. III**
Sr. No.	Topic to be covered	Lectures Available	Duration
01	**Unit-II : Gene Structure and Expression -** Concept of gene, Fine structure of Gene.	14	February 2022 to March 2022
02	**Unit-VI : Applications of Biotechnology**	15	April 2022 to May 2022
Teaching Plan for Practical (Sixth Semester)			**Class : BSc. III**
Sr. No.	Topic to be covered	Lectures Available	Duration
01	Isolation of DNA by crude method	12	February 2022
02	Demonstration of Centrifugation	06	February, March 2022
03	Working Principle and application of Autoclave	12	March 2022
04	Working Principle and application of Laminar Air Flow	12	March, April 2022
05	Cleaning and Sterilization of Glassware	12	April 2022
06	Demonstration of technique of Micropropogation	06	April 2022
07	Preparation of Artificial Seed.	12	May 2022
08	Pollen viability test.	12	May 2022

Time Table

Stream: Science Subject : Botany

Name of Faculty: **Dr. Dnyaneshwar K. Sherkar**

Period	1	2	3	4	5
Day / Time	08:30am-10:54am	11:00 to 11:48	11:48 to 12:36	12:36 to 1:24	02:30pm-04:54pm
MON	I (P)			II (T)	I (P)
TUE			II (T)		
WED		II (T)			II (P)
THUS	II (P)				
FRI					III (P)
Day / Time	07:30am-08:28am	08:28 am to 09:16am	09:16 am to 10:04am		11:40am-02:04pm
SAT			III (T)		III (P)

Allotted Workload

Subject :Botany Year : 2021-22

Sr. No.	Class	No. of periods per week		Paper Allotted
		Lectures	Practical	
1	BSc. I	00	06	
2	BSc. II	03	06	01
3	BSc. III	01	06	01

Total Workload per week (L+P) :- 04 (L)+ 18 (P) = 22 (17 hrs. 36 min.)

Teaching Periods Available per month during the session 2021-22

Stream: Science Subject: Botany

		ODD SEMESTER						EVEN SEMESTER				
Class	Periods	SEPT-21	OCT-21	NOV-21	DEC-21	JAN-22	Total	FEB-22	MAR-22	APR-22	MAY-22	Total
BSc I	Theory	00	00	00	00	00	**00**	00	00	00	00	**00**
	Practical	06	24	24	24	18	**96**	24	24	24	24	**96**
BSc II	Theory	03	10	11	13	09	**46**	10	13	12	12	**47**
	Practical	06	21	18	30	18	**93**	18	30	21	24	**93**
BSc III	Theory	00	04	03	03	04	**14**	02	04	04	04	**14**
	Practical	00	24	15	24	18	**81**	15	21	24	24	**84**

Teaching Plan for Practical (First Semester)		Class : BSc. Part I	
Sr. No.	Topic to be covered	Lectures Available	Duration
01	**ALGAE:-** Preparation of temporary mount, identification with reason of following algal materials-Oedogonium, Hydrodictyon.	12	September 2021
02	Preparation of temporary mount, identification with reason of following algal materials- Vaucheria.	06	October 2021
03	Preparation of temporary mount, identification with reason of following algal materials- Sargassum.	12	October 2021
04	**FUNGI AND PLANT PATHOLOGY** Study of genus Albugo & Uncinula.	12	November 2021
05	Study of genus Puccinia & Cercospora.	12	November2021
06	Study of symptoms of fungal, viral, bacterial and Mycoplasmal diseases.	12	December 2021
07	Demonstration of Mushroom Cultivation Technology.	06	December 2021
08	**BRYOPHYTES** Study of external and anatomy features of vegetative and reproductive parts of genera Funaria, Polytrichum and Sphagnum.	12	January 2022
09	**PTERIDOPHYTES** Study of Pteridophyte external and anatomy features of vegetative and reproductive parts of genera –	06	January 2022

	Osmunda&Selaginella.		
10	Study of fossil specimen.	06	February 2022
Teaching Plan for Practical (Second Semester)		**Class : BSc. I**	
Sr. No.	Topic to be covered	Lectures Available	Duration
01	Gymnosperms: Morphology and anatomy of the -Pinus.	18	February 2022
02	Preparation of double stained permanent mount of Pinus stem, needle.	18	March 2022
03	Detailed morphological study of types of root with its modifications.	18	March 2022
04	Detailed morphological study of types of leaf with its modifications.	12	April 2022
05	Study of Types of placentation.	12	April-May 2022
06	Morphology of plant parts used and medicinal plants prescribed in syllabi	12	May 2022
07	Record Book checking	06	May 2022
Teaching Plan for Theory (Third Semester)			**Class : BSc. II**
Sr. No.	Topic to be covered	Lectures Available	Duration
01	**UNIT IV: Anatomy**	16	September- October 2021
02	**UNIT V: Anatomy**	15	October-November2021
03	**UNIT VI : Embryology-**	15	December 2021 to January 2022
Teaching Plan for Practical (Third Semester)		**Class : BSc. II**	
Sr. No.	Topic to be covered	Lectures Available	Duration
01	Embryology of Angiosperms: Observation of wide range of flowers available in the locality and methods of their pollination.	06	September 2021
02	Study through permanent slides of T.S. of anthers, microsporogenesis, L.S. of ovule, types of endosperms and embryo of Capsella .	06	October 2021
03	Mounting of T.S. of anthers, Pollen grains and pollinia.	06	October 2021
04	Anatomy of angiosperms : Preparation of double stained slides of root. (Dicot. & Monocot.)	06	October 2021
05	Anatomy of angiosperms : Preparation of double stained slides of stem. (Dicot. & Monocot.)	06	October- November 2021
06	Anatomy of angiosperms : Preparation of double stained slides of leaf. (Dicot. & Monocot.)	06	November 2021
07	Taxonomic description of family,**Verbanaceae –** *Lantana.*	06	November 2021
08	Taxonomic description of family,**Malvaceae**- *Hibiscus.*	06	November- December 2021
09	Taxonomic description of family,**Fabaceae**- *Crotalaria.*	06	December 2021
10	Taxonomic description of family,**Caesalpinoidae**- *Caesalpinea.*	06	December 2021
11	Taxonomic description of family,**Asteraceae**- *Tridax.*	06	December 2021
12	Taxonomic description of family,**Apiaceae**- *Corindrum.*	06	December 2021
13	Taxonomic description of family,**Apocynaceae**- *Vinca.*	03	December 2021
14	Taxonomic description of family,**Asclepiadaceae**- *Calatropis.*	03	January 2022
15	Taxonomic description of family,**Solanaceae**- *Datura.*	03	January 2022
16	Taxonomic description of family,**Lamiaceae**-*Oscimum.*	03	January 2022
17.	Practical record checking, certification, group discussion	03	January 2022
Teaching Plan for Theory (Fourth Semester)		**Class : BSc. II**	
Sr.	Topic to be covered	Lectures	Duration

No.		Available	
01	**Unit–IV: Genetics**	*17*	February-March 2022
02	**Unit – V Genetics**	15	March-April 2022
03	**Unit – VI Biochemistry**	15	April-May 2022
Teaching Plan for Practical (Fourth Semester)		**Class : BSc. II**	
Sr. No.	Topic to be covered	Lectures Available	Duration
01	Squash preparation for the study of various stages of mitosis	12	February 2022
02	Smear preparation for the study of various stages of meiosis.	12	February-March 2022
03	To prove Mendel's Monohybrid ratio.	06	March 2022
04	To prove Mendel's Dihybrid ratio.	06	March 2022
05	Problems based on Interaction of genes	30	March- April 2022
06	To demonstrate test for glucose in grapes, & sucrose in cane sugar / beet root.	06	April 2022
07	To demonstrate test for protein.	06	May 2022
08	To demonstrate the lipid test in oily seeds.	06	May 2022
09	To demonstrate the test for starch / cellulose.	06	May 2022
10	To demonstrate the activity of enzyme amylase from germinating Wheat grains.	03	May 2022
Teaching Plan for Theory (Fifth Semester)			**Class : BSc. III**
Sr. No.	Topic to be covered	Lectures Available	Duration
01	**Unit – IV: Plant responses**	14	October, November, December-2021, January-2022
Teaching Plan for Practical (Fifth Semester)			**Class : BSc. III**
Sr. No.	Topic to be covered	Lectures Available	Duration
01	To study the effect of temperature and organic solvent on permeability of plasma membrane.	06	September 2021
02	To determine the path of water (ascent of sap).	06	October 2021
03	To determine the rate of transpiration by Ganongs photometer.	06	October 2021
04	To determine rate of photosynthesis under varying quality of light and CO_2 concentration.	06	October 2021
05	Separation of chloroplast pigments by paper chromatography method.	06	October 2021
06	To study antagonism of salts.	03	November2021
07	To study effect of IAA and Gibberellins on seed germination.	06	November2021
08	To demonstrate exo and endosmosis.	03	November2021
09	To demonstrate fermentation.	03	November2021
10	To demonstrate transpiration by Bell jar.	03	November2021
11	To demonstrate anaerobic respiration in germinating seeds.	03	December 2021
12	To demonstrate the phenomenon of nastic movement with help of *Mimosa pudica*	06	December 2021
13	Study of morphological and anatomical adaptations in hydrophytes – *Hydrilla*and*Nymphaea.*	06	December 2021
14	Study of morphological and anatomical adaptations in xerophytes - *Nerium, Casuarina.*	06	December 2021
15	Determination of pH of different soils and water samples by pH papers	06	December 2021 to January 2022
16	Study of meteorological instruments -Rain gauge,	03	January 2022

	Hygrometer.		
17	Practical record checking, certification, group discussion	03	January 2022
Teaching Plan for Theory(Sixth Semester)			**Class : BSc. III**
Sr. No.	Topic to be covered	Lectures Available	Duration
01	**Unit-IV : Genetic Engineering -**	14	February to May- 2022
Teaching Plan for Practical (Sixth Semester) Class : BSc. III			
Sr. No.	Topic to be covered	Lectures Available	Duration
01	Isolation of DNA by crude method	12	February 2022
02	Demonstration of Centrifugation	06	February-March 2022
03	Working Principle and application of Autoclave	12	March 2022
04	Working Principle and application of Laminar Air Flow	12	March- April 2022
05	Cleaning and Sterilization of Glassware	12	April 2022
06	Demonstration of technique of Micropropogation	06	April 2022
07	Preparation of Artificial Seed.	12	May 2022
08	Pollen viability test.	12	May 2022

Time Table:

Name: Dr. N. K. More

Faculty: SCIENCE Subject: BOTANY

Period	1	2	3	4	5
	Practical	Theory			Practical
Day/ Time	8:30 to 10:54	11:00 to 11:48	11:48 to 12:36	12:36 to 1:24	2:30 to 4:54
MON					I (Pract.) Batch:(C+D)
TUE	I (Pract.) Batch:(A+B)			III (T)	
WED				III (T)	II (Pract.) Batch:(C+D+E)
THUS	II (Pract.) Batch:(A+B)			II (T)	
FRI			II (T)		III (Pract.) Batch:(C+D+E)
		7:30 - 8:18	8:18 - 9:06	9:16 - 10:04	12:28 -2:52 2.30-4.54
SAT		II (T)			III (Pract.) Batch:(C+D+E)

Allotted Workload

Subject: BOTANY Year: 2021-22

Sr. No.	Class	Work load		
		Lecture (Theory)	Practical	Paper Allotted
1	BSc. - I	--	2 × 3 = 06	-
2	BSc. – II	03	2 × 3 = 06	1
3	BSc. - III	02	2 × 3 = 06	1

Total Workload per week (Theory +Practical): 05 (Theory) + 18 (Practical) = 23 (18 Hrs. 15min.)

Teaching Periods Available per month during the session 2021-22

Faculty: SCIENCE Subject: BOTANY

		ODD SEMESTER						EVEN SEMESTER				
Class	Periods	SEP-2021	OCT -2021	NOV-2021	DEC -2021	JAN -2022	**Total**	FEB-2022	MAR-2022	APR -2022	MAY-2022	Total
BSc-I	Theory	--	--	--	--	--	**--**	--	--	--	--	**--**
	Practical	06	**21**	**24**	**24**	**18**	**93**	**24**	**24**	**24**	**24**	**96**
BSc –II	Theory	01	11	08	13	12	**45**	11	12	11	12	**46**
	Practical	06	24	18	30	18	**96**	24	30	18	24	**96**
BSc- III	Theory	02	06	07	09	07	**31**	08	09	08	08	**33**
	Practical	--	**24**	**15**	**24**	**18**	**81**	**21**	**21**	**24**	**24**	**90**

Teaching Plan for Theory (Third Semester)			**Class : BSc. Part II**
Sr. No.	Topic to be covered	Lectures Available	Duration
01	**UNIT-I : Angiosperm Systematics & Biodiversity**	12	September 2021 to October 21
02	**UNIT-II: Angiosperm Systematics**	16	November 2021 to December 2021
03	**UNIT-III : Angiosperm Systematics**	17	December 2021 to January 2022
Teaching Plan for Practical (First Semester)			**Class : BSc. Part I**
Sr. No.	Topic to be covered	Lectures Available	Duration
01	**ALGAE:-** i) Preparation of temporary mount, identification with reason of following algal materials- Oedogonium, Hydrodictyon ii) Preparation of temporary mount, identification with reason of following algal materials- Chara iii) Preparation of temporary mount, identification with reason of following algal materials- Vaucheria iv) Preparation of temporary mount, identification with reason of following algal materials- Ectocarpus v) Preparation of temporary mount, identification with reason of following algal materials- Sargassum vi) Preparation of temporary mount, identification with reason of following algal materials- Batrachospermum	**27**	September-October 2021

02	**FUNGI AND PLANT PATHOLOGY** vii) Study of genus Albugo & Uncinula viii) Study of genus Penicillium & Agaricus ix) Study of genus Puccinia & Cercospora x) Study of Crustose, Fruticose& Foliose Lichen xi) Study of symptoms of fungal, viral, bacterial and Mycoplasmal diseases xii) Collection of fungal specimen & infected plant part from local region xiii) Demonstration of Mushroom Cultivation Technology	**24**	November 2021
03	**BRYOPHYTES** i) Study of external and anatomy features of vegetative and reproductive parts of genera – Marchantia, Anthoceros ii) Study of external and anatomy features of vegetative and reproductive parts of genera Funaria, Polytrichum and Sphagnum.	**24**	December 2021
04	**PTERIDOPHYTES** iii) Study of Pteridophyte external and anatomy features of vegetative and reproductive parts of genera – Lycopodium & Equisetum iv) Study of Pteridophyte external and anatomy features of vegetative and reproductive parts of genera – Osmunda & Selaginella v) Study of Pteridophyte external and anatomy features of vegetative and reproductive parts of genera – Adiantum &Marsilea vi) Study of fossil specimen.	**18**	January 2022

Teaching Plan for Theory (Forth Semester) **Class: BSc. II**

Sr. No.	Topic to be covered	Lectures Available	Duration
01	**UNIT-I : Cell Biology**	15	February 2022 to March 2022
02	**UNIT-II : Cell Biology Structure & Functions of Cell organelles**	14	March 2022 to April 2022
03	**UNIT-III : Genetics**	17	April 2022 to May 2022

Teaching Plan for Practical (Second Semester) **Class: BSc. I**

Sr. No.	Topic to be covered	Lectures Available	Duration
01	Gymnosperms: Morphology and anatomy of the - Pinus.	**09**	February 2022
02	Gymnosperms: Morphology and anatomy of the Gnetum	**06**	February 2022
03	Preparation of double stained permanent mount of Pinus stem, needle.	**09**	February 2022
04	Preparation of double stained permanent mount of Gnetum stem and leaf.	**09**	March 2022
05	Detailed morphological study of types of root with its modifications.	**09**	March 2022

06	Detailed morphological study of types of stem with its modifications.	**06**	March 2022
07	Detailed morphological study of types of leaf with its modifications.	**09**	April 2022
08	Study of Forms of corolla.	**09**	April 2022
09	Study of Types of Placentation.	**06**	April, May 2022
10	Study of Morphology of fruits.	**09**	May 2022
11	Morphology of plant parts used and medicinal plants prescribed in syllabi	**06**	May 2022
12	Utilization of plants: Spices, fiber yielding plants and food plants prescribed in syllabi.	**06**	May 2022
13	Record checking, certification & group discussion	**03**	May 2022
Teaching Plan for Practical (Third Semester)			**Class : BSc. II**
Sr. No.	Topic to be covered	Lectures Available	Duration
01	Embryology of Angiosperms: Observation of wide range of flowers available in the locality and methods of their pollination.	**06**	September 2021
02	Study through permanent slides of T.S. of anthers, Microsporogenesis, L.S. of ovule, types of endosperms and embryo of Capsella .	**06**	October 2021
03	Mounting of T.S. of anthers, Pollen grains and Pollinia.	**12**	October 2021
04	Anatomy of angiosperms: Preparation of double stained slides of root. (Dicots & Monocot.)	**06**	October 2021
05	Anatomy of angiosperms: Preparation of double stained slides of stem. (Dicot. & Monocot.)	**06**	November 2021
06	Anatomy of angiosperms: Preparation of double stained slides of leaf. (Dicot. & Monocot.)	**06**	November 2021
07	Taxonomic description of family, **Verbenaceae** – *Lantana.*	**06**	November 2021
08	Taxonomic description of family **Malvaceae**-*Hibiscus.*	**06**	December 2021
09	Taxonomic description of family, **Fabaceae**-*Crotalaria.*	**06**	December 2021
10	Taxonomic description of family, **Caesalpinoidae**- *Caesalpinea.*	**06**	December 2021
11	Taxonomic description of family, **Asteraceae**-*Tridax.*	**06**	December 2021
12	Taxonomic description of family, **Apiaceae**-*Corindrum.*	**06**	December 2021
13	Taxonomic description of family, **Apocynaceae**-*Vinca.*	**03**	December 2021
14	Taxonomic description of family, **Asclepiadaceae**-*Calatropis*.	**03**	January 2022
15	Taxonomic description of family, **Solanaceae**-*Datura.*	**03**	January 2022
16	Taxonomic description of family, **Lamiaceae**-*Oscimum.*	**03**	January 2022
17	Record checking, certification & group discussion	**03**	January 2022
Teaching Plan for Practical (Fourth Semester)			**Class : BSc. II**

Sr. No.	Topic to be covered	Lectures Available	Duration
01	Squash preparation for the study of various stages of mitosis	**12**	February 2022
02	Smear preparation for the study of various stages of meiosis.	**12**	February, 2022
03	To prove Mendel's Monohybrid ratio.	**06**	March 2022
04	To prove Mendel's Dihybrid ratio.	**06**	March 2022
05	Problems based on Interaction of genes	**18**	March, 2022
06	Problems based on Interaction of genes	**18**	March,2022
07	To demonstrate test for glucose in grapes, & sucrose in cane sugar / beet root.	**12**	April, 2022
08	To demonstrate test for protein.	**06**	April 2022
09	To demonstrate the lipid test in oily seeds.	**06**	May 2022
10	To demonstrate the test for starch / cellulose.	**06**	May 2022
11	To demonstrate the activity of enzyme amylase from germinating Wheat grains.	**12**	May 2022
Teaching Plan for Theory (Fifth Semester)			**Class : BSc. III**
Sr. No.	Topic to be covered	Lectures Available	Duration
01	**Unit-V Ecology and Environments**	15	September 2021 to November 2021
02	**Unit - VI: Ecosystem**	16	December 2021 to January 2022
Teaching Plan for Practical (Fifth Semester)			**Class : BSc. III**
Sr. No.	Topic to be covered	Lectures Available	Duration
01	To study the effect of temperature and organic solvent on permeability of plasma membrane.	03	October 2021
02	To determine the path of water (Ascent of sap)	06	October 2021
03	To determine the rate of transpiration by Ganongs photometer.	06	October 2021
04	To determine rate of photosynthesis under varying quality of light and CO_2 concentration.	03	October 2021
05	Separation of chloroplast pigments by paper chromatography method.	06	October 2021
06	To study antagonism of salts.	09	November2021
07	To study effect of IAA and Gibberellins on seed germination.	03	November2021
08	To demonstrate exo and endosmosis.	03	November2021
09	To demonstrate fermentation.	03	December 2021
10	To demonstrate transpiration by Bell jar.	03	December 2021
11	To demonstrate anaerobic respiration in germinating seeds.	03	December 2021
12	To demonstrate the phenomenon of nastic movement with help of *Mimosa pudica*	03	December 2021
13	Study of morphological and anatomical adaptations in hydrophytes – *Hydrill a* and	06	December 2021

	Nymphaea.		
14	Study of morphological and anatomical adaptations in xerophytes –*Nerium, Casuarina.*	06	December 2021
15	Determination of pH of different soils and water samples by pH papers	09	January 2022
16	Study of meteorological instruments –Rain gauge, Hygrometer.	09	January 2022
Teaching Plan for Theory (Sixth Semester)			**Class : BSc. III**
Sr. No.	Topic to be covered	Lectures Available	Duration
01	**Unit-II Gene Structure and Expression**	17	February 2022 to March 2022
02	**Unit-V : Plant Tissue Culture**	16	April 2022 to May 2022
Teaching Plan for Practical (Sixth Semester)			**Class : BSc. III**
Sr. No.	Topic to be covered	Lectures Available	Duration
01	Isolation of DNA by crude method	18	February 2022
02	Demonstration of Centrifugation	03	February, March 2022
03	Working Principle and application of Autoclave	12	March 2022
04	Working Principle and application of Laminar Air Flow	09	March, April 2022
05	Cleaning and Sterilization of Glassware	12	April 2022
06	Demonstration of technique of Micropropogation	12	April 2022
07	Preparation of Artificial Seed.	09	May 2022
08	Pollen viability test.	09	May 2022
09	Group discussion, record book checking, certification	06	May 2022

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SATPUDA EDUCATION SOCIETY, JALGAON (JAMOD)'S

ARTS & COMMERCE COLLEGE

WARVAT BAKAL DIST- BULDANA

DEPARTMENT OF ZOOLOGY

DEPRTMENTAL ACADEMIC CALENDAR 2021-22

Departmental Academic Calendar (2021-22)

Departmental Academic Calendar (2021-22)

Sr. No.	Activity	Commencement	Cessation	Total Days	
01	First Session	30/08/2021	15/01/2022	105	
02	Admission Process	01/09/2021	18/09/2021	14	
03	Teaching Days (Odd Semesters)	27/09/2021	30/10/2021	26	**83**
		08/11/2021	15/01/2022	57	
04	Induction Program for FirstYear Students	20/09/2021	25/09/2021	06	
05	First Term Vacation	01/11/2021	06/11/2021	06	
06	Summer 2022 Examination	27/01/2022	05/02/2022	19	
07	Second Session	17/01/2022	31/05/2022	109	
08	Teaching Days (Even Semesters)	07/02/2022	31/05/2022	**90**	
08	Second Term Vacation	01/06/2022	30/06/2022	26	
09	Even Semesters University ExamWinter 2022	01/06/2022	01/06/2022	30	
10	Commencement of next Academic session	01/07/2022			

Sr. No.	Public Holiday	Day & Date
01	Ganesh Chaturthi	Friday, 10th September, 2021
02	Gauri Pujan	Monday, 13th September, 2021
03	Mahatma Gandhi Jayanti	Saturday, 02th October, 2021
04	Sarvpitri Amavasya	Wednesday, 06th October, 2021
05	Dasara	Friday, 15th October, 2021
06	Eid A Milad	Tuesday, 19th October, 2021
07	Gurunanak Jayanti	Friday, 19th November, 2021
08	Christmas	Saturday, 25th December, 2021
09	Makarsankranti	Friday, 14th January, 2022
10	Republic Day	Wednesday, 26th January, 2022
11	Chhatrapati Shivaji Maharaj Jayanti	Saturday, 19th February, 2022
12	Mahashivratri	Tuesday, 01st March, 2022
13	Holi (Second Day)	Friday, 18th March, 2022
14	Gudhi Padwa	Saturday, 02nd April, 2022
15	Dr. Babasaheb Ambedkar Jayanti / Mahavir Jayanti	Thursday, 14th April, 2022
16	Good Friday	Friday, 15th April, 2022
17	Ramzan Eid (Eid-Al-Fitur)	Tuesday, 03rd May,2022
18	Buddha Pournima	Monday, 16th May, 2022

Time Table

Dr. M.R.Solanke

Faculty : Science Subject : ZOOLOGY

Period	PRACTICAL	1	2	3	4	PRACTICAL
Day / Time	8.00-10.24	11:00 to 11:48	11:48 to 12:36	12:36 to 1:24	1:34 to 2:22	2:30 to 4.14pm
MON		II (T)				III (P)
TUE	III(P)					
WED						I(P)
THUS	I(P)	II (T)				
FRI				III(T)		II(P)
		7.38 to 8.18	8.18 to 9.06	9.06 to 9.54 am	Practical (batch I) 10.04 to12.28	Practical (II batch) 12.28 to 2.52
SAT				I (T)		II(P)

*T= Theory , P= Practical

Allotted Workload

Subject : Zoology Year : 2021-22

Sr. No.	Class	No. of periods per week			Paper Allotted
		Lectures	Tutorials	Practical	
1	BSc I	01		06	
2	BScII	02		06	
3	BSc III	01		06	

Total Workload per week (L+P) : 05 (L) + 18(P) = 22(17 hrs. and 36min)

Teaching Periods Available per month during the session 2021-22

Faculty : Science (**Dr. M. R. Solanke**) Subject : Zoology

		ODD SEMESTER						**EVEN SEMESTER**				
Class	Periods	SEPT - 21	OCT-21	NOV -21	DEC- 21	JAN- 22	Total	FEB -22	MAR- 22	APR - 22	MAY -22	Total
B Sc. I	Theory	00	04	03	03	03	**13**	02	04	04	04	**14**
	Practical	06	21	18	30	12	**87**	18	30	21	24	**93**
BSc. II	Theory	02	08	07	09	04	**30**	07	09	07	08	**31**
	Practical	00	24	15	24	12	**75**	15	21	24	24	**84**
BSc. III	Theory	00	04	02	05	01	**12**	03	03	04	04	**14**
	Practical	06	21	24	24	12	**87**	21	24	24	24	**93**

Teaching Plan for Theory (First Semester)	Class : B .Sc. Part I		
Sr. No.	**Life and diversity of non-chordate (chapter -Phylum -Porifera mand Phylum-Coelenterata)**	**Lectures Available**	**Lectures Utilized**
1	Phylum Porifera: General Characters	13	
2	Type study: Scypha: a) Habit, Habitat, External Features b) Cell types and Spicules c) Structure and significances of canal system	07	
3	Phylum Coelenterata: General Characters		
4	Type study: Metridium: a) Habits and habitat, External features b) Gastro-vascular cavity c) Mesenteries d) Reproduction	06	
Sr. No.	**Life and diversity of Non-Chordata**	**Lectures Available (87)**	
	Observation, classification up to classes and sketching of following animals		
01	Phylum Protozoa	06	
02	Phylum Porifera	06	
03	Phylum Coelenterate	06	
04	Phylum Helminth	06	
05	Phylum Annelida	06	
06	Phylum Arthropoda	10	
07	Phylum Mollusca	06	
10	Phylum Echinodermata	06	
11	Phylum Hemichordata	05	
12	Permanent slide study	10	
13	Anatomical study through computer aided techniques, video clippings, photographs and other available resources	10	
14	Mountings	10	
Sr. No.	**Cell and developmental biology, (Unit -II)**	**Lectures Available (14)**	
01	Ultrastructure and function of Golgi- complex	04	
02	Ultrastructure and function of Ribosome	03	
03	Ultrastructure and function of Mitochondria	03	
04	Ultrastructure and function of Lysosomes	04	
Sr. No.	**Cell and development Biology**	**Lectures Available (93)**	
01	**Cell Biology**	43	
	Use care and maintenance of microscope	03	
	Bacterial culture and gram staining	03	
	Permeability test using erythrocytes	07	
	Preparation of polytene chromosome in chironomous or drosophila larvae	10	
	Preparation of various stages of mitosis in onion root tips	10	
	Preparation of various stages of meiosis in insect testies	10	
02	**Developmental Biology**	51	
	Study of stages of gametogenesis in rat or frog	06	
	Study different types of animal eggs	09	
	Study of developmental stages (life cycle) of Cockroach, Housefly, Butterfly, Moth, Frog	09	
	Demonstration of developing chick through available resources	09	
	Developmental stages of frog	06	
	Permanent slides of chick embryos at 24,36,48,72hrs of incubation	06	
	Study of different types of placenta with suitable histogical	06	

	Slides or visual diagram		
Teaching Plan for Theory (Third Semester)		**Class : B Sc. Part II**	
Sr. No.	**Life and diversity of chordata and concept of evolution**	**Lectures Available (30)**	
	(unit-II class-Amphibia and Reptilia)	**18**	
01	Habits and Habitat	01	
02	External characters	01	
03	Respiratory organs	02	
04	Circulatory system	03	
05	urinogenital system,	03	
06	parental care in amphibia	02	
07	Reptiles	01	
08	Circulatory system	02	
09	Urinogenital system	02	
10	Snake venom and antivenom	01	
	Unit -III class Aves and Mammals	**(12)**	
	Class-Aves		
01	General characters	01	
02	External characters	01	
03	Respiratory system	02	
04	Urino-genital system	02	
05	Flight adaptation	02	
06	Migration in Birds	02	
	Class: Mammalia		
07	Morphology of mammalian endocrine glands	01	
08	Aquatic mammals	01	
Teaching Plan for Practicals (Third Semester)		**Class : B Sc. Part II**	
Sr. No.	**Life and diversity of chordata and concept of evolution**	**Lectures Available (75)**	
A	Taxonomy of Chordata		
1	General characters and classification of phylum chordata	03	
	General characters and classification up to order of the following chordate as per availability in the laboratory from the major orders		
a	Protochordata	03	
B	Agnatha	03	
C	Pisces	03	
D	Amphibia	03	
e	Reptilia	03	
F	Aves	03	
G	Mammalia	03	
B	Anatomical study through computer aided techniques, video clippings, Models, photographs and other available resources		
1	Frog- viscera, digestive system, male and female reproductive system	06	
2	Rat or mouse or Rabbit – digestive system, arterial system, venous system and reproductive systems	06	
C	Slides of hair impression of different locally available mammals	06	
D	Osteology- Fowl and Rabbit excluding loose bones of skull	06	
E	Evolution		
1	Study of fossils and living fossils	03	
2	Study of evidences of evolution		
I	analogous and homologous organ	03	
Ii	Connecting links – peripatus, Archeopteryx, Echidna, Duckbill, Platypus	03	
3	Mimicry- coloration in animals through available examples in laboratory	03	
4	Beak and leg modification with reference to parrot, woodpecker, kingfisher, heron, duck, sparrow or pigeon, hawk or kite, owl.	03	
F	Histological slides		
I	amphioxus- T.S. Oral Hood, pharynx and tail.	06	

Ii	Frog- T.S. Lung, Stomach, Kidney, intestine	06	
Teaching Plan for Theory (Fourth Semester)		**Class : B Sc. Part II**	
Sr. No.	**Advanced Genentics and Animal Ecology** **UNIT 3 : Sex determination**	Lectures Available Total(31) (14)	
01	Discovery of sex chromosome		
02	Sex determination in animal	*04*	
03	Genetic disorder	*03*	
04	Non-disjunction	*02*	
05	Biochemical genetics	*03*	
06	Inheritance of sex-linked genes in man	*02*	
	Unit- V Ecology	*17*	
01	concept and scope		
02	Abiotic factors		
	a)Water B) Temperature c) Homeotherms and poikilotherms d)Dormancy e) Dormancy in different Group of animals h) Hibernation g) Aestivation h) Diapauses i) Light		
03	Biotic factors		
	a)Interspecific and intraspecific association b)Commensalism c) Mutualism d) Predation e) Parasitim f) Antagonism		
Teaching Plan for Practical (Forth Semester)			**Class: BSc. Part III**
Sr. No.	**Advanced genetics and animal Ecology**	**Available lecture (84)**	
A	Genetic Experiment		
1	Recording of mendelian traits in man	03	
2	Detection of monohybrid and dihybrid cross with the help of plastic beads	03	
3	Culturing drosophila using standard methods – drosophila male and female identification, mutant forms (from pictures)	03	
4	Demonstration of bar bodies	03	
5	Preparation of human karyotypes from Xerox pictures	03	
6	Photoslides for turner syndrome, klienfelters syndrome, downs syndrome	03	
7	Detection of syndrome from chromosome spread pictures	03	
8	Study of following human genetic traits and application of hardy Weinberg principle to them	03	
I	Baldness, length of index and ring finger, attached and free earolobes , rolling of tongue, PTC test and other notable traits	06	
B	Ecology		
1	a) Use of pH meter for estimation of pH in soil sample b) Use of pH meter for estimation of pH in water sample	10	
2	Study of Chemical parameters of water	03	
A	Estimation of dissolved oxygen	03	
B	Estimation of Salinity	03	
C	Estimation of Free CO2, Carbonate and bicarbonate	03	
D	Estimation of Calcium and hardness of water	03	
3	Adaptation of aquatic and terrestrial animals based on study of museum specimen	03	
4	Study of natural ecosystem and field report of the visit	03	

5	Field collection methods	03	
6	Identification of common animals – soil invertebrate diversity, diversity of birds and mammals in parks/ botanical gardens, threats to local diversity	08	
7	Construction of food web diagram based on the field visit	03	
8	Mounting of plankton	03	
9	Qualitative analysis of fresh water plankton	03	
C	General		
1	Visit to a national park or sanctuaries and submission of report	03	
Teaching Plan for Theory (Fifth Semester)		**Class : B. Sc. Part III**	
Sr. No.	**Animal Physiology And Economic Zoology Unit Iv Reproductive Physiology:**	**Lectures Available (12)**	
1	Estrous and menstrual cycle	3	
2	hormonal control of reproduction in males	2	
3	hormonal control of reproduction in females	2	
4	Structure of mammalian Placenta.	3	
5	Physiology of mammalian Placenta.	2	
Teaching Plan for Practicals (Fifth Semester)		**Class : BSc. Part III**	
Sr. No.	**Animal physiology and Economic zoology**	**Lectures Available (87)**	
01	Detection of blood group in human being	06	
02	Differential count of blood	06	
03	Estimation of hemoglobin percentage with the help of haemometer.	06	
04	R. B. C. Count	06	
05	W. B. C. count	06	
06	Prepartion of haemin crystals	06	
07	Measurement of blood pressure	06	
08	Action of salivary amylase on starch	06	
09	Qualitative detection of nitrogenous waste products (Ammonia, urea, uric acid) in given sample.	06	
10	Demonstration of kymograph unit, Respirometer through available resources.	06	
11	Observation and identification of Insect Pests of local crops, and predator insects.	06	
12	Life cycle of honey bee, Lac Insect, silk moth	06	
13	Histological slides of major organs of respiratory system, circulatory system, Nervous system, Different type of muscles, endocrine gland, testis and ovary.	09	
14	Study of locally available fishes, Indian major carp, common carp and Exotic Carp	06	
Teaching Plan for Theory (Sixth Semester)		**Class : B. Sc. III**	
Sr. No.	**Biotechnology: Genetic Engineering Unit-VI: Immunology**	**Lectures Available(14)**	
01	Introduction to immune system	02	
02	Innate and adaptive immunity	02	
03	Types and production of immune cells	02	
04	Complement system	02	
05	Humoral immunity: Antigen and haptens	02	
06	Antibody: Types, function and production	03	
07	Immunological techniques	02	
Teaching Plan for Practicals (Sixth Semester)		**Class : B. Sc. III**	
Sr. No.	**Biotechnology: Genetic Engineering**	**Lectures Available (93)**	
01	Micro technique scope and importance	03	
02	Preparation of fixative- alcohol, acetone, formalin, Bouin's fluid, Cornoy fluid, Formal sublimate	06	
03	Collection of various tissues/ organs from slaughter house for micro-technique	03	
04	Preparation of Alcohol grades, dehydration and clearing of tissues	04	

05	Use and care of Oven	03	
06	Embedding and block making, trimming of block.	12	
07	Use and care of different types of Microtome	03	
08	Honing and stropping Knives	04	
09	Section cutting and spreading	04	
10	Preparation of various stains-Borax carmine Acetocarmine, Aceto-orcein, Hematoxylin, eosin	04	
11	Staining of the sections, (Double staining), Mounting	10	
12	Camera Lucida. Use and Drawings	09	
	Oculomicrometer scale/ similar micro-measurements use	06	
	Introduction to models of PCR, Southern blotting through available resources	06	
13	Vital Staining of mitochondria by using Janus, Green B stain	06	
	Extraction of DNA by using salt, detergent and enzymes from natural sources from any animal tissue / plant material	10	

Time Table

Faculty: Science Subject: ZOOLOGY

Name of Faculty: Dr. Madhuri S. Hingankar

Period	PRACTICAL	1	2	3	4	PRACTICAL
Day / Time	08.00 to 10.24	11:00 to 11:48	11:48 to 12:36	12:36 to 1:24	1:34 to 2:22	2:30 to 4.54
MON	III (Pr.)			III (Th.)		
TUE			III (Th.)			III (Pr.)
WED				I (Th.)		I (Pr.)
THUS	I (Pr.)	I (Th.)				
FRI	II (Pr.)	II (Th.)				
		7.30 to 8.18	8.18 to 9.06	9.06 to 9.54 am	Practical 10.04 - 12.28 pm	Practical 12.28 to 2.52 pm
SAT					II (Pr.)	

Allotted Workload

Subject: Zoology Year: 2021-22

Sr. No.	Class	No. of periods per week	
		Lectures (L)	Practical (P)
1	B. Sc I	02	06
2	B. Sc II	01	06
3	B. Sc III	02	06

Total Workload per week (L+P): 05 (L) + 18(P) = 23 (18 hrs. and 24 min.)

Teaching Periods Available per month during the session 2021-22

Faculty: Science Subject: Zoology

Name of Faculty: Dr. Madhuri S. Hingankar

		ODD SEMESTER						EVEN SEMESTER				
Class	Periods	SEPT -21	OCT -21	NOV -21	DEC -21	JAN -22	Total	FEB-22	MAR -22	APR - 22	MAY-22	Total
B Sc. I	Theory	02	07	06	10	04	**29**	06	10	07	08	**31**
	Practical	06	21	18	30	12	**87**	18	30	21	24	**93**
B. Sc. II	Theory	00	04	02	05	01	**12**	03	03	04	04	**14**
	Practical	00	24	15	24	12	**75**	15	21	24	24	**84**
BSc. III	Theory	02	07	08	08	04	**29**	07	08	08	08	**31**
	Practical	06	21	24	24	12	**87**	21	24	24	24	**93**

Teaching Plan for Theory (First Semester)		**Class : B. Sc. Part I**	
Sr. No.	Topics to be covered	Lectures Available	Lectures Utilized
	Life And Diversity Of Nonchordates	**29**	
	Unit IV Phylum Annelida & Arthropoda		
1	Phylum Annelida: General Characters.	1	
2	Type study: Leech: a) External features b) Digestive system c) Excretory system d) Reproductive system	6	
3	Phylum Arthropoda: General Characters.	1	
4	Type study: Cockroach: a) Habits and habitat, External features, b) Digestive system, c) Respiratory system, d) Reproductive system.	6	
	Unit VI Phylum Hemichordata, Coral Reefs and Larval forms.		
1	Phylum Hemichordata: General Characters.	1	
2	Type study: Balanoglossus: a) Body organization. b) Affinities of Balanoglossus with Non-chordate c) Affinities of Balanoglossus with chordate	3	
3	Corals and Coral reefs	2	
4	Parasitic adaptations in Helminthes: a) Morphological b) Physiological	3	
5	Larval forms and their significance: a) Amphiblastula. b) Planula. c) Trochophore. d) Bipinnaria. e) Brachiolaria.	6	
Teaching Plan for Practical (First Semester)		**Class : B. Sc Part I**	
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
	Life And Diversity Of Nonchordates	**87**	

1	Observation, classification up to classes and sketching of following animals		
	Phylum Protozoa	3	
	Phylum Porifera	3	
	Phylum Coelenterata	6	
	Phylum Helminthes	3	
	Phylum Annelida	6	
	Phylum Arthropoda	9	
	Phylum Mollusca	9	
	Phylum Echinodermata	6	
	Phylum Hemichordata	3	
2	Permanent slide study	12	
3	Anatomical study through computer aided techniques, video clippings, photographs and other available resources	15	
4	Mountings	12	
Teaching Plan for Theory (Second Semester)		**Class: B. Sc. Part I**	
Sr. No.	Topics to be covered	Lectures Available	Lectures Utilized
	CELL AND DEVELOPMENTAL BIOLOGY	**31**	
	Unit –I		
1	General organization of Prokaryote and Eukaryote Cell.	3	
2	Ultra structure and functions of, Plasma membrane	3	
3	Ultra structure types and functions of, Endoplasmic reticulum	4	
	Unit- V		
1	Cleavage and development up to coelom formation in Amphioxus.	4	
2	Cleavage, Blastulation and gastrulation up to the formation of three germ layers in Frog, Fate map.	6	
3	Cleavage, Blastulation and gastrulation up to the formation of three germ layers in chick.	6	
4	Extra embryonic membranes in chick: Development and significance.	5	
Teaching Plan for practical (Second Semester)		**Class: B Sc. Part I**	
Sr. No.	Topics to be covered	Lectures Available	Lectures Utilized
1	**Cell Biology**	**39**	
	Use care and maintenance of microscope	3	
	Bacterial culture and gram staining	3	
	Permeability test using erythrocytes	6	
	Preparation of Polytene chromosome in Chironomous or drosophila larvae	9	
	Preparation of various stages of mitosis in onion root tips	9	
	Preparation of various stages of meiosis in insect testes	9	
2	**Developmental Biology**	**54**	
	Study of stages of gametogenesis in rat or frog	6	
	Study different types of animal eggs	9	
	Study of developmental stages (life cycle) of Cockroach, Housefly, Butterfly, Moth,	9	

	Frog		
	Demonstration of developing chick through available resources	9	
	Developmental stages of frog	6	
	Permanent slides of chick embryos at 24,36,48,72hrs of incubation	9	
	Study of different types of placenta with suitable histogical Slides or visual diagram	6	
Teaching Plan for Theory (Third Semester)		**Class : B Sc. Part II**	
Sr. No.	Topics to be covered	Lectures Available	Lectures Utilized
	LIFE AND DIVERSITY OF CHORDATE AND CONCEPT OF EVOLUTION	**12**	
	Unit-I Phylum Chordata		
1	Origin of Chordata.	1	
2	Protochordates: Type study: Amphioxus: a) Habits and habitat, External Characters, c) Digestive system and feeding, d) Excretory organs, gonads, e) Affinities of Amphioxus.	4	
3	Affinities of Agnatha	1	
4	Series Picses: Type study: Scoliodon sarrokawah (Dogfish) a) Habits and habitat, External Characters, b) Digestive system: alimentary canal and digestive glands, b) Respiratory system: respiratory organ and mechanism of respiration, d) circulatory System: Structure and working of Heart, major arteries and veins, e) Lateral line receptors, f) Migration in fishes-Types, causes and significance.	6	
Teaching Plan for Practical (Third Semester)		**Class: B Sc. Part II**	
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
	LIFE AND DIVERSITY OF CHORDATE AND CONCEPT OF EVOLUTION	**75**	
A	Taxonomy of Chordate		
1	General characters and classification of phylum chordate	3	
2	General characters and classification up to order of the following chordate as per availability in the laboratory from the major orders		
A	Protochordata		
b	Agnatha	3	
c	Pisces	6	
d	Amphibia	6	
e	Reptilia	6	
f	Aves	6	
G	Mammalia	6	
B	Anatomical study through computer aided techniques, video clippings, Models,		

	photographs and other available resources		
1	Frog- viscera, digestive system, male and female reproductive system	3	
2	Rat or mouse or Rabbit – digestive system, arterial system, venous system and reproductive systems	6	
C	Slides of hair impression of different locally available mammals	3	
D	Osteology- Fowl and Rabbit excluding loose bones of skull	6	
E	Evolution		
1	Study of fossils and living fossils	3	
2	Study of evidences of evolution		
I	analogous and homologous organ	3	
Ii	Connecting links – Peripatus, Archaeopteryx, Echidna, Duckbill, Platypus	3	
3	Mimicry- coloration in animals through available examples in laboratory	3	
4	Beak and leg modification with reference to parrot, woodpecker, kingfisher, heron, duck, sparrow or pigeon, hawk or kite, owl.	3	
F	Histological slides		
i	Amphioxus- T.S. Oral Hood, pharynx and tail.	3	
Ii	Frog- T.S. Lung, Stomach, Kidney, intestine	3	
Teaching Plan for Theory (Fourth Semester)		**Class: B Sc. Part II**	
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
	ADVANCED GENETICS AND ANIMAL ECOLOGY	**14**	
	Unit- I		
1	Concept of genes:	1	
2	Mendel's laws of hereditary	1	
3	Monohybrid Cross: Laws of dominance, Law of segregation.	3	
4	Dihybrid cross: Law of independent assortment.	3	
5	Interactions of genes: Supplementary factor, complementary factor,	3	
6	duplicates factor, inhibitory factors, and lethal factors dominant and recessive.	3	
Teaching Plan for Practical (Fourth Semester)		**Class: B. Sc Part II**	
Sr. No.	Topics to be covered	Lectures available	Lectures Utilized
	ADVANCED GENETICS AND ANIMAL ECOLOGY	**84**	
A	Genetic Experiment		
1	Recording of Mendelian traits in man	3	
2	Detection of monohybrid and dihybrid cross with the help of plastic beads	6	
3	Culturing drosophila using standard methods – drosophila male and female identification, mutant forms (from pictures)	6	
4	Demonstration of bar bodies	3	
5	Preparation of human karyotypes from Xerox pictures	3	

6	Photo slides for turner's syndrome, klienfelter's syndrome, downs syndrome	3	
7	Detection of syndrome from chromosome spread pictures	3	
8	Study of following human genetic traits and application of hardy Weinberg principle to them	3	
I	Baldness, length of index and ring finger, attached and free earlobes , rolling of tongue, PTC test and other notable traits	6	
B	Ecology		
1	a) Use of pH meter for estimation of pH in soil sample b) Use of pH meter for estimation of pH in water sample	6	
2	Study of Chemical parameters of water	3	
A	Estimation of dissolved oxygen	3	
B	Estimation of Salinity	3	
C	Estimation of Free CO2, Carbonate and bicarbonate	3	
D	Estimation of Calcium and hardness of water	3	
3	Adaptation of aquatic and terrestrial animals based on study of museum specimen	3	
4	Study of natural ecosystem and field report of the visit	3	
5	Field collection methods	3	
6	Identification of common animals – soil invertebrate diversity, diversity of birds and mammals in parks/ botanical gardens, threats to local diversity	6	
7	Construction of food web diagram based on the field visit	3	
8	Mounting of plankton	3	
9	Qualitative analysis of fresh water plankton	3	
C	General		
1	Visit to a national park or sanctuaries and submission of report	3	
Teaching Plan for Theory (Fifth Semester)		**Class: B. Sc. Part III**	
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
	ANIMAL PHYSIOLOGY AND ECONOMIC ZOOLOGY	**29**	
	Unit-II Muscle Physiology:		
1	Types of Muscles: striated, non-striated and cardiac muscles	3	
2	Striated muscle: a) E.M. Structure b) Chemical Composition	4	
3	Neuromuscular junction.	3	
4	Mechanism of muscle contraction by Sliding filament theory	3	
5	a) Physical and Chemical changes during muscle contraction: i) muscle twitch, tetanus ii) isometric and isotonic contraction iii) summation of Stimuli, all or none law,	6	

	iv) Fatigue.		
6	Rigor mortis.	1	
	Unit-V Agricultural Zoology		
1	Economic importance of insects	1	
2	Beneficial Insects	1	
3	Harmful insects, injuries and their control	1	
4	Pestsof cotton, Sugarcane and Jowar, damage and their control	2	
5	Economic Importance of rodents, snakes, Owls and Bats	2	
6	Apiculture	1	
7	Sericulture	1	
Teaching Plan for Practical (Fifth Semester)		**Class: BSc. Part III**	
Sr. No.	Topics to be covered	Lectures Available	Lectures Utilized
	Animal physiology and Economic zoology	**87**	
1	Detection of blood group in human being	6	
2	Differential count of blood	6	
3	Estimation of hemoglobin percentage with the help of haemometer.	6	
4	R. B. C. Count	6	
5	W. B. C. count	6	
6	Preparation of haemin crystals	6	
7	Measurement of blood pressure	6	
8	Action of salivary amylase on starch	6	
9	Qualitative detection of nitrogenous waste products (Ammonia, urea, uric acid) in given sample.	6	
10	Demonstration of kymograph unit, Respirometer through available resources.	6	
11	Observation and identification of Insect Pests of local crops, and predator insects.	6	
12	Life cycle of honey bee, Lac Insect, silk moth	6	
13	Histological slides of major organs of respiratory system, circulatory system, Nervous system, Different type of muscles, endocrine gland, testis and ovary.	9	
14	Study of locally available fishes, Indian major carp, common carp and Exotic Carp	6	
Teaching Plan for Theory (Sixth Semester)		**Class : B. Sc. III**	
Sr. No.	Topics to be covered	Lectures Available	Lectures Utilized
	MOLECULAR BIOLOGY & BIOTECHNOLOGY	**31**	
	Unit I		
1	Concept of Genetic material- a) Definition b) Experiments to prove DNA as genetic material: i) Griffith's transformation experiments with bacteriophage infections. ii) Avery and co-workers Experiments. iii) Hershey and Chase experiment.	4	
2	Chemistry and types DNA (A,B,Z)	3	

3	Mitochondrial DNA	2	
4	Chemistry types and function of RNA: mRNA, tRNA and rRNA and Non Genetic RNA.	3	
	Unit V		
1	Biotechnology: Genetic Engineering	1	
2	Recombinant DNA technology and gene cloning-enzymes in Recombinant DNA technology,	3	
3	Splicing and cloning of genes,	3	
4	vectors (plasmid and phage vectors),	2	
5	Gene transfer.	2	
6	Somatic cell hybridization,	2	
7	Hybridoma technology,	2	
8	Monoclonal antibodies.	2	
9	Practical applications and suspected hazards of biotechnology and genetic engineering in animals.	2	
Teaching Plan for Practical (Sixth Semester)		**Class : B. Sc. Part III**	
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
	MOLECULAR BIOLOGY & BIOTECHNOLOGY	**93**	
1	Micro technique scope and importance	3	
2	Preparation of fixative- alcohol, acetone, formalin, Bouin's fluid, Cornoy fluid, Formal sublimate	6	
3	Collection of various tissues/ organs from slaughter house for micro-technique	3	
4	Preparation of Alcohol grades, dehydration and clearing of tissues	6	
5	Use and care of Oven	3	
6	Embedding and block making, trimming of block.	12	
7	Use and care of different types of Microtome	3	
8	Honing and stropping Knives	3	
9	Section cutting and spreading	3	
10	Preparation of various stains-Borax carmine Acetocarmine, Aceto-orcein, Haematoxyline, eosin	6	
11	Staining of the sections, (Double staining), Mounting	12	
12	Camera Lucida. Use and Drawings	9	
13	Oculomicrometer scale/ similar micro-measurements use	6	
14	Introduction to models of PCR, Southern blotting through available resources	6	
15	Vital Staining of mitochondria by using Janus, Green B stain	6	
16	Extraction of DNA by using salt, detergent and enzymes from natural sources from any animal tissue / plant material	6	

Time Table

Faculty: SCIENCE Subject: ZOOLOGY

NAME OF FACULTY: MISS SONALI ANIL TAYADE

Period	Practical	1	2	3	4	Practical
Day / Time	8.20 to 11	11:00 to 11:48	11:48 to 12:36	12:36 to 1:24	1:34 to 2:22	2:30 to 5:10
MON	III(P)	I (T)				
TUE				I (T)		III (P)
WED	I(P)		II (T)			
THUS				III (T)		I (P)
FRI						II (P)
SAT		1	2	3	Practical	Practical
		7.30 to 8.18 AM	8.18 to 9.06 AM	9.06 to 9.54 AM	10.04 to 12.28 PM	12.28 to 2.52PM
			II (T)			II(P)

Allotted Workload

Subject: ZOOLOGY Year : 2021-22

Sr. No.	Class	No. of periods per week			Paper Allotted
		Lectures		Practical	
1	BSc I	02		06	
2	BSc II	02		06	
3	BSc III	01		06	
4	Total	05		18	

Total Workload per week (L+P) : 05(L) + 18(P) = 23 (18 hrs. 24 m)

Teaching Periods Available per month during the session 2021-22

		ODD SEMESTER						EVEN SEMESTER				
Class	Periods	SEPT -21	OCT -21	NOV -20	DEC -20	JAN-21	Total	FEB -21	MAR-21	APR - 21	MAY -21	Total
B Sc. I	Theory	02	07	08	08	04	**29**	07	08	08	08	**31**
	Practical	06	21	18	30	12	**87**	18	30	21	24	**93**
B. Sc. II	Theory	01	07	06	08	05	**27**	05	09	08	08	**30**
	Practical	00	24	15	24	12	**75**	15	21	24	24	**84**
BSc. III	Theory	01	04	03	05	02	**15**	03	05	03	04	**15**
	Practical	06	21	24	24	12	**87**	21	24	24	24	**93**

Faculty: SCIENCE Subject: ZOOLOGY

NAME OF FACULTY: MISS SONALI ANIL TAYADE

Teaching Plan for Theory (First Semester)		**Class : B Sc Part I**	
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
	UNIT 1 : Classification of Non Chordata and Phylum Protozoa	**15**	
01	Classification of Non-Chordata	02	
02	Phylum Protozoa : General characters	02	
03	Type Study : Plasmodium vivax : Structure, Life Cycle	07	
04	Parasitic protozoan and human diseases:	04	

	Malaria, Amoebiasis, Trypanosomiasis, Leishmaniasis		
	UNIT 5	**14**	
05	Phylum Mollusca: General characters	O1	
06	Type Study: *Pila globusa*	06	
07	Phylum Echinodermata: General characters	01	
08	Type Study: *Asterias*	06	
Teaching Plan for Practical (First Semester)		**Class : B Sc Part I**	
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
1	Observation, classification up to classes and sketching of following animals	**87**	
	Phylum Protozoa	03	
	Phylum Porifera	03	
	Phylum Colenterata	06	
	Phylum Helminths	03	
	Phylum Annelida	06	
	Phylum Arthopoda	09	
	Phylum Mollusca	09	
	Phyum Echinodermata	06	
	Phylum Hemichordata	03	
2	Permanent slide study	12	
3	Anatomical study through computer aided techniques, video clippings, photographs and other available resources	15	
4	Mountings	12	
Teaching Plan for Theory (Second Semester)		**Class : B Sc Part I**	
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
	UNIT 3	**16**	
01	Ultra-structure and function of nucleus	04	
02	Ultra-structure and function of nucleolus	04	
02	Chromosome and its general organization	04	
03	Structure of polytene chromosome	02	
04	Structure of Lamp brush chromosome	02	
	UNIT 6	**15**	
05	Placentation in Mammals : Types and functions of Placenta	04	
06	Parthenogenesis : Types and Significance	04	
07	Regeneration in invertebrates and vertebrates	04	
08	Elementary idea of sources, types and use of stem cells	03	
Teaching Plan for Practical (Second Semester)		**Class : B Sc I**	
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
1	**Cell Biology**	**39**	
	Use care and maintenance of microscope	03	
	Bacterial culture and gram staining	03	
	Permeability test using erythrocytes	06	
	Preparation of polytene chromosome in chironomous or drosophila larvae	09	
	Preparation of various stages of mitosis in onion root tips	09	
	Preparation of various stages of meiosis in insect testies	09	
2	**Developmental Biology**	**54**	
	Study of stages of gametogenesis in rat or frog	06	
	Study different types of animal eggs	09	
	Study of developmental stages (life cycle) of Cockroach, Housefly, Butterfly, Moth, Frog	09	
	Demonstration of developing chick through available resources	09	
	Developmental stages of frog	06	

	Permanent slides of chick embryos at 24,36,48,72hrs of incubation	09	
	Study of different types of placenta with suitable histological Slides or visual diagram	06	
Teaching Plan for Theory (Third Semester)		**Class : B Sc Part II**	
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
	UNIT 4	**14**	
01	Meaning and scope of evolution	02	
02	Indirect evidences of organic evolution from Morphology and comparative anatomy	02	
03	Physiological and Biochemical evidences	02	
04	Evidences from comparative biology	01	
05	Direct evidences of organic evolution	02	
06	Dating of fossils	01	
07	Radioactive carbon dating of fossils	O1	
08	Living fossils	01	
09	Importance of fossils	01	
10	Evidences of connecting link	01	
	UNIT 6	**13**	
01	Adaptive Radiations in mammals	02	
02	Evolution of Man- Brief accounts of Parapithecus, Dryopithecus, Ramapithecus, Australopithecus, Australopithecus, Homoerectus, Neanderthal man, Cro-Magnon man and modern man.	04	
03	Evolution of heart in vertebrates	01	
04	Evolution of aortic arches in vertebrates	02	
05	Evolution of urinogenital system in vertebrates	02	
06	Animal Adaptation: Desert, aquatic and terrestrial	02	
Teaching Plan for Practical (Third Semester)		**Class : B Sc Part II**	
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
A	Taxonomy of Chordata	**75**	
1	General characters and classification of phylum chordata	03	
2	General characters and classification up to order of the following chordate as per availability in the laboratory from the major orders		
A	Protochordata		
B	Agnatha	03	
C	Pisces	06	
D	Amphibia	06	
E	Reptilia	06	
F	Aves	06	
G	Mammalia	06	
B	Anatomical study through computer aided techniques, video clippings, Models, photographs and other available resources		
1	Frog- viscera, digestive system, male and female reproductive system	03	
2	Rat or mouse or Rabbit – digestive system, arterial system, venous system and reproductive systems	06	
C	Slides of hair impression of different locally available mammals	03	
D	Osteology- Fowl and Rabbit excluding loose bones of skull	06	

E	Evolution		
1	Study of fossils and living fossils	03	
2	Study of evidences of evolution		
I	analogous and homologous organ	03	
Ii	Connecting links – peripatus, Archeopteryx, Echidna, Duckbill, Platypus	03	
3	Mimicry- coloration in animals through available examples in laboratory	03	
4	Beak and leg modification with reference to parrot, woodpeacker, kingfisher, heron, duck, sparrow or pigeon, hawk or kite, owl.	03	
F	Histological slides		
i	amphioxus- T.S. Oral Hood, pharynx and tail.	03	
Ii	Frog- T.S. Lung, Stomach, Kidney, intestine	03	
Teaching Plan for Theory (Fourth Semester)		**Class : B Sc Part II**	
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
	UNIT 2 : Linkage	***15***	
01	Linkage : Types of linkage, linkage group, arrangement of linked genes and significance of linkage	*04*	
02	Crossing Over- Types	*03*	
03	Mechanism of Crossing over	*01*	
04	Theories of crossing over	*02*	
05	Factors influencing the crossing over and significance of crossing over	*02*	
06	Multiple alleles in relation to eye colour in Drosophila, blood group in man, Erythroblastosis foetalis	*03*	
	UNIT 4 : Genetic screening and parental diagnosis	**15**	
01	Prenatal test, carrier, Chronic villus sampling, Amniocentesis	03	
02	Gene probe and DNA Analysis	04	
02	Genes and human heredity: Inheritance of eye colour, inheritance of skin colour, Recessive genes and consanguineous marriages	03	
03	Genetic counseling: Risk of marriages in affected family, Birth control measures (Male and Female)	03	
04	Kinds of twines	02	
Teaching Plan for Practical (Fourth Semester)		**Class : B Sc Part II**	
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
	Advanced Genetics and Animal Ecology	**84**	
A	Genetic Experiment		
1	Recording of mendelian traits in man	03	
2	Detection of monohybrid and dihybrid cross with the help of plastic beads	06	
3	Culturing drosophila using standard methods – drosophila male and female identification, mutant forms (from pictures)	06	
4	Demonstration of bar bodies	03	
5	Preparation of human karyotypes from Xerox pictures	03	
6	Photoslides for turner syndrome, klienfelters syndrome, downs syndrome	03	
7	Detection of syndrome from chromosome spread pictures	03	
8	Study of following human genetic traits and application of hardy Weinberg principle to them	03	
I	Baldness, length of index and ring finger,	06	

	attached and free earlobes, rolling of tongue, PTC test and other notable traits		
B	Ecology		
1	a) Use of ph meter for estimation of ph in soil sample Use of ph meter for estimation of ph in water sample	06	
2	Study of Chemical parameters of water	03	
A	Estimation of dissolved oxygen	03	
B	Estimation of Salinity	03	
C	Estimation of Free CO2, Carbonate and bicarbonate	03	
D	Estimation of Calcium and hardness of water	03	
3	Adaptation of aquatic and terrestrial animals based on study of museum specimen	03	
4	Study of natural ecosystem and field report of the visit	03	
5	Field collection methods	03	
6	Identification of common animals – soil invertebrate diversity, diversity of birds and mammals in parks/ botanical gardens, threats to local diversity	06	
7	Construction of food web diagram based on the field visit	03	
8	Mounting of plankton	03	
9	Qualitative analysis of fresh water plankton	03	
C	General		
1	Visit to a national park or sanctuaries and submission of report	03	
Teaching Plan for Theory (Fifth Semester)		**Class : B Sc Part III**	
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
	UNIT 1: Respiration and Circulation	**15**	
01	Structure of respiratory organs	02	
02	Mechanism of respiration	02	
03	Respiratory pigment	01	
04	Transport of gases	O2	
05	Neurophysiological control of respiration	02	
06	Blood	02	
07	Coagulation of blood	01	
08	Blood group: ABO system and Rh-factor	01	
09	Heart	02	
Teaching Plan for Practical (Fifth Semester)		**Class : B Sc Part III**	
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
	Animal physiology and Economic Zoology	**87**	
01	Detection of blood group in human being	06	
02	Differential count of blood	06	
03	Estimation of hemoglobin percentage with the help of haemometer.	06	
04	R. B. C. Count	06	
05	W. B. C. count	06	
06	Preparation of haemin crystals	06	
07	Measurement of blood pressure	06	
08	Action of salivary amylase on starch	06	
09	Qualitative detection of nitrogenous waste products (Ammonia urea, uric acid) in given sample.	06	
10	Demonstration of kymograph unit, Respirometer through available resources.	06	
11	Observation and identification of Insect Pests of local crops, and predator insects.	06	
12	Life cycle of honey bee, Lac Insect, silk moth	06	

13	Histological slides of major organs of respiratory system, circulatory system, Nervous system, Different type of muscles, endocrine gland, testis and ovary.	09	
14	Study of locally available fishes, Indian major carp, common carp and Exotic Carp	06	
Teaching Plan for Theory(Sixth Semester)		**Class : B Sc III**	
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
	UNIT 2 : DNA Replication	**15**	
01	Types of replication	02	
02	Semi conservative method	03	
03	Experiment by Messelson and Stahl	01	
04	Concept of gene	01	
05	One gene one enzyme hypothesis	02	
06	One gene one Polypeptide theory	02	
07	A brief account of concept and action of cistron split genes, overlapping genes and jumping genes	03	
08	Genetic diseases : Spinocerebellar ataxia	01	
Teaching Plan for Practical (Sixth Semester)		**Class : B Sc III**	
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
	Molecular Biology and Biotechnology	**93**	
01	Micro technique scope and importance	03	
02	Preparation of fixative- alcohol, acetone, formalin, Bouin's fluid, Cornoy fluid, Formal sublimate	06	
03	Collection of various tissues/ organs from slaughter house for micro-technique	03	
04	Preparation of Alcohol grades, dehydration and clearing of tissues	06	
05	Use and care of Oven	03	
06	Embedding and block making, trimming of block.	12	
07	Use and care of different types of Microtome	03	
08	Honing and stropping Knives	03	
09	Section cutting and spreading	03	
10	Preparation of various stains-Borax carmine Acetocarmine, Aceto-orcein, Haematoxyline, eosin	06	
11	Staining of the sections, (Double staining), Mounting	12	
12	Camera Lucida. Use and Drawings	09	
13	Oculomicrometer scale/ similar micro-measurements use	06	
14	Introduction to models of PCR, Southern blotting through available resources	06	
15	Vital Staining of mitochondria by using Janus, Green B stain	06	
16	Extraction of DNA by using salt, detergent and enzymes from natural sources from any animal tissue / plant material	06	

Name of Faculty: Mr. S. D. Deshmukh Zoology

Period	PRACTICAL	1	2	3	4	PRACTICAL
Day / Time	08.00 to 10.24	11:00 to 11:48	11:48 to 12:36	12:36 to 1:24	1:34 to 2:22	2:30 to 4.54
MON						III (Pr.)
TUE	III (Pr.)	II (Th.)				
WED	I (Pr.)	III (Th.)				
THUS						I (Pr.)
FRI	II (Pr.)			I (Th.)		
		7.30 to 8.18	8.18 to 9.06	9.06 to 9.54 am	Practical 10.04 - 12.28 pm	Practical 12.28 to 2.52 pm
SAT		III (Th.)			II (Pr.)	

Allotted Workload

Subject: Zoology Year: 2021-22

Sr. No.	Class	No. of periods per week	
		Lectures (L)	Practical (P)
1	B. Sc I	01	06
2	B. Sc II	01	06
3	B. Sc III	02	06

Total Workload per week (L+P): 04 (L) + 18(P) = 22 (17 hrs. and 36 min.)

Teaching Periods Available per month during the Session 2021-22

Faculty: Science Subject: Zoology

Name of Faculty: Mr. S. D. Deshmukh

		ODD SEMESTER						EVEN SEMESTER				
Class	Periods	SEPT -21	OCT -21	NOV -21	DEC -21	JAN-22	Total	FEB -22	MAR-22	APR - 22	MAY -22	Total
B Sc. I	Theory	00	04	02	05	01	**12**	03	03	04	04	**14**
	Practical	06	21	18	30	12	**87**	18	30	21	24	**93**
B. Sc. II	Theory	01	03	04	04	02	**14**	03	04	04	04	**15**
	Practical	00	24	21	24	12	**71**	15	21	24	24	**84**
BSc. III	Theory	01	07	06	08	05	**27**	05	09	08	08	**30**
	Practical	06	21	24	24	12	**87**	21	24	24	24	**93**

Teaching Plan for Theory (First Semester)		**Class : B. Sc. Part I**	
Sr. No.	Topics to be covered	Lectures Available	Lectures Utilized
	Life And Diversity Of Nonchordates	**12**	
	Unit III Platyhelminthes		
1	Type study: Fasciola hepatica: Habits and habitat,	01	

	External features,		
2	Digestive and Excretory System	01	
3	Reproductive system	01	
4	Life cycle	02	
5	Phylum Aschelminthes: General Characters.	01	
6	Type study, Ascaris lumbricoides: Habits and habitat, External features,	01	
7	Digestive and Excretory system	02	
8	Reproductive system	01	
9	Life cycle	02	
Teaching Plan for Practical (First Semester)		**Class : B. Sc Part I**	
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
	Life And Diversity Of Nonchordates	**87**	
1	Observation, classification up to classes and sketching of following animals		
	Phylum Protozoa	3	
	Phylum Porifera	3	
	Phylum Coelenterata	6	
	Phylum Helminthes	3	
	Phylum Annelida	6	
	Phylum Arthropoda	9	
	Phylum Mollusca	9	
	Phylum Echinodermata	6	
	Phylum Hemichordata	3	
2	Permanent slide study	12	
3	Anatomical study through computer aided techniques, video clippings, photographs and other available resources	15	
4	Mountings	12	
Teaching Plan for Theory (Second Semester)		**Class: B. Sc. Part I**	
Sr. No.	Topics to be covered	Lectures Available	Lectures Utilized
	CELL AND DEVELOPMENTAL BIOLOGY		
	UNIT-IV		
1	Mitosis and its significance	03	
2	Meiosis and its significance.	04	
3	Gametogenesis: Spermatogenesis and oogenesis	03	
4	Fertilization: Types of fertilization, Mechanism of fertilization,	04	
Teaching Plan for practical (Second Semester)		**Class: B Sc. Part I**	
Sr. No.	Topics to be covered	Lectures Available	Lectures Utilized
1	**Cell Biology**	**39**	
	Use care and maintenance of microscope	3	
	Bacterial culture and gram staining	3	
	Permeability test using erythrocytes	6	
	Preparation of Polytene chromosome in Chironomous or drosophila larvae	9	
	Preparation of various stages of mitosis in onion root tips	9	
	Preparation of various stages of meiosis in insect testes	9	
2	**Developmental Biology**	**54**	
	Study of stages of gametogenesis in rat or frog	6	
	Study different types of animal eggs	9	

	Study of developmental stages (life cycle) of Cockroach, Housefly, Butterfly, Moth, Frog	9	
	Demonstration of developing chick through available resources	9	
	Developmental stages of frog	6	
	Permanent slides of chick embryos at 24,36,48,72hrs of incubation	9	
	Study of different types of placenta with suitable histogical Slides or visual diagram	6	
Teaching Plan for Theory (Third Semester)		**Class : B Sc. Part II**	
Sr. No.	Topics to be covered	Lectures Available	Lectures Utilized
	LIFE AND DIVERSITY OF CHORDATE AND CONCEPT OF EVOLUTION	**12**	
	Unit-V Evolutionary Processes		
1	Natural selection: Darwinism. And Lamarckinsm.	03	
2	Speciation - definition of species –mode of speciation – Allopatric and Sympatric speciation. Modern concept of organic evolution-Neo Darwinism.	04	
3	Population Genetic :Hardy –Weinberg equilibrium, Gene pool, Gene frequency, Genetic drift,	04	
4	Convergent, Divergent and Parallel evolution, Coevolution	03	
Teaching Plan for Practical (Third Semester)		**Class: B Sc. Part II**	
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
	LIFE AND DIVERSITY OF CHORDATE AND CONCEPT OF EVOLUTION	**75**	
A	Taxonomy of Chordate		
1	General characters and classification of phylum chordate	3	
2	General characters and classification up to order of the following chordate as per availability in the laboratory from the major orders		
a	Protochordata		
b	Agnatha	3	
c	Pisces	6	
d	Amphibia	6	
e	Reptilia	6	
f	Aves	6	
G	Mammalia	6	
B	Anatomical study through computer aided techniques, video clippings, Models, photographs and other available resources		
1	Frog- viscera, digestive system, male and female reproductive system	3	
2	Rat or mouse or Rabbit – digestive system, arterial system, venous system and reproductive systems	6	
C	Slides of hair impression of different locally available mammals	3	

D	Osteology- Fowl and Rabbit excluding loose bones of skull	6	
E	Evolution		
1	Study of fossils and living fossils	3	
2	Study of evidences of evolution		
3	analogous and homologous organ	3	
4	Connecting links – Peripatus, Archaeopteryx, Echidna, Duckbill, Platypus	3	
5	Mimicry- coloration in animals through available examples in laboratory	3	
4	Beak and leg modification with reference to parrot, woodpecker, kingfisher, heron, duck, sparrow or pigeon, hawk or kite, owl.	3	
F	Histological slides		
i	Amphioxus- T.S. Oral Hood, pharynx and tail.	3	
ii	Frog- T.S. Lung, Stomach, Kidney, intestine	3	
Teaching Plan for Theory (Fourth Semester)		**Class: B Sc. Part II**	
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
	ADVANCED GENETICS AND ANIMAL ECOLOGY	**15**	
	Unit VI Ecosystem		
1	*Relationship between habitat and ecological niche* - Autotrophic and heterotrophic producer, consumer.	03	
2	trophic level - energy flow in an ecosystem - food chain -	02	
3	Food web - pyramids - Ecotypes. Homeostasis of ecosystem.	02	
4	Terrestrial ecosystem: Classification and Biomes, Aquatic ecosystem: Fresh water ecosystem-Lentic and lotic ecosystem,	03	
5	Marine ecosystem: Characteristics, salinity, temperature - pressure, zonation and stratification	03	
6	Estuarine ecology: Characteristics types, fauna and their adaptations.	02	
Teaching Plan for Practical (Fourth Semester)		**Class: B. Sc Part II**	
Sr. No.	Topics to be covered	Lectures available	Lectures Utilized
	ADVANCED GENETICS AND ANIMAL ECOLOGY	**84**	
A	Genetic Experiment		
1	Recording of Mendelian traits in man	3	
2	Detection of monohybrid and dihybrid cross with the help of plastic beads	6	
3	Culturing drosophila using standard methods – drosophila male and female identification, mutant forms (from pictures)	6	
4	Demonstration of bar bodies	3	
5	Preparation of human karyotypes from Xerox pictures	3	
6	Photo slides for turner's syndrome, klienfelter's syndrome, downs syndrome	3	
7	Detection of syndrome from chromosome spread pictures	3	
8	Study of following human genetic traits and application of hardy Weinberg principle to them	3	
I	Baldness, length of index and ring finger, attached and free earlobes , rolling of tongue, PTC test and	6	

	other notable traits		
B	Ecology		
1	a) Use of pH meter for estimation of pH in soil sample b) Use of pH meter for estimation of pH in water sample	6	
2	Study of Chemical parameters of water	3	
A	Estimation of dissolved oxygen	3	
B	Estimation of Salinity	3	
C	Estimation of Free CO2, Carbonate and bicarbonate	3	
D	Estimation of Calcium and hardness of water	3	
3	Adaptation of aquatic and terrestrial animals based on study of museum specimen	3	
4	Study of natural ecosystem and field report of the visit	3	
5	Field collection methods	3	
6	Identification of common animals – soil invertebrate diversity, diversity of birds and mammals in parks/ botanical gardens, threats to local diversity	6	
7	Construction of food web diagram based on the field visit	3	
8	Mounting of plankton	3	
9	Qualitative analysis of fresh water plankton	3	
C	General		
1	Visit to a national park or sanctuaries and submission of report	3	
Teaching Plan for Theory (Fifth Semester)		**Class: B. Sc. Part III**	
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
	ANIMAL PHYSIOLOGY AND ECONOMIC ZOOLOGY	**27**	
	Unit-III Nerve Physiology:		
1	Neuron: E.M. Structure of nuron andTypes : Myelinated and non-Myelinated nerve fibres.	02	
2	Conduction of Nerve impulse, Resting potential, initiation and propagation of action potential, Saltatory transmission,	03	
3	Neurotransmitters (Acetylcholine, dopamine, GABA, Serotonin, Epinephrine, Nor-Epinephrine),	02	
4	Synapse and synaptic transmission	02	
5	**Chemical co-ordination:** Endocrine system: Hormones and their physiological roles of- Pituitary, Thyroid, Parathyroid, Adrenal, Islets of Langerhan's, Hormonal disorders: Dwarfism, Gigantism, Acromegaly , Goiter, Myxoedema, Cretinism, Osteoporosis ,	05	
	Unit-VI Aquaculture		
1	definition, scope, importance and present status in India.	01	
2	Fresh water fish culture: types of fish ponds:Nursary, rearing and stocking, design and construction of fish pond, fertilizers used for fish development.	02	
3	Hatching Happas, Chinease Circular Hatchery,	03	

	CIFE, Mumbai,		
4	hatching model, Induced breeding and hypophysation, Modern drugs used in fish breeding.	03	
5	Freshwater system: monoculture, polyculture, integrated aquaculture, cage culture, pen culture	03	
6	Fish products and byproducts: Fish liver Oil, Fish body oil, Fish manure, Fish leather	01	
7			
Teaching Plan for Practical (Fifth Semester)		**Class: BSc. Part III**	
Sr. No.	Topics to be covered	Lectures Available	Lectures Utilized
	Animal physiology and Economic zoology	**87**	
1	Detection of blood group in human being	6	
2	Differential count of blood	6	
3	Estimation of hemoglobin percentage with the help of haemometer.	6	
4	R. B. C. Count	6	
5	W. B. C. count	6	
6	Preparation of haemin crystals	6	
7	Measurement of blood pressure	6	
8	Action of salivary amylase on starch	6	
9	Qualitative detection of nitrogenous waste products (Ammonia, urea, uric acid) in given sample.	6	
10	Demonstration of kymograph unit, Respirometer through available resources.	6	
11	Observation and identification of Insect Pests of local crops, and predator insects.	6	
12	Life cycle of honey bee, Lac Insect, silk moth	6	
13	Histological slides of major organs of respiratory system, circulatory system, Nervous system, Different type of muscles, endocrine gland, testis and ovary.	9	
14	Study of locally available fishes, Indian major carp, common carp and Exotic Carp	6	
Teaching Plan for Theory (Sixth Semester)		**Class : B. Sc. III**	
Sr. No.	Topics to be covered	Lectures Available	Lectures Utilized
	MOLECULAR BIOLOGY & BIOTECHNOLOGY	30	
	Unit III		
1	Genetic code and its features,	03	
2	Protein synthesis transcription and processing of mRNA, translation-different steps	05	
3	Gene regulation: (promoter and operator), Operon models, and Lac-operon model of E.Coli.	04	
4	Genetic regulation in Eukaryotes-Britten Davidson Model.	03	
	Unit IV		
1	Mutation: Definition-mutation theory of DeVries different types of mutations, - molecular basis of mutation: substitution and frameshift mutations, chromosomal aberrations structural (deletion, addition, inversion and translocation), numerical (euploidy and aneuploidy).	06	
2	Natural and induced mutations-significance of mutations.	03	
3	DNA repair process.	02	
4	Polymerase chain reaction (PCR). Southern, Northern and Western blotting techniques, DNA	04	

	finger printing.		
Teaching Plan for Practical (Sixth Semester)		**Class : B. Sc. Part III**	
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
	MOLECULAR BIOLOGY & BIOTECHNOLOGY	**93**	
1	Micro technique scope and importance	3	
2	Preparation of fixative- alcohol, acetone, formalin, Bouin's fluid, Cornoy fluid, Formal sublimate	6	
3	Collection of various tissues/ organs from slaughter house for micro-technique	3	
4	Preparation of Alcohol grades, dehydration and clearing of tissues	6	
5	Use and care of Oven	3	
6	Embedding and block making, trimming of block.	12	
7	Use and care of different types of Microtome	3	
8	Honing and stropping Knives	3	
9	Section cutting and spreading	3	
10	Preparation of various stains-Borax carmine Acetocarmine, Aceto-orcein, Haematoxyline, eosin	6	
11	Staining of the sections, (Double staining), Mounting	12	
12	Camera Lucida. Use and Drawings	9	
13	Oculomicrometer scale/ similar micro-measurements use	6	
14	Introduction to models of PCR, Southern blotting through available resources	6	
15	Vital Staining of mitochondria by using Janus, Green B stain	6	
16	Extraction of DNA by using salt, detergent and enzymes from natural sources from any animal tissue / plant material	6	

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SATPUDA EDUCATION SOCIETY, JALGAON (JAMOD)'S

ARTS & COMMERCE COLLEGE

WARVAT BAKAL DIST- BULDANA

DEPARTMENT OF PHYSICS

DEPRTMENTAL ACADEMIC CALENDAR 2021-22

Departmental Academic Calendar (2021-22)

Departmental Academic Calendar (2021-22)

Sr. No.	Activity	Commencement	Cessation	Total Days	
01	First Session	30/08/2021	15/01/2022	105	
02	Admission Process	01/09/2021	18/09/2021	14	
03	Teaching Days (Odd Semesters)	27/09/2021	30/10/2021	26	**83**
		08/11/2021	15/01/2022	57	
04	Induction Program for FirstYear Students	20/09/2021	25/09/2021	06	
05	First Term Vacation	01/11/2021	06/11/2021	06	
06	Summer 2022 Examination	27/01/2022	05/02/2022	19	
07	Second Session	17/01/2022	31/05/2022	109	
08	Teaching Days (Even Semesters)	07/02/2022	31/05/2022	**90**	
08	Second Term Vacation	01/06/2022	30/06/2022	26	
09	Even Semesters University ExamWinter 2022	01/06/2022	01/06/2022	30	
10	Commencement of next Academic session	01/07/2022			

Sr. No.	Public Holiday	Day & Date
01	Ganesh Chaturthi	Friday, 10th September, 2021
02	Gauri Pujan	Monday, 13th September, 2021
03	Mahatma Gandhi Jayanti	Saturday, 02th October, 2021
04	Sarvpitri Amavasya	Wednesday, 06th October, 2021
05	Dasara	Friday, 15th October, 2021
06	Eid A Milad	Tuesday, 19th October, 2021
07	Gurunanak Jayanti	Friday, 19th November, 2021
08	Christmas	Saturday, 25th December, 2021
09	Makarsankranti	Friday, 14th January, 2022
10	Republic Day	Wednesday, 26th January, 2022
11	Chhatrapati Shivaji Maharaj Jayanti	Saturday, 19th February, 2022
12	Mahashivratri	Tuesday, 01st March, 2022
13	Holi (Second Day)	Friday, 18th March, 2022
14	Gudhi Padwa	Saturday, 02nd April, 2022
15	Dr. Babasaheb Ambedkar Jayanti / Mahavir Jayanti	Thursday, 14th April, 2022
16	Good Friday	Friday, 15th April, 2022
17	Ramzan Eid (Eid-Al-Fitur)	Tuesday, 03rd May,2022
18	Buddha Pournima	Monday, 16th May, 2022

Time Table

Mr. Vishal R. Wankhade

Faculty: Science **Subject: Physics**

Period	1	2	3	4	5
Day / Time	11:00 to 11:48	11:48 to 12:36	12:36 to 1:24	1:34 to 2:22 (P)	2:30 to 4:54 (P)
MON	T (BSc.I)	T (BSc.II)	T (BSc.III)		P (BSc.III)
TUE	T (BSc.II)	T (BSc.III)	T (BSc.I)		P (BSc.III)
WED	T (BSc.II)		T (BSc.I)	T (BSc.III)	P (BSc.I)
THUS	T (BSc.I)		T (BSc.II)	T (BSc.III)	P (BSc.I)
FRI	T (BSc.II)	T (BSc.III)	T (BSc.I)		P (BSc.II)
Day / Time	07:30 To 08.18	08:18To 09:06	09:16 To 10.04	10.04 to 12.28	
SAT	T (BSc.III)	T (BSc.II)	T (BSc.I)	P (BSc.II)	

Allotted Workload

Subject: Physics Year: 2021-2022

Sr. No.	Class	No. of periods per week			Paper Allotted
		Lectures	Tutorials	Practical	
1	BSc.-1	06		2 * 3 = 06	--
2	BSc.-2	06		2 * 3 = 06	--
3	BSc.-3	06		2 * 3 = 06	--

Total Workload per week (L+P): 18(L) + 18 (P) = 36 (L) (28.8 hrs.)

Teaching Periods Available per month during the session 2021-2022

Faculty: Science **Subject: Physics**

		Odd semester						Even semester				
		Sep	**Oct**	**Nov**	**Dec**	**Jan**	**Total**	**Feb**	**Mar**	**Apr**	**May**	**Total**
BSc.-1	**Theory**	04	22	19	26	11	82	17	25	23	24	89
	Practical	06	21	18	30	06	81	15	30	21	24	90
BSc.-2	**Theory**	04	22	19	26	11	82	17	25	23	24	89
	Practical	0	24	15	24	09	72	18	21	24	24	87
BSc.-3	**Theory**	04	22	19	26	11	82	17	25	23	24	89
	Practical	06	21	24	24	06	81	18	24	24	24	90

Teaching Plan for Theory (First Semester)		Class: BSc Part-I	
Sr. No.	**Topic to be covered**	**Lectures Available**	**Lectures Utilized**
Unit-1			
	Kepler's laws of planetary motion, Newton's law of gravitation, acceleration due gravity, variation with altitude and depth, Gravitational field, Gravitational Potential; Gauss's theorem, gravitational potential and intensity due to uniform solid sphere at a point inside and outside the sphere .Numericals.	14	
Unit-2			
	Motion of a Rigid body; rotational motion; moment of inertia;Principle of Perpendicular & Parallel axes, Radius of Gyration;M.I of regular shaped bodies like ring, disc, hollow sphere, solid sphere, cylinder & bar about different axes. Linear momentum, angular momentum, Conservation of Linear Momentum & angular momentum Numericals	14	
Unit-3			
	Linear S.H.M, Angular S.H.M, Differential equations and solutions .Displacement, Velocity and acceleration, Kinetic and Potential energy .Simple pendulum ,compound pendulum, Kater's Reversible pendulum, Spring and mass system, Vibration of a magnet, bifilar oscillations, Damped and forced harmonic oscillations, Resonance. Numericals.	14	
Unit-4			
	Superposition of two SHM of same frequency along the same line Interference, superposition of two mutually perpendicular SHM of same Frequency, Lissajous figures.Standing waves, velocity of longitudinal waves (Newton's formula)velocity of waves by Kundt's tube, velocity of transverse waves in stretched string, harmonics and overtones. Production and detection of ultrasonic waves and its applications .Numericals.	14	
Unit-5			
	Introduction of Elasticity; Hooke's Law of Elasticity, Three Elastic constants; Relation between, U, s, k and h. Bending of beam and Bending moment; Cantilever, Depression of centrally loaded beam, twisting couple, torsional pendulum; Maxwell's needle .Numerical.	13	
Unit-6			
	Kinematics of moving fluids; Streamline and turbulent flow, viscous drag, Coefficient of viscosity, equation of continuity; Euler's equation, Bernoulli's theorem, Poiseulle's equation, Reynold's number, Terminal velocity, Stokes' law, Variation of viscosity with temperature. Surface tension, angle of contact and wetting, Jaeger's method Numericals	13	
Teaching Plan for Practical (First Semester)		**Class: BSc Part-I**	
Sr. No.	**Topic to be covered**	**Lectures Available**	**Lectures Utilized**
	1. Study of laws of Parallel and perpendiculars axes for moment of inertia. 2. Determination of coefficient of restitution for inelastic collision. 3. Moment of inertia of fly wheel. 4. Study of compound pendulum. 5. To determine moment of inertia of a body using bifilar suspension. 6. . Modulus of rigidity by Torsional Pendulum. 7. Acceleration due to gravity by Kater's pendulum. 8. Study of Oscillations of mass under different combinations of springs. 9. Young's modulus by cantilever. 10. Young's Modulus by bending of beam. 11. Modulus of rigidity by statical method	81	

	12. . Young's modulus by Vibration Method.		
Teaching Plan for Theory (Third Semester)		**Class: BSc Part-2**	
Sr. No.	**Topic to be covered**	**Lectures Available**	**Lectures Utilized**
Unit-1	**Mathematical background and Elecrostatics**		
	Gradient, divergence and curl of a vector fields and their physical significance, line surface and volume integral.Gauss divergence theorem , Stocks theorem.Work done oncharge in electrostatic field, flux of electric field, force onmoving charge, Lorentz force equation and definition of B. Ampere's force law, Ampere's Law and its applications.	14	
Unit-2	**Magneto statics and Maxwell's Equations**		
	Faraday's Law, Integral and differential form of faraday 'slaw, displacement current and Maxwell's Equation , wave Equation satisfied by E and B. Plane electromagnetic wave in vacuum, Pointing vector and Pointing theorem.	14	
Unit-3	**: Solid State Electronics Devices-I**		
	Physics of semiconductors : Introduction to semiconductors; Charge carriers & electrical conduction through semiconductors ; Doping , extrinsic semiconductors ; Fermi level & energy level diagrams ; Drift current in semiconductor , mobility, conductivity ; Hall effect, Hall coefficient, Semiconductor diode & its biasing, LED,Varactor diode.	14	
Unit-IV :	**Solid State Electronics Devices-II**		
	Introduction to BJT ; working of BJT ; modes of operation; Current gains á and â, their relation ; CB & CE characteristics ; JFET- construction & working ,characteristics of FET ; Basic concept of Difference amplifier, IC-OP AMP , electrical parameters of OP AMP, inverting & no inverting modes ; OP AMP as adder , subtractor, differentiator & integrator	14	
Unit: V :	**Special Theory of Relativity**		
	Postulates of Special Theory of Relativity, Lorentz transformations, Length contraction, Time dilation ,relativistic addition of velocities, relativity of mass, Einstein's Mass - energy relation, Numericals.	13	
Unit: VI :	**Atmosphere and Geophysics**		
	Structure of earth – The crust, mantle, core. Part of the earth – As a planet; The Atmosphere, The lithosphere, The Hydrosphere Composition of Atmosphere Earthquakes – Causes, terminologies associated with earthquakes. Type of earthquakes scale of intensity, recording of earthquakes. Radiation in the atmosphere, Propagation of energy through vacuum, Intensity of radiation ,Scattering, absorption and reflection of solar radiation by the atmosphere. Moisture and clouds: mechanism that produces clouds ,Cloud produced by mixing and by cooling.	13	
Teaching Plan for Practical (Third Semester)		**Class: BSc Part-2**	
	Experiments:- 1. To determine characteristics of CB transistor 2. To determine characteristics of CE transistor 3. Measurement of magnetic field by Hall probe method 4. To study variation of gain of CE amplifier with load 5. To study Zener regulated power supply 6. To determine characteristics of FET 7. To study FET as a voltmeter 8. To study Weins bridge oscillator 9. To study phase shift oscillator 10. To study Wein's bridge oscillator 11. To study p-n diode as a rectifier 12. To determine characteristics of p-n junction.	72	
Teaching Plan for Theory (Fifth Semester)		**Class: BSc Part-3**	
Sr. No.	**Topic to be covered**	**Lectures Available**	**Lectures Utilized**
Unit- 1 Origin of Quantum Mechanics			

	1. Historical Background: Failure of classical wave theory in explaining Black body radiation and Photoelectric Effect; Compton Effect Qualitative explanation only 2. Assumptions of Planck's Quantum Theory 3. Wave Particle Duality4. Matter Waves: De Broglie Hypothesis, Davisson Germer experiment 4. Concept of Wave Packet, Phase velocity, group velocity and relation between them. 5. Heisenberg's uncertainty principle: Different forms of uncertainty principle; Thought experiments: single slit diffraction and Gamma ray microscope.	14	
Unit 2 The Schrodinger equation and its applications			
	1) Wave function and its physical significance 2) Schrodinger time dependent equation 3) Separation in time dependent and time independent 1. Parts 4) Operators in quantum Mechanics 5) Eigen functions and Eigen values 6) Particle in one dimensional and three dimensional box(Energy Eigen values) 7) Qualitative analysis of potential barrier Tunneling effect) 8) Simple Harmonic Oscillator (Qualitative analysis of Zero point energy)	14	
Unit 3 : Atomic and Molecular Spectroscopy			
	Vector Atom Model: Quantum Numbers, Stern Gerlach experiment; selection rules, l-s and j-j coupling, Types of spectra – Emission & absorption spectra. X-rays: Continuous X-ray spectrum, Duane and Hunt's law, characteristic X-ray spectra, Mosley's law. Raman Effect: stoke's and anti-stoke's lines, Quantum theory of Raman effect, Experimental arrangement for Raman Spectroscopy.	14	
Unit IV : Nuclear Physics			
	Detection of charged particles; G. M. counter, Binding energy and Mass defect, stability of nuclei Alpha Decay: Range of Alpha particles, Geiger – Nuttal law and Gamow's explanation of alpha decay (qualitative) Beta decay: Types and Pauli's Neutrino Hypothesis Nuclear Fission, Nuclear fusion (concepts only), Nuclear reactors.	14	
Unit 5			
	Hybrid parameters- low frequency equivalent of CE amplifier & its analysios., Bais stability & thermal runway (qualitative). General principles of amplifier classification, RC coupled amplifier, equivalent circuits & gain at low, medium & high frequency (qualitative), gain-frequency response. Noise & distortion in electronic	13	
Unit 6			
	Feedback in amplifiers- negative feedback, advantages of negative feedback, positive feedback. Phase shift, Wein bridge, Hartley & Colpits Oscillators. Multi-vibrators – astable, monostable & bistable.	13	
Teaching Plan for Practical (Fifth Semester)		**Class: BSc Part-3**	
Sr. No.	**Topic to be covered**	**Lectures Available**	**Lectures Utilized**
	1.To study RC coupled amplifier- variation of gain with load. 2. To study phase shift oscillator. 3. To study Wein bridge oscillator. 4. To study Hartlay oscillator. 5. To study Colpits oscillator. 6. To determine 'e' by Millikan's oil drop experiment	81	

	7. To determine 'e' by Thomsons method. 8. Determination of Rydberg's constant. 9. To study absorption spectrum of Iodine vapors. 10. To study Raman spectrum. 11. To identify elements in optical line spectrum. 12. To determine absorption coefficient of material for gamma rays.		
Teaching Plan for Theory (Second Semester)		**Class: BSc Part-1**	
Sr. No.	**Topic to be covered**	**Lectures Available**	**Lectures Utilized**
Unit 1			
	Ideal Gas - Kinetic theory of Gases (Assumption, equation without derivation), deduction of Boyle's law, interpretation of temp. Estimation of R M S speed of molecule; Estimation of Avagadro's number; degrees of freedom; equipartition of energy; specific heat of monatomic gas; extension to di & tri-atomic gases. Real Gas- Vander Waals gas equation of state, Comparison with experimental P-V curves, the critical constants; nature of Vander-Waals forces. Transport Phenomena in gases: Molecular Collision, mean free path, Brownian motion and collision cross section. Transport of mass, momentum and energy and interrelationship ,dependence on temperature and pressure. Numericals	15	
Unit 2			
	The laws of thermodynamics - The zeroth law, P-V indicator diagrams, work done by and on the system; First law of thermodynamics, internal energy as a state function and other applications; Reversible and irreversible changes; Carnot Cycle and its efficiency for perfect gases, The Second law of thermodynamics; different versions of second law, Carnot theorem; Entropy, S-T diagram; Principle of increase of Entropy; The thermodynamic scale of temperature; its identity with the perfect gas scale. Impossibility of attaining the absolute zero, third law of thermodynamics. Numericals.	15	
Unit 3			
	Liquefaction of Gases - Joule-Thomson effect, Joule's coefficient, Boyle and inversion temperature; Principle of regenerative cooling and Cascade Cooling, Liquefaction of hydrogen and helium Thermodynamic relationships- Thermodynamic Variables, Extensive and intensive, Maxwell's general relationship; application to Joule-Thomson cooling and adiabatic cooling in a general system. Clausius-clapeyron heat equation, thermodynamic Potentials and equilibrium of Thermodynamical systems, relation with thermodynamical variables.	15	
Unit 4			
	Motion of Charged Particles in Electric and Magnetic fields:(Note: The emphasis should be on Mechanical aspects, and not on the details of the apparatus mentioned which indicated as applications of principles involved.) E as an accelerating field, electron gun, case of discharge tube, linear accelerator (linac), E as a deflecting field, Transverse magnetic field, Mass spectrograph, velocity selector, curvatures of tracks for energy determination of nuclear particles, Principle of cyclotron. Mutually perpendicular E and B fields, velocity selector, its resolution.Numericals	15	
Unit 5			
	Network theorem: Thevenin's theorem, superposition theorem(mesh current analysis),Maximum power transfer theorem, some applications. Ballistic galvanometer (theory, charge sensitivity, effect of damping), Application of B.G: Determination of capacitance and high resistance by method of leakage Varying Currents: Steady currents, current density J, non steady current and continuity equation, Kirchoff's laws and analysis of multi-loop circuits, Rise and decay of currents in LR, Rise and decay & charge in CR circuits, and in LCR circuit,resonating frequency. Numericals	15	
Unit 6			

	Alternating Currents : A.C. currents, complex numbers and their applications in solving A.C. circuits using J operater, pure R, L, C and their combinations, reactance and impedance, series and parallel resonance, Q-.factor, power consumed by A.C. circuit, power factor. Self and mutual inductance, theory of transformer and energy losses in transformer. Numericals	14	
Teaching Plan for Practical (Second Semester)		**Class: BSc Part-1**	
Sr. No.	**Topic to be covered**	**Lectures Available**	**Lectures Utilized**
	1. Heating efficiency of electrical Kettle with varying voltages. 2. Determination of "J" by Callendar and Barne's method. 3. Cp/Cv by Clement and Desorme's method. 4. Thermal conductivity of an insulator by Lee's disc method. 5. Determination of charge sensitivity of ballistic galvanometer. 6. Measurement of low resistance by Carey-foster Bridge. 7. Measurement of low resistance by potentiometer. 8. Measurement of inductance by phasor diagram method. 9. Measurement of capacitance by phasor diagram method. 10. Study of frequency resonance of series LCR circuit and determina- tion of Q-factor. 11. To study behavior of R-C.circuit as a filter. 12. To determine high resistance by leakage method. 13. C1 / C2 by De-Sauty's method. 14. Verification of laws of capacitances.	90	
Teaching Plan for Theory (Fourth Semester) **Class: BSc Part-2**			
Sr. No.	**Topic to be covered**	**Lectures Available**	**Lectures Utilized**
Unit 1 Geometrical optics and interference			
	Cardinal points of an optical system, equivalent focal length and power of coaxial lens system, Interference in thin films due to reflected and transmitted light, interference in wedge shaped thin film, Newton's ring by reflected light, measurement of wavelength of monochromatic light by Newton's, ring, determination of refractive index of liquid by Newton's rings. metals. Meaning of terms hydrometallurgy and pyrometallurgy.	15	
Unit 2 Diffraction			
	Fresnel and Fraunhofer Diffraction, Fresnel half period zone, zone plate construction and theory. Double slit diffraction, Plane diffraction grating; construction and elementary theory, determination of wavelength of monochromatic light by using grating. Resolution of images, Rayleigh's criteria for resolution, R. P. of grating.	15	
Unit 3 : Polarization			
	Concept of polarization, optic axis, double refraction, polarization by double refraction, phase retardation plate :-Quarter wave plate, half wave plate, (Nicol prism-production and analysis of polarized light). Theory of production of elliptically and circularly polarized light, production and detection of elliptically and circularly polarized light. Half shade polar meter, blue of the sky.	15	
Unit 4: Laser			
	Introduction to Maser, Absorption, spontaneous and stimulated emission, population inversion, pumping characteristics of laser beam. Main components of laser system, three level and four level laser system. Ruby laser, He-Ne laser, semiconductor laser, application of laser. Holography-principle .	15	
Unit 5 Fiber optics			
	introduction of fiber optics, total internal reflection, structure and classification of optical fiber. Propagation of light wave in an optical fiber, Acceptance angle and numerical aperture, dispersion, fiber losses, fiber optic communication. Advantages and Disadvantages of optic fibers, application of fiber optics.	15	

Unit 6 Renewable Energy Sources			
	Introduction to various renewable energy sources – Solar energy, Wind energy, ocean energy- Waves & tides, geothermal energy, Hybrid Systems, Hydrogen energy systems, Fuel cells. Solar energy - Solar radiations on earth - availability and seasonal variations, Solar constant, Spectral distribution, Measurement of solar radiation and sun shine. Solar Energy Storage :- Methods of storage, properties of storage materials. Principle of Solar Thermal Applications, Solar water heater, Solar concentrating collectors - Types, applications. Solar Photovoltaic systems -- Operating principle, Photovoltaic cell concepts , power of a solar cell and solar PV panel ; Applications.	14	
Teaching Plan for Practical (Fourth Semester)		**Class: BSc Part-2**	
Sr. No.	**Topic to be covered**	**Lectures Available**	**Lectures Utilized**
	To determine the wavelength of monochromatic light by Newton's rings. 1. To verify the Brewster's law. 2. To determine the refractive indices for ordinary and extra-ordinary rays using double image prism. 3. To determine the Concentration of sugar solution by half shade polarimeter. 4. To determine the wavelength of monochromatic light by plane diffraction grating. 5. To find the number of lines per centimeter of the given grating. 6. To determine the resolving power of plane diffraction grating. 7. To determine the resolving power of telescope. 8. To determine the wavelength of laser light. 9. Determination of refractive index of a prism by spectrometer. 10. Determination of solar constant 11. To determine frequency and phase of signal using CRO. 12. To determine capacitance by Scherring bridge method.	87	
Teaching Plan for Theory (Sixth Semester)		**Class: BSc Part-3**	
Sr. No.	**Topic to be covered**	**Lectures Available**	**Lectures Utilized**
Unit -1: Statistical Mechanics			
	Phase space, unit cell, microstates, macrostates, energy states, density of energy states, probability & thermodynamic probability, principle of equal a priori probabilities, most probable distribution, Boltzman entropy relation Maxwell Boltzman statistics, and its application to molecular speed distribution, Average speed, rms speed & most probable velocity.	**15**	
Unit 2			
	Distinguishable & indistinguishable particles, concepts of boson &fermions. Bose – Einstein statistics : Thermodynamic probability, most probable distribution, application of BE statistics to black body radiation. Fermi- Dirac distribution : Thermodynamic probability, Most probable distribution ,Fermi function, Fermi energy & Fermi temperature.	**15**	
Unit 3 Crystallography			
	Solids: - Amorphous and Crystalline Materials; Unit Cell. Millar Indices, Reciprocal Lattice, Coordination Number. Types of Lattices: Diffraction of x-rays by Crystals. Bragg's Law: Determination of lattice parameters of NaCl crystal.Defects in solids – points, line & plane defects.	**15**	
Unit 4			
	Electrical Properties of Materials Motion of electron:- Free electrons; conduction electrons, electron collision; mean free path, conductivity & Ohm's law; density of states; concept of Fermi energy.Band structure : Electron in periodic potential, nearly free electron model (qualitative), energy band, energy gap, metals, isulators and semiconductors.	**15**	
Unit 5			
	Magnetic Properties of Materials Atomic magnetic moment; magnetization	**15**	

	vector; magnetic susceptibility; Dia -, Para-, and Ferromagnetic Materials; Classical Langevin Theory of di and Paramagnetic Domains; Quantum Mechanical Treatment of Paramagnetism; Curie's law, Weiss's law;. Hysteresis and Energy Loss		
Unit 6			
	Superconductivity & Nano Technology Superconductivity: Introduction to Superconductors; Critical Temperature; Critical magnetic field; Meissner – effect; Type I and type II Superconductors, Idea of BCS theory (No derivation), Cooper pair; Applications of superconductors. Nano Technology: Introduction to nano size materials, brief History of Nano materials, Effect of reduction of dimensions on physical properties; quantum size effect; Applications of nano materials in different fields.	**14**	
Teaching Plan for Theory (Sixth Semester)		**Class: BSc Part-3**	
Sr. No.	**Topic to be covered**	**Lectures Available**	**Lectures Utilized**
	1. To study crystal models and identification of crystal planes. 2. To study Characteristics of Photocell 3. To determine Planck's constant using photocell 4. To determine energy gap of semiconductor using four probe method. 5. To determine activation energy of Thermister. 6. To determine energy gap of semiconductor using reverse bias method 7. To study hysterisis losses in transformer core and plot B-H curve. 8. To measure magnetic susceptibility of solids. 9. To study thermoemf using thermocouple. 10. To Determination of temperature coefficient of resistance of 11. platinum using platinum resistance thermometer. 12. To determine lattice parameter using X-ray diffraction pattern.	90	

PROGRAMS SCHEDULE(2021-2022)

Sr. No.	Particulars	Date
01	Hiroshima and Nagasaki day	06/08/2021
02	Seminar competition	29/01/2021
03	National science day	28/02/2022
04	Guest lecture	09/03/2022

Mr. V. R. Wankhade
HOD

SATPUDA EDUCATION SOCIETY, JALGAON (JAMOD)'S

ARTS & COMMERCE COLLEGE

WARVAT BAKAL DIST- BULDANA

DEPARTMENT OF COMPUTER SCIENCE

DEPRTMENTAL ACADEMIC CALENDAR 2021-22

Departmental Academic Calendar (2021-22)

Departmental Academic Calendar (2021-22)

Sr. No.	Activity	Commencement	Cessation	Total Days	
01	First Session	30/08/2021	15/01/2022	105	
02	Admission Process	01/09/2021	18/09/2021	14	
03	Teaching Days (Odd Semesters)	27/09/2021	30/10/2021	26	**83**
		08/11/2021	15/01/2022	57	
04	Induction Program for FirstYear Students	20/09/2021	25/09/2021	06	
05	First Term Vacation	01/11/2021	06/11/2021	06	
06	Summer 2022 Examination	27/01/2022	05/02/2022	19	
07	Second Session	17/01/2022	31/05/2022	109	
08	Teaching Days (Even Semesters)	07/02/2022	31/05/2022	**90**	
08	Second Term Vacation	01/06/2022	30/06/2022	26	
09	Even Semesters University ExamWinter 2022	01/06/2022	01/06/2022	30	
10	Commencement of next Academic session	01/07/2022			

Sr. No.	Public Holiday	Day & Date
01	Ganesh Chaturthi	Friday, 10th September, 2021
02	Gauri Pujan	Monday, 13th September, 2021
03	Mahatma Gandhi Jayanti	Saturday, 02th October, 2021
04	Sarvpitri Amavasya	Wednesday, 06th October, 2021
05	Dasara	Friday, 15th October, 2021
06	Eid A Milad	Tuesday, 19th October, 2021
07	Gurunanak Jayanti	Friday, 19th November, 2021
08	Christmas	Saturday, 25th December, 2021
09	Makarsankranti	Friday, 14th January, 2022
10	Republic Day	Wednesday, 26th January, 2022
11	Chhatrapati Shivaji Maharaj Jayanti	Saturday, 19th February, 2022
12	Mahashivratri	Tuesday, 01st March, 2022
13	Holi (Second Day)	Friday, 18th March, 2022
14	Gudhi Padwa	Saturday, 02nd April, 2022
15	Dr. Babasaheb Ambedkar Jayanti / Mahavir Jayanti	Thursday, 14th April, 2022
16	Good Friday	Friday, 15th April, 2022
17	Ramzan Eid (Eid-Al-Fitur)	Tuesday, 03rd May,2022
18	Buddha Pournima	Monday, 16th May, 2022

Time Table

Mr. D. Chaube

Faculty: Science **Subject: Computer Science**

Period	1	2	3	4	5
Day / Time	11 to 11:48 (P)	11:48to 12:36 (P)	12:36to 1:24 (P)	1:34 to 2:22	2:30 to 4:54
MON	T (B.sc II)	T (B.sc I)		T (B.sc III)	P (B.sc I)
TUE	T (B.sc I)	T (B.sc II)	T (B.sc III)		P (B.sc I)
WED	T (B.sc I)	T (B.sc II)	T (B.sc III)		P (B.sc II)
THUS	T (B.sc II)	T (B.sc I)	T (B.sc III)		P (B.sc II)
FRI	T (B.sc I)	T (B.sc II)	T (B.sc III)		
Day / Time	07:30 To 08.18	08:18To 09:06	9:16 to 10:04		10:4 to 12:28
SAT	T (B.sc II)	T (B.sc I)	T (B.sc III)		P (B.sc III)

Allotted Workload

Subject: Computer Science **Year: 2021-2022**

Sr. No.	Class	No. of periods per week			Paper Allotted
		Lectures	Tutorials	Practical	
1	B.Sc.-1	06		2 * 3 = 06	--
2	B.Sc.-2	06		2 * 3 = 06	--
3	B.Sc.-3	06		2 * 3 = 06	--

Total Workload per week (L+P): 18 (L) + 18 (P) = 36 (L) (28.8 hrs.)

Teaching Periods Available per month during the session 2021-2022

Faculty: Science **Subject: Computer Science**

		Odd semester						Even semester				
		Sep	**Oct**	**Nov**	**Dec**	**Jan**	**Total**	**Feb**	**Mar**	**Apr**	**May**	**Total**
B.Sc.-I	**Theory**	4	22	19	26	11	82	17	25	23	24	89
	Practical	6	21	24	24	12	87	18	24	24	24	90
B.Sc.-II	**Theory**	4	22	19	26	11	82	17	25	23	24	89
	Practical	6	24	15	24	09	78	18	30	21	24	93
B.Sc.-III	**Theory**	4	22	19	26	11	82	17	25	23	24	89
	Practical	0	24	15	24	9	72	15	21	24	24	84

Teaching Plan for Theory (First Semester)		Class: BSc Part-I	
Sr. No.	**Topic to be covered**	**Lectures Available**	**Lectures Utilized**
UNIT-I : Introduction to Computers :			
	Characteristics, classification of Computers, block diagram of computer, memory and their types: Primary and secondary memory . Peripheral devices : Keyboard, mouse, scanner, printers : Impact, Non-impact, DMP, inkjet , Laser.	14	
UNIT-II : Introduction to OS :			
	DOS : Booting process, formatting, directory structure, FAT. Internal DOS commands : REN, CD, MD,RD, DIR, DEL, COPY, TYPE, DATE, TIME, COPYCON, PROMPT External commands: FORMAT , XCOPY, CHKDSK, PATH, ATTRIB, AUTOEXEC. BAT, CONFIG.SYS Windows : Introduction, features, Windows Explorer Number system : Decimal, binary, octal, hexadecimal and their conversions, ASCII Code.	14	
UNIT-III : Introduction to Internet :			
	Direct, Types of Internet connection: Direct dial-up, broadband, Internet protocol : TCP/IP, FTP, HTTP, Domain name e-mail address, WWW, web browser : Internet Explorer. Netscape navigator, search en	14	
UNIT-IV : Programming Concept :			
	Algorithm flowcharting programming languages, assembler, interpreter, compiler programming process : program design, coding compilation, Execution, testing, debugging documentation structured programming : features and approches	14	
UNIT-V : Elements of C :			
	Introduction to C, History, features structure of C program, header file, character set, keywords, identifiers, constants, variables, basic data types, symbolic constants, typedef operators & Expressions : Arithmetic, Relational, logical assignment, Increment and decrement, precedence of opations	13	
UNIT- VI : I/O Operations :			
	Formatted I/O : Printf( ), Scanf( ) , Unformatted I/O : getch ( ), getche ( ), getchar( ), putch ( ), putche ( ), putchar ( ), gets ( ), Puts( ), Controal structure : if , if... else, nested if, conditional operator , switch, goto, for, while, do..while, nesting of loops, break, continue.	13	
Teaching Plan for Practical (First Semester)		**Class: BSc Part-I**	
	1. Practical on Word Processing. 2. Practical on Spread Sheets. 3. Practical on Design of Presentation. 4. Write a program in ‘C’ to demonstrate Arithmetic Operations. 5. Write a program in ‘C’ to demonstrate If -Else Statement. 6. Write a program in ‘C’ to demonstrate Nested If Statement. 7. Write a program in ‘C’ to demonstrate Else..If ladder Statement. 8. Write a program in C to demonstrate Switch-case Statement. 9. Write a program in ‘C’ to demonstrate For Loop Statement. 10. Write a program in ‘C’ to demonstrate Nested For Loop Statement. 11. Write a program in ‘C’ to demonstrate While Loop Statement	87	
Teaching Plan for Theory (Third Semester)		**Class: BSc II Sem III**	
Unit-I Object-Oriented Programming with C++ and Web Technology.			
	Concept of OOP, Comparision with POP, features of OOP, advantages and applications of OOP, Introduction to C++, structure of C++ program, tokens, keywords, identifiers, basic data types & user defined data types, Constants, variables, declaration of variables, dynamic initialization of variables, types of symbolic constants.	14	
Unit-II : Operators :			
	Scope resolution operator, member dereferencing	14	

	operator, implicit & explicit conversions.		
Unit-III : Classes and objects :			
	Data abstraction and, Encapsulation, Data Hiding, class specification, defining objects, accessing class member, defining member functions, Nesting of member function, friend functions, passing objects as arguments, Returning objects from functions.	14	
Unit-IV : Basic elements of communication system, Network concept			
	advantages, goals, network topologies: Star, ring, completely connected N/W, Hybrid N/W, multipoint n/w, LAN, WAN, OSI model.	14	
Unit-V : HTML :			
	Introduction, Need of HTML application of HTML, Basic structure of HTML, HTML tags and attributes : Adding tags, include attributes < HTML >, < HEAD >, < TITLE >, < BODY >, < P >, < Br >, < HR >, Heading tags, table tags,<LINK>, < IMG>, <ROWSPAN>, <COLSPAN >, < MARQUEE>,< BLOCKQUOTE >, < A >, < I >, < B >, list tag, Attributes : allign, background colour, text color.	13	
Unit-VI : Style sheet :			
	advantages of style sheet & applications of style sheet, CSS : Introduction, CSS stylesheet properties : Units, classes and ID attributes. Properties : Text, font, colour, background, border, display, height, line, margin, width, CSS with HTML.	13	
Teaching Plan for Practical (Third Semester)		**Class: BSc Part-II**	
	1-Data Structure 1) Perform Traversing Operation Fom an array 2)Perform Insertion and deletion operation of an array 3)Perform Push and Pop Operation on Stack. 4)Find Maximum and Minimum from an array 5)Traversing elements of linked list. **2-'C'** 1)Find the area of circle using constant argument 2)Demostrate the use of scope resolution Operator. 3)Create student class and print student Name and Rollno 4)To illustrate the use of Manipulators.	78	
Teaching Plan for Theory (Fifth Semester)		**Class: BSc Part-III**	
UNIT-I : Fundamental of DBMS :			
	Architecture of a database system,, data independence, database models; Relational Hierarchical, network; data dictionary	14	
UNIT-II: Relational Model :			
	Relations, Domains and Attributes keys, E-R diagrams, Reducing E-R diagrams to tables, function dependency, Normalization Process, Normal forms : 1NF,2NF, 3NF, 4NF, BCNF.	14	
UNIT-III : Introduction to SQL :			
	Components of SQL, data types, operators, DDL Commands : CREATE, ALTER, DROP, for tables & views. DML Commands : SELECT, INSERT, DELETE & UPDATE; Clauses : ORDER BY, GROUP BY and HAVING;	14	
UNIT-IV : Introduction to Visual Basic :			
	Visual programming, event driven programming, VB Environment : New Project window, property window, Form layout window, toolbar,menu bar, tool box, form window;	14	

UNIT-V: Creating Menus :			
	Application wizard for menu, menu editor, creating menu, adding code to menus, data types & variables. Operators : Conditional operators, logical operators, control structures : If-else, Nested If—else, select case, goto, do loop, for loop, nested for loop.	13	
UNIT-VI : Introduction to Internal Functions :			
	Msgbox(), named constant, default buttons, specifying icons. Input box(), title, caption; using check box and option button in form. VB Programmes : Private and public procedure, passing data by reference and value, passing control as arguments.	13	
Teaching Plan for Practical (Fifth Semester)		**Class: BSc Part-III**	
	1)JAVA Programming 1) Convert Rupees into paise 2) Check If a Given Number is ArmStrong Number 3)Make Calculator using the switch statement 4) Demonstrate the functioning of the do-while loop in java 5) Demonstrate method overriding in java **2) 'C++'** 1)Find the area of circle constant argument 2)Demostrate the use of scope resolution Operator 3)Demostrate the use of Manipulation. 4)Illustrate single inheritance in Public mode. 5)Display the list of student using multilevel inheritance.	72	
Teaching Plan for Theory (Second Semester)		**Class: BSc Part-I**	
UNIT-I : Data structure:			
	Introduction to data structure, Types of data structure: Primitive and Non-primitive, Linear and Non-linear data structure, Data structure operations. **Array:** Definition and concepts, Memory Representations, Operations: Traversing, Insertion, Deletion. **Stacks:** Definition and concepts, Memory Representations, Operations: Traversing, Insertion, Deletion.	15	
UNIT-II: Queue:			
	Linked list & its implementation, traversing, insertion, deletion algorithms, circular Queue.	15	
UNIT-III : Tree :			
	Definition and concepts, Memory Representations, Operations: Traversing, Insertion, Deletion. Types of Queue. **Linked List:** Definition and concepts, Memory Representations, Types of Linked List, and Operations: Traversing, Insertion, Deletion. **Tree:** Definition and Terminologies, Memory Representations of Trees, Types of Trees : Binary Trees, Complete Binary Trees, Binary Search Trees, Traversing : Preorder, Inorder, Postorder, Insertion, Deletion.	15	
UNIT-IV- Object Oriented Programming:			
	Features, Advantages and Applications of OOPS. Comparisons between POP and OOP, Introduction to C++, Program structure in C++. **Classes and Objects:** Classes and Objects Specifiers, Defining data member and member functions, Accessing members. **Managing Console I/O:** Formatted and Unformatted, Usage of manipulators: endl & setw, Scope Resolution Operator.	15	
UNIT-V-Functions in C++:			
	Passing objects to and returning objects from functions. Function Overloading and Default argument, Inline function, Friend function. Array of Objects, Pointer to objects, 'this' pointer. Constructor and Destructor: Types of constructor,	15	
UNIT-VI- Operator Overloading:			

	Definition, Overloading Unary and Binary operators. **Inheritance:** Definition, Types of Inheritance, Visibility mode; Types of inheritance with example, Virtual base classes and Abstract base classes.	14	
Teaching Plan for Practical (Second Semester)		**Class: BSc Part-I**	
	Data Structure 1. Write a Data Structure program in C to insert the element into the STACK using PUSH operation. 2. Write a Data Structure program in C to delete the element from the STACK using POP operation. 3. Write a Data Structure program in C to insert the element into the QUEUE. 4. Write a Data Structure program in C to delete the element from the QUEUE. 5. Write a Data Structure program in C to insert the node into the Linked List. **Object Oriented Programming language** 1. Write a program in C++ to demonstrate Class and Object. 2. Write a program in C++ to demonstrate constructor and destructor. 3. Write a program in C++ to demonstrate Inline function. 4. Write a program in C++ to demonstrate the use of friend function. 5. Write a program in C++ for default argument.	89	
Teaching Plan for Theory (Fourth Semester)		**Class: BSc Part-II**	
Unit-I : VB Programms :			
	Programme structure, procedure & Functions, priavate and public procedure, virables Code, Passing data by reference and value, passing control as argument, design time and runtime properties	15	
Unit-II : Interacting with Data:			
	Database and Visual basic, data Control, advance data Control usage, advanced database control using VB application Wizard.	15	
Unit-III : Printing output in VB :			
	Printing information using print collection, controlling output, scalling output, formatting with fonts, simple VB programs, connection with database.	15	
Unit-IV : PL SQL			
	PL SQL block, architecture, data types, type declarations, Control Structure.	14	
Unit-V : Secutiry concepts,			
	Types of Security, User ID, Security Object, Previleges : types of previleges : GRANT, REVOKE previleges, column passing privelege, Database triggers, procedures.	15	
Unit-VI : Dynamic SQL :			
	Limitations of Static SQL, Basic concept of Dynamic SQL, Dynamic statement execution, Dynamic Queries. SQL *Forms; creating forms, entering data, running forms, editing forms, creating and running reports.	15	
Teaching Plan for Practical (Fourth Semester)		**Class: BSc Part-II**	
	1)Write the code in SQL, to create and drop database 2) Writee a code in SQL to use employee database and also create employee table with the field emp_id, emp_data, emp_name 3) write the code in SQL to add mobile_num field in previously created table emp.	89	

	4) write the code in SQL to modify database and size of the colomn city char(20) into city varchar(15). 5) write the code in SQLto add 5 records in table that you have created 6) Write the code in SQL, to rename table emp to bsc 7) Write the code in SQL, to view all records of database 8) Write the code in SQL, to study all arithmetic operations. 9) Write the code in SQL, to study Numeric operators 10) Write the code in SQL, to study Character Function		
Teaching Plan for Theory (Six Semester)		**Class: BSc Part-III**	
Unit-I : Functions :			
	Number Functions - AVG, MAX, MIN, SUM, COUNT, TO-NUMBER, GREATEST, LEAST, ABS, MOD, FLOOR, CEIL, TRUNC, SQRT, SIGN, SIN, COS, LOG, EXP. Character Function : INITCAP, LOWER, UPPER, INSTR, LENGTH, LTRIM, RTRIM, LPAD, RPAD, SOUNDEX, DECODE. **Joins and Unions :** Self, equi and outer join, unions and intersection.	15	
UNIT-II: PL/SQL :			
	Features and block structure, variables and constant, data types, control structure. **Cursor :** Concepts of cursor, types, declaring, opening, using cursors, fetching data, closing a cursor, cursor attributes. **Transaction :** Rollback, commit and autocommit, save point, rollback segment	15	
UNIT-III : Securities of Database :			
	Users, creating users, roles, creating roles, types of previleges, GRANT and REVOKE commands data lock	14	
UNIT-IV : Dialog Box Control :			
	Need for dialog box control, adding the dialog box control, producing the color dialog box control, handling the cancel button, producing the font dialog box, producing the open dialog boxes, producing file save dialog boxes, producing the print dialog boxes. **Mouse and Control :** Mouse response, list box controls, combo box control, timer control, working with arrays, declaring arrays, multiple list boxes.	15	
UNIT-V : Working with Forms :			
	Form collections, accessing the form collection using the subscripts, the count property, uploading forms, placing text on forms, format with print, positioning the print method, multiple forms, placing tool bars on forms.	15	
UNIT-VI : Working with Files :			
	Open statement, file modes, locking the file, close statement, working with sequential access file, print# statement, input# statement, write# statement, working with random access file, put statement, get statement, defining user defined data types, file control, file related commands.	15	
Teaching Plan for Practical (Six Semester)		**Class: BSc Part-III**	
	1)Write the programm in JAVA to add two integer. 2) Write the programm in JAVA for Exception handling 3) Write the programm in JAVA to Test the Arithmetic Exception in JAVA 4) Write the programm in JAVA to define own parameter. 5) Write the programm in JAVA Applet to print 'Hello World'	84	

	6) Write the programm in JAVA Applet to Print Smiley face 7) Write the programm in JAVA Applet to display Olympics 8) Write the programm in JAVA Applet to display Human Face 9) Write the programm in JAVA for Multiplr Catch Block 10) Write the programm in JAVA Applet to display Chess Board.		

PROGRAMS SCHEDULE (2021-2022)

Sr. No.	Particulars	Date
01	Poster Competition	20/10/2021
02	Seminar Competition	2/12/2021
03	IT Company Visit	27/01/2022
04	National Science Day	28/02/2022
06	Guest Lecture	6/03/2022

Mr. D. Chaube
HOD

Principal
Arts & Commerce College,
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ARTS AND COMMERCE COLLEGE

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President

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Criterion I: Curricular Aspects

1.1. Curriculum Planning and Implementation

Teaching Faculty List

Session-2021-2022

Supporting Documents D

1.1.1 The institution ensures effective curriculum delivery through a well-planned and documented process

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Shri. Krushnarao Ingle (Ex MLA)
President

Phone : 07266-237126 visit us at : www.acscwb.co.in Email : 327accwb@gmail.com

CERTIFICATE

This is to certify that the documents attached as supporting documents for Criterion I: Curricular Aspects are verified from the college record and found to be correct to the best of my knowledge.

Principal
Arts & Commerce College,
Warvat Bakal Dist.Buldana

ARTS AND COMMERCE COLLEGE

Warvat Bakal Dist- Buldana

List of Teaching Faculty

Sr. No.	Name of teaching faculty	Designation	Qualification	Department
1	Dr. Jagannath Sukhadeo Chaudhari	Principal	M.A., M.Phil. Ph.D.	Marathi
2	Dr. Rajendra Shrirampant Korde	HoD &Assistant Professor	M.A. , Ph.D.	Political Science
3	Dr. Subhash Ramchandra Gurjar	HoD &Assistant Professor	M.A. , M.Phil, Ph.D., SET	Economics
4	Dr. Subhash Shankarrao Pawar	HoD &Associate Professor	M.A., M.Phil, Ph.D.	History
5	Mr. Ananad Udebhan Dhundale	HoD &Assistant Professor	M.A.	Marathi
6	Mr. Nishigandh Prabhakar Satav	HOD &Assistant Professor	M.A. M.Phil	English
7	Mr. Nagesh Wasudeo Ingle	Assistant Professor	M.A. B.Ed., SET	
8	Dr. Satish Wasudeo Rane	HoD &Assistant Professor	M.Com., M.Phil., Ph.D., NET	Commerce
9	Dr. Sanjay Jagdeorao Tale	Assistant Professor	M.Com., Ph.D., MBA, NET	
10	Mr. Suresh Ramesh Bhaltadak	Assistant Professor	M.Com., SET, NET	
11	Mr. Nityanand Devidas Dahake	HoD &Assistant Professor	M.Sc., B.Ed., SET	Chemistry
12	Dr. Vijayanand Dyandeo Ingale	Assistant Professor	M.Sc., B.Ed., Ph.D.	
13	Mr. Nilesh Shridhar Shelke	Assistant Professor	M.Sc., SET	
14	Mr. Kiran Prakash Sabale	Assistant Professor	M.Sc., NET, GATE	
15	Mr. Santosh Shrikrushna Mhasal	HoD &Assistant Professor	M.Sc., B.Ed. SET	Botany
16	Dr. Kishor Bhaskar Theng	Assistant Professor	M.Sc., B.Ed., Ph.D.	
17	Dr. Dnyaneshwar Krishna Sherkar	Assistant Professor	M.Sc., Ph.D.	
18	Dr. Nandkishor Keshavrao More	Assistant Professor	M.Sc., B.Ed., Ph.D.	
19	Dr. Megha Ranjit Solanke	HoD &Assistant Professor	M.Sc., M.Phil., Ph.D.	Zoology
20	Dr. Madhuri Sudhakar Hingankar	Assistant Professor	M.Sc., B.Ed., Ph.D.	
21	Ms. Sonali Anil Tayade	Assistant Professor	M.Sc., SET, NET, GATE	
22	Mr. Sushil Diliprao Deshmukh	Assistant Professor	M.Sc., SET	
23	Mr. Gajanan Sheshrao Paikat	Director	M.P.Ed. (NIS)	Physical Education
24	Mr. Sunil Motiram Makode	Librarian	M.Lib.	Library

SATPUDA EDUCATION SOCIETY, JALGAON (JAMOD)'S

ARTS AND COMMERCE COLLEGE

Warvat Bakal Dist- Buldana

Dr. Rajendra S Korde
In- Charge Principal

Shri Krushnarao Ingle (Ex MLA)
President

Phone : 07266-237126 visit us at : www.acscwb.co.in Email : 327accwb@gmail.com

Criterion I: Curricular Aspects

1.1 Curriculum Planning and Implementation

Departmental Perspective Plan

Session-2021-2022

Supporting Document E

1.1.1 The institution ensures effective curriculum delivery through a well-planned and documented process

Dr. Rajendra S Korde
In- Charge Principal

Shri. Krushnarao Ingle (Ex MLA)
President

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Principal
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Warvat Bakal Dist.Buldana

ARTS AND COMMERCE COLLEGE

Warvat Bakal Dist- Buldana

Department of English

Perspective Plan for Curriculum Implementation 2021-22

TEACHING PLAN FOR BA ENGLISH			
Theory BA SEM I	Sr. No.	Topic to be covered	Lectures Available
	01	EDUCATION PROVIDES A SOLID FOUNDATION	9
	02	LOVE STORY	9
	03	SPEECH ON INDIAN INDEPENDENCE	9
	04	FILM MAKING	9
	05	IN THE BAZAARS OF HYDERABAD	8
	06	SHE WALKS IN BEAUTY	8
	07	MIDDLE AGE	7
Tutorial BA SEM I	Sr. No.	Topic to be covered	Lectures Available
	01	PARTS OF SPEECH	10
	02	TENSES	10
	03	UNSEEN PASSAGE	8
	04	LETTER WRITING : PERSONAL AND BUSINESS	7
	05	CURRICULUM VITAE	7
	06	PERSONAL INTERVIEW (INTERNAL ASSESSMENT)	6
	07	SEMINAR (INTERNAL ASSESSMENT)	6
	08	ASSIGNMENT (INTERNAL ASSESSMENT)	3
Theory BA SEM II	Sr. No.	Topic to be covered	Lectures Available
	01	APPRO JRD	10
	02	PACKING	10
	03	HOW I BECAME A PUBLIC SPEAKER	10
	04	VALUES IN LIFE	10
	05	MONEY MADNESS	7
	06	NO MEN ARE FOREIGN	7
	07	ANOTHER'S SORROW	7
Tutorial BA SEM II	Sr. No.	Topic to be covered	Lectures Available
	01	SUBJECT VERB AGREEMENT	10
	02	VERBS : To be, to do, to have, Modals	10
	03	STORY BUILDING	7
	04	E-COMMUNICATION	7
	05	NOTICE / AGENDA / MINUTES	7
	06	READING SKILL (INTERNAL ASSESSMENT)	6
	07	GROUP DISCUSSION (INTERNAL ASSESSMENT)	6
	08	ASSIGNMENT (INTERNAL ASSESSMENT)	5
Theory BA SEM III	Sr. No.	Topic to be covered	Lectures Available
	01	INDIA'S MESSAGE TO THE WORLD	9
	02	THE PLEASURES OF IGNORANCE	8
	03	THE HAPPY PRINCE	8
	04	THE THREE QUESTIONS	8
	05	SONNET 116	5
	06	DIRGE	5
	07	LEISURE	5
	08	A BABY SLEEPS AFTER PAIN	5
Tutorial BA SEM III	Sr. No.	Topic to be covered	Lectures Available
	01	CLAUSES : MAIN / SUB	10
	02	TYPES OF SENTENCES	10

	03	TELEPHONE CONVERSATION	8
	04	INTERPERSONAL CONVERSATION	8
	05	PERSONALINTERVIEW (INTERNAL ASSESSMENT)	8
	06	SEMINAR – PRESENTATION (INTERNAL ASSESSMENT)	8
Theory BA SEM IV	Sr. No.	Topic to be covered	Lectures Available
	01	WHY ARE BEGGARS DESPISED?	*10*
	02	ON THE CONDUCT OF LIFE	9
	03	THE GIRL	9
	04	THE MAGIC SHOP	9
	05	WHERE THE MIND IS WITHOUT FEAR	6
	06	A LAMENT	6
	07	LOVE IN LIFE	6
	08	UP-HILL	6
Tutorial BA SEM IV	Sr. No.	Topic to be covered	Lectures Available
	01	TRANSFORMATION OF SENTENCES	12
	02	SYNTHESIS OF SENTENCES (Simple/Compound/Complex)	12
	03	INTERPERSONAL CONVERSATION	10
	04	CASUAL CONVERSATION	10
	05	PERSONAL INTERVIEW (INTERNAL ASSESSMENT)	8
	06	SEMINAR-PRESENTATION (INTERNAL ASSESSMENT)	8
Theory BA SEM V	Sr. No.	Topic to be covered	Lectures Available
	01	THE OPEN WINDOW	9
	02	THE THREE HERMITS	9
	03	WHAT ID SWARAJ?	9
	04	A LETTER TO HIS SON	9
	05	BANGLE SELLERS	8
	06	THE MOUNTAIN AND THE SQUIRREL	8
Tutorial BA SEM V	Sr. No.	Topic to be covered	Lectures Available
	01	PRECIS WRITING	14
	02	DEVELOPING A THOUGHT	14
	03	PERSONAL INTERVIEW (INTERNAL ASSESSMENT)	13
	04	SEMINAR-PRESENTATION (INTERNAL ASSESSMENT)	12
Theory BA SEM VI	Sr. No.	Topic to be covered	Lectures Available (61)
	01	QUALITY	12
	02	MISS BRILL	12
	03	MY FINANCIAL CAREER	12
	04	SOCRATES AND THE SCHOOLMASTER	12
	05	THE SOLITARY REAPER	7
	06	STAY CALM	6
Tutorial BA SEM VI	Sr. No.	Topic to be covered	Lectures Available
	01	REPORT WRITING	15
	02	ESSAY WRITING	15
	03	PERSONAL INTERVIEW (INTERNAL ASSESSMENT)	15
	04	SEMINAR-PRESENTATION (INTERNAL ASSESSMENT)	16

B.Com. Part I SEM I		
Unit	Available Lectures	Duration
I Prose	30 Periods	September 2021 to November 2021
II Poetry	30 periods	Septembers 2021 to January 2022

III Grammar	40 periods	September 2021 to January 2022
IV Written Communication	40 periods	September 2021 to October 2021
V Internal Assessment	20 periods	November 2021 to January 2022
B.Com. Part II SEM III		
I Prose	16 periods	September 2021 to January 2022
II Poetry	16 periods	September 2021 to November 2021
III Communication Skill	04 periods	November 2021 to January 2022
IV Internal Assessment	08 periods	September 2021 to January 2022
B.Com. Part III SEM V		
I Prose	15 periods	September 2021 to January 2022
II Poetry	15 periods	September 2021 to November 2021
III Communication Skill	08 periods	September 2021 to November 2022
IV Internal Assessment	05 periods	September 2022 to January 2022
B.Com. Part I SEM II		
I Prose	30 periods	February 2022 to March 2022
II Poetry	31 periods	February to May 2022
III Grammar	50 periods	February 2022 to march 2022
IV Written Communication	30 periods	February 2022 to May2022
V Internal Assessment	20 periods	February 2022 to March 2022
B.Com. Part II SEM IV		
I Prose	15 periods	February2022 to May2022
II Poetry	15 periods	February to April 2022
III Communication Skill	08 periods	February 22 to march 22
IV Internal Assessment	06 periods	April to May 2022
B.Com. Part III SEM VI		
I Prose	16 periods	February 2022 to March 2022
II Poetry	15 periods	February to May 2022
III Communication Skill	08 periods	February 2022 to April 2022
IV Internal Assessment	06 periods	April to May 2022
B.Sc. Part I SEM I		
I Prose	30 periods	February 2022 to March 2022
II Poetry	30 periods	February to May 2022
III Grammar	20 periods	February 2022 to April 2022
IV Communication Skill	07 periods	April to May 2022
V Internal Assessment	07 periods	March to May2022
B.Sc. Part I SEM II		
I Prose	30 periods	February 2022 to March 2022
II Poetry	29 periods	February to May 2022
III Grammar	05 periods	February 2022 to April 2022
IV Writing Skill	05 periods	April to May 2022
V Internal Assessment	05 periods	March to May2022

Perspective Plan for Co-curricular Activities 2021-22

Sr. No.	Activity	Tentative Duration
1.	Teacher Day celebrates	September 2021
2.	Online Welcome Program of First Year Students	October 2021
3.	Online Bridge Course For First Year Students	October 2021
4	Study Circle Formation	December 2021
5.	Essay Competition on Savitribai Phule	December 2021
6.	Workshop on Communication Skills	January 2022
7.	Certificate Course in Enhancing Competence in English.	February 2022
8.	Poetry Reading Session	February 2022
9.	One Day National Level Virtual Conference on 'Indian Sensibility in Indian writing in English'	March 2022
10.	Developing Elocution skill session	April 2022
11.	William Shakespeare Death Anniversary	April 2022
12	Writing Skill Session	May 2022

Head,Dept.of English
Arts & Commerce College
Warvat Bakal

ARTS AND COMMERCE COLLEGE

Warvat Bakal Dist- Buldana

Department of Economics

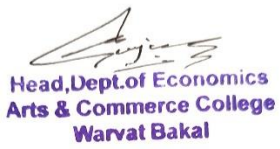
Perspective Plan for Curriculum Implementation 2021-22

BA Part I SEM I		
Unit	Available Lectures	Duration
I Introduction to Economics	18 periods	August 30 to September 2021
II Demand & Supply	18 periods	September 2021 to October 2021
III Cost & Revenue	17 periods	November to December 2021
IV Market Structures	17 periods	December 2021 to January 2022
V Factors of Production	17 periods	January 2022
BA Part II SEM III		
Unit	Available Lectures	Duration
I Introduction to Macro Economics	10 periods	August 30 to September 2021
II Money &Value of Money	10 periods	September 2021 to October 2021
III Inflation &Deflation	10 periods	November to December 2021
IV Production & Employment	11 periods	December 2021 to January 2022
V International Trade	09 periods	January 2022
BA Part III SEM V		
Unit	Available Lectures	Duration
I Indian Economy and Planning	12 periods	August 30 to September 2021
II Agriculture	11 periods	September 2021 to October 2021
III Industry	11 periods	November to December 2021
IV External Sectors & Important areas of concern	11 periods	December 2021 to January 2022
V Environment and pollution	11 periods	January to February 2022
BA Part I SEM II		
Unit	Available Lectures	Duration
I Geographical & Economy Features of Maharashtra	18 periods	January to February 2022
II Population features of Maharashtra	18 periods	February to March 2022
III Agricultural Economy	17 periods	March to April 2022
IV Industry & Infrastructure in Maharashtra	17 periods	April To MAY 2022
V Economy of Maharashtra	18 periods	MAY 2022
BA Part II SEM IV		
Unit	Available Lectures	Duration
I Commercial Bank	18 periods	January to February 2022
II Central Bank	18 periods	February to March 2022
III Co-operative Bank &Nabard	18 periods	March to April 2022
IV International Monetary fund & World Bank	17 periods	April To MAY 2022
V Recent services in Banking sector	17 periods	MAY 2022
BA Part III SEM VI		
Unit	Available Lectures	Duration
I Introduction of Demography	18 periods	January to February 2022
II Fertality and Mortality	17 periods	February to March 2022
III Migration of Population	18 periods	March to April 2022
IV Urbanization of Population	17 periods	April To MAY 2022
V Population and Development	18 periods	MAY 2022

Department of Economics

Perspective Plan for Co-curricular Activities 2021-22

Sr. No.	Activity	Tentative Duration
1.	Teachers' Day Celebration	5th September, 2021
2.	Welcome Program of First year students	Third Week of September 2021
3.	Quiz Competition of Banking	October 2021
4.	Study Circle Formation of Economics	October 2021
5.	Celebration of National consumer day	24 December 2021
6.	Bank Visit	Last week of December 2021
7.	Celebration of World consumer day	15 March 2022
8.	Book published	April 2022
9.	Chapter in Book published	May 2022



ARTS AND COMMERCE COLLEGE

Warvat Bakal Dist- Buldana

Department of History

Perspective Plan for Curriculum Implementation 2021-22

B.A. Part- I; (SEM – I) History of India Earliest Time to 712 A.D.		
Unit	Available Lectures	Duration
Unit-I 1) Survey of the Sources of Ancient India 2) Harppan Civilization 3) Vedic Age 4) Rise of Religious Movement	15	September 2021 to October 2021
Unit - II 1)Rise of the Territorial State 2) Mouryan and Post Mauryan Period	10	October 2021
Unit - III 1) Gupta Dynasty 2) Vakatak Dynasty	15	November 2021
Unit -IV 1) Vardhan Empire 2) Major Dynasty of Deccan & South Indian 3) Arab and Turks Invasion	17	December 2021
Unit - V 1) Educational in Ancient India 2) Position of the Women in Ancient India 3) Judicial Administration in Ancient India 4) Art and Architecture in Ancient India	15	December 2021 to January 2022

B.A. Part- II; (SEM – III) History of India From 713 to 1756 A.D.		
Unit	Available Lectures	Duration
Unit - I 1) Survey of the Sources of Medieval India 2) Establishment and Consolidation of Mughal Empire 3) Mughal Policy	17	September 2021 to October 2021
Unit - II 1) Mughal Ruling Classes 2) Mughals Relation with India Power 3) Declined of Mughal Empire	15	October 2021 to November 2021
Unit - III 1) Mughal Economy 2) Mughal Society 3) Religion 4) Cultural Life	10	November 2021
Unit - IV 1) Sources of Maratha History 2) Emergence of Maratha Power 3) Maratha Power Under Shivaji 4) Maratha Power Under Sambhaji 5) The Maratha War of Independence	20	December 2021 to January 2022
Unit - V 1) Political Administration Under Maratha 2) Military System Under Maratha 3) Judicial Administration Under Maratha 4) Fiscal Administration of Maratha	10	January 2022

B.A. Part- III; (SEM – V) History of Modern World From 1780 to 1920 A.D.)		
Unit	Available Lectures	Duration
Unit - I 1) French Revolution 2) Emergence of Nepolian Bonaparte 3) Congress of Vienna 1815 A.D.	15	September 2021 to October 2021
Unit - II 1) Making of the Nation 2) Foreign policy of Germany Under Bismarck 3) Germany Under Kaiser William II	20	October 2021 to November 2021
Unit - III 1) Triple Entente 2) Russo-Japan War 3) First World War	15	November 2021 to December 2020
Unit - IV 1) The Entry of USA In to First World War 2) Concept of Communism, Capitalism , Socialism 3) The Russian Revolution	15	December 2021
Unit - V 1) Paris Peace Conference 2) Versailles Treaty And Other 3) The League of Nation Aims, Objective, Structure	15	December 2021 to January 2022

B.A. Part- I; (SEM – II) History of India from 1206 to 1526 A.D		
Unit	Available Lectures	Duration
Unit - I 1) Qutbuddin Aibak 2) Illutmish 3) Razia 4) Balban	15	February 2022
Unit - II 1) Allauddin Khilji's Political and Administrative Policy 2) Allauddin Khilji's Economic Policy 3) Mahammad Tughaluq 4) Firoz Shah Tughaluq 5) Invasion of Timur 6) The Sayyids, Lodis and The Decline of the Sultanate	17	February 2022 to March 2022
Unit - III 1) The Bahamani Kingdom 2) The Vijaynagar Kingdom	15	March 2022 to April 2022
Unit - IV 1) Political Structure During Sultanate Period 2) State and Society 3) Social Status of Women	15	April 2022 to May 2022
Unit - V 1) Economic and Technological Development 2) Arts and Education 3) Religious Movement	14	May 2022

B.A. Part- I; (SEM – IV) History of India From 1757 to 1947 A.D.		
Unit	Available Lectures	Duration
Unit - I 1) Advent of European Power 2) Tool of Expansion of British Dominion in India 3) Economic Changes	15	March 2022
Unit - II 1) Revolt of 1857 2) Socio-religious Movement 3) Modern Education	17	March 2022 to April 2022
Unit - III 1) Nationalism 2) India National Congres (Early Phase) 3) India National Congres (Leter Phase)	15	April 2022
Unit - IV 1) Early Gandhian Programme 2) Non Co-oparation Movement 3) Civil Disobedience Movement 4) Quite India Movement	17	April 2022 to May 2022
Unit - V 1) Constitutional Development 2) Revolutionary Movement 3) Subhashchandra Bose and Azad Hind Army 4) India Towards Independence	11	May 2022

B.A. Part- I; (SEM – VI) History of Modern World From 1921 to 1965 A.D.		
Unit	Available Lectures	Duration
Unit - I 1)Rise of Fascism in Italy 2)Rise of Nazism in Germany 3)Rise of Stalin in Russia 4)The Great Economic Depression 1929	15	February 2022
Unit - II 1)Causes and Result of The Second World War 2) Entry of the USA into the Second World War 3)Diplomatic Conferences during the War Period	15	March 2022
Unit - III 1)United Nations Organization 2)The Emergence of the USA as world Power 3)The Emergence of the USSR as World Power	20	March 2022 to April 2022
Unit - IV 1)Post War World 2)The Doctrine, The Marshal Plan, Point Four Programme. 3)Military Alliances – NATO, SEATO, CENTO, Warsaw	10	April 2022 to May 2022
Unit - V 1)The Suez Crisis 2)European Unity and Disunity, European Common Market, Common Wealth of Nation, The Berlin Crisis, Quba Crisis.	15	May 2022

Perspective Plan for Co-curricular Activities 2021-22

Sr. No.	Activity	Tentative Duration
01	Study Circle Formation	November 2021
02	Guest Lecture	February 2022
03	Educational Tour	February 2022
07	Elocution	November 2021 & March 2022
08	Seminar	September 2021 & March 2022
09	Group Discussion	October 2021 & March 2022

H.O.D
(HISTORY)
Arts & Commerce College
Warvat Bakal, Dtst. Buldana

ARTS AND COMMERCE COLLEGE

Warvat Bakal Dist- Buldana

Department of Political Science

Perspective Plan for Curriculum Implementation 2021-22

Teaching Plan for Theory	Class : B A Part I - (First Semester)	SUB : Pol-Science	
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	Unit-I	21	
02	Unit-II	19	
03	Unit-III	20	
04	Unit-IV	19	
05	Unit-V	20	
Teaching Plan for Theory	**Class : B A Part I - (Second Semester)**	**SUB : Pol-Science**	
Sr. No.	Topic to be covered	Lectures Available	
01	Election Commission of India	18	
02	State Executive	15	
03	State Legislature of Maharashtra	13	
04	Local Seif Government of Maharashtra	14	
05	Women Participation in Panchayat Raj	15	
Teaching Plan for Theory	**Class : B A Part II -(Third Semester)**	**SUB: Pol-Science**	
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	Constitution of U.K.	20	
02	Parliamentary System of U.K.	19	
03	Constitution of U.S.A.	20	
04	Legislature of U.S.A.	19	
05	SAARC	20	
Teaching Plan for Theory	**Class : B A Part II (Fourth Semester)**	**SUB ; Pol-Science**	
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	Constitution Of CHINA	*18*	
02	Executive Of China	15	
03	United Nation Organization (UNO)	14	
04	Structure of UNO	14	
05	Indo-China Relations –Major Issues	15	
Teaching Plan for Theory	**Class : B A Part III (Fifth Semester)**	**SUB : Pol-Science**	
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	Leadership	21	
02	Reservation	19	
03	Nationalism	20	
04	Communalism	19	
05	Terrorism	20	
Teaching Plan for Theory	**Class : B A III (Sixth Semester)**	**SUB : Pol-Science**	
Sr. No.	Topic to be covered	Lectures Available	Lectures Utilized
01	Concept of State	18	
02	Concept of Democracy	15	
03	Concept of Nationalism	13	
04	Concept of Socialism	14	
05	Behaviouralism and Sovereignty	15	

Department of Political Science

Perspective Plan for Co-curricular Activities 2021-22

Sr. No.	Particulars	To be organized in
1.	Constitutional Day	26 November 2021
2.	Human Rights Day	10 December 2021
3.	Study Forum	18 December 2021
4.	National Eassy Compitation	11 January 2022
5.	Guest Lecturer	12 January 2022 Dr V K Gaikwad
6.	One day Interdisciplinary National Conference	28 Feb 2022 Topic-75 years of Indian Democracy
7.	Guest Lecturer	08 March 2022 Dr Shubhangi Rathi. Sub-Women Law &Gender Equality

Dr. Rajendra S. Korde
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Art & Comm Collage Warwat (B)
Tq. Sangrampur Dist Buldhana

ARTS AND COMMERCE COLLEGE

Warvat Bakal Dist- Buldana

Department of Commerce

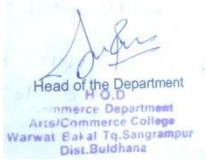
Perspective Plan for Curriculum Implementation 2021-22

DR.S.W. RANE		
BCOM Part I SEM I (PEC)		
Unit	Available Lectures	Duration
INTRODUCTION	15	September 2021 to October 2021
UTILITY APPROACH	15	October 2021 to November 2021
ELASTICITY OF DEMAND	14	November 20201to December 2021
PRODUCTION FUNCTION	14	December 2021 to January 2022
COST AND REVENUE	14	December 2021 to January 2022
BCOM Part II SEM III (AUD)		
Unit	Available Lectures	Duration
MEANING OF AUDITING	14	September 2021 to October 2021
INTERNAL CHECK SYSTEM	14	October 2021 to November 2021
COMPANY AUDITOR	15	November 20201to December 2021
AUDIT OF DIVISIBLE PROFIT	15	December 2021 to January 2022
AUDIT OF BANKING	14	December 2021 to January 2022
BCOM Part II SEM III (BMS)		
Unit	Available Lectures	Duration
MATHEMATICS OF FINANCE	13	September 2021 to October 2021
RATIO AND PROPORTION	13	October 2021 to November 2021
BCOM Part III SEM V (CAC)		
Unit	Available Lectures	Duration
COST ACCOUNTING	*16*	September 2021 to October 2021
MATERIAL COST	16	October 2021 to November 2021
LABOUR COST	14	November 20201to December 2021
OVERHEADS	14	December 2021 to January 2022
PROCESS COSTING	12	December 2021 to January 2022
BCOM Part III SEM V (I&WWW-I)		
Unit	Available Lectures	Duration
NETWORK	15	September 2021 to October 2021
INTERNET	16	October 2021 to November 2021
ELECTRONIC MAIL	15	November 20201to December 2021
THE WORLD WIDE WEB (W3C)	16	December 2021 to January 2022
DESIGNING WEBSITE/WEBPAGE	10	December 2021 to January 2022
BCOM Part I SEM II (BEC)		
Unit	Available Lectures	Duration
BUSINESS AND MANEGERIAL ECONOMICS	16	February to March 2022
MARKET STRUCTURE	16	March to April 2022
MARKET STRUCTURE	17	March to April 2022
FACTORS PRICING	16	April 2022 to May 2022
FACTORS PRICING	15	April 2022 to May 2022
BCOM Part II SEM IV (IT)		
Unit	Available Lectures	Duration
BASIC CONCEPT-INCOME TAX	15	February to March 2022
COMPUTATION OF INCOME FROM SALARY	16	March to April 2022
INCOME FROM OTHER	17	March to April 2022

SOURCES		
INCOME TAX AUTHORITIES	16	April 2022 to May 2022
RETURN OF INCOME	16	April 2022 to May 2022
BCOM Part II SEM IV (BST)		
Unit	Available Lectures	Duration
CONCEPT OF DISPERSION	15	February to March 2022
CO-EFFICIENT OF DISPERSION	15	March to April 2022
BCOM Part III SEM VI (MAC)		
Unit	Available Lectures	Duration
MANAGEMENT ACCOUNTING	17	February to March 2022
BREAK-EVEN-ANALYSIS	15	March to April 2022
RATIO ANALYSIS	16	March to April 2022
BUDGET	16	April 2022 to May 2022
BUDGETARY CONTROL	16	April 2022 to May 2022
BCOM Part I SEM VI (I&WWW-II)		
Unit	Available Lectures	Duration
WEB BROWSING	16	February to March 2022
WEB DIRECTORY	16	March to April 2022
SOCIAL NETWORKING	17	March to April 2022
GOOGLE DRIVE	15	April 2022 to May 2022
M.S. FRONT PAGE EXPRESS	16	April 2022 to May 2022

Perspective Plan for Co-curricular Activities 2021-22

Sr. No.	Activity	Tentative Duration
1.	Teacher Day celebrates	September 2021
2.	Online Welcome Program of First Year Students	October 2021
3.	Online Bridge Course For First Year Students	October 2021
4.	Online Quiz Competition On Mahatma Gandhi Jayanti	October 2021
5.	Study Circle Formation	December 2021
6.	Debate	January 2022
7.	Group Discussion	March 2022
8.	World Consumer Day	March 2022
9.	Seminar	April 2022
10.	Guest Lecture	May 2022



Department of Chemistry

Perspective Plan for Curriculum Implementation 2021-2022

	B.Sc.- Part I SEM I		
Sr. No.	**Unit**	**Available Lectures**	**Duration**
1	Periodic properties and ionic bonding	14 Lectures	September 2021 to January 2022
2	S and P block elements	14 Lectures	September 2021 to January 2022
3	Electronic displacements	14 Lectures	September 2021 to January 2022
4	Aromatic hydrocarbons	14 Lectures	September 2021 to January 2022
5	Thermodynamics	14 Lectures	September 2021 to January 2022
6	Gaseous state	14 Lectures	September 2021 to January 2022
	B.Sc.- Part II SEM III		
Sr. No.	**Unit**	**Available Lectures**	**Duration**
1	Covalent bonding	14 Lectures	September 2021 to January 2022
2	Theory of quantitative inorganic analysis	14 Lectures	September 2021 to January 2022
3	Aldehydes and ketones	14 Lectures	September 2021 to January 2022
4	Optical isomerism	14 Lectures	September 2021 to January 2022
5	Thermodynamics and equilibrium	14 Lectures	September 2021 to January 2022
6	Liquid state	14 Lectures	September 2021 to January 2022
	B.Sc.- Part III SEM V		
Sr. No.	**Unit**	**Available Lectures**	**Duration**
1	Coordination compounds -1	14 Lectures	September 2021 to January 2022
2	Coordination compounds-2	14 Lectures	September 2021 to January 2022
3	Heterocyclic compounds	14 Lectures	September 2021 to January 2022
4	Dyes drugs and pesticides	14 Lectures	September 2021 to January 2022
5	Photochemistry	14 Lectures	September 2021 to January 2022
6	Molecular spectroscopy	14 Lectures	September 2021 to January 2022
	B.Sc.-Part I SEM II		
Sr. No.	**Unit**	**Available Lectures**	**Duration**
1	Polarization	14 Lectures	February 2022 to May 2022
2	P- block elements & nonaqueous solvents	14 Lectures	February 2022 to May 2022
3	Alkyl halides	14 Lectures	February 2022 to May 2022
4	Phenols, ethers and epoxides	14 Lectures	February 2022 to May 2022

5	Physical properties & molecular structure	14 Lectures	February 2022 to May 2022
6	Chemical kinetics	14 Lectures	February 2022 to May 2022
	B.Sc.- Part II SEM IV		
Sr. No.	**Unit**	**Available Lectures**	**Duration**
1	Chemistry of transition series elements	14 Lectures	February 2022 to May 2022
2	Inner transition series elements	14 Lectures	February 2022 to May 2022
3	Polynuclear hydrocarbons	14 Lectures	February 2022 to May 2022
4	Aromatic nitro compounds	14 Lectures	February 2022 to May 2022
5	Colligative properties of dilute solutions	14 Lectures	February 2022 to May 2022
6	Crystalline state	14 Lectures	February 2022 to May 2022
	B.Sc.-Part I SEM VI		
Sr. No.	**Unit**	**Available Lectures**	**Duration**
1	Kinetic aspects of metal complexes	14 Lectures	February 2022 to May 2022
2	Organometallic chemistry	14 Lectures	February 2022 to May 2022
3	Electronic spectroscopy & IR spectroscopy	14 Lectures	February 2022 to May 2022
4	NMR and mass spectroscopy	14 Lectures	February 2022 to May 2022
5	Elementary quantum mechanics	14 Lectures	February 2022 to May 2022
6	Electrochemistry and nuclear chemistry	14 Lectures	February 2022 to May 2022

Perspective Plan for Co-curricular Activities 2021-22

Sr. No.	Activity	Tentative Duration
01	Chemistry Study Circle Inauguration	29/11/2021
02	Fire Extinguisher Uses and Handling	29/12/2021
03	Seminar Competition	04/01/2022
04	National Science Day	28/02/2022
05	Guest Lecture	03/03/2022

प्रा.एन.डी. उलाके
प्रभा.प्राध्यापक व विभाग प्रमुख
कला,वाणिज्य महाविद्यालय,
बरक्ट बकाल

ARTS AND COMMERCE COLLEGE

Warvat (Bakal) , Dist :- Buldana

Department of Botany

Perspective Plan for Curriculum Implementation 2021-22

S.S.Mhasal

Teaching Plan for Theory (First Semester) Class : B.Sc. Part I			
Sr. No.	Topic to be covered	Lectures Available	Duration
01	**Unit-IV : Bryophyte**	13	September 2021 to October 2021
02	**Unit-V : Pteridophyte**	15	November 2021 to December 2021
03	**Unit-VI : Application of Microbes Cryptogams**	15	December 2021 to January 2022
Teaching Plan for Practical (First Semester) Class : B.Sc. Part I			
Sr. No.	Topic to be covered	Lectures Available	Duration
01	**ALGAE**	27	September 2021 to October 2021
02	**FUNGI AND PLANT PATHOLOGY**	24	November2021
03	**BRYOPHYTES**	24	December 2021
04	**PTERIDOPHYTES**	18	January 2022
Teaching Plan for Theory (Second Semester) Class : B.Sc. I			
Sr. No.	Topic to be covered	Lectures Available	Duration
01	**UNIT-IV: Morphology**	15	February 2022 to March 2022
02	**UNIT-V: Morphology and Utilization of Plants**	14	March 2022 April 2022
03	**UNIT-VI: Utilization of Plants**	14	April 2022 to May 2022
Teaching Plan for Practical (Second Semester) Class : B.Sc. I			
Sr. No.	Topic to be covered	Lectures Available	Duration
01	Gymnosperms: Morphology and anatomy of the following members-Pinus.	09	February 2022
02	Gymnosperms: Morphology and anatomy of the following members Gnetum	06	February 2022
03	Preparation of double stained permanent mount of Pinus stem, needle.	09	February 2022
04	Preparation of double stained permanent mount of Gnetum stem and leaf.	09	March 2022
05	Detailed morphological study of types of root with its modifications.	09	March 2022
06	Detailed morphological study of types of stem with its modifications.	06	March 2022
07	Detailed morphological study of types of leaf with its modifications.	09	April 2022
08	Study of Forms of corolla.	09	April 2022
09	Study of Types of placentation.	06	April 2022
10	Study of Morphology of fruits.	09	May 2022
11	Morphology of plant parts used and medicinal plants prescribed in syllabi	09	May 2022
12	Utilization of plants: Spices, fiber yielding plants and food plants prescribed in syllabi.	06	May 2022

Teaching Plan for Practical (Third Semester)		Class : B.Sc. II	
Sr. No.	Topic to be covered	Lectures Available	Duration
01	Embryology of Angiosperms: Observation of wide range of flowers available in the locality and methods of their pollination.	06	September 2021
02	Study through permanent slides of T.S. of anthers, microsporogenesis, L.S. of ovule, types of endosperms and embryo of Capsella .	06	October 2021
03	Mounting of T.S. of anthers, Pollen grains and pollinia.	12	October 2021
04	Anatomy of angiosperms : Preparation of double stained slides of root. (Dicot. & Monocot.)	06	October 2021
05	Anatomy of angiosperms : Preparation of double stained slides of stem. (Dicot. & Monocot.)	06	November 2021
06	Anatomy of angiosperms : Preparation of double stained slides of leaf. (Dicot. & Monocot.)	06	November 2021
07	Taxonomic description of family,**Verbanaceae** – *Lantana.*	06	November 2021
08	Taxonomic description of family,**Malvaceae**- *Hibiscus.*	06	December 2021
09	Taxonomic description of family,**Fabaceae**- *Crotalaria.*	06	December 2021
10	Taxonomic description of family,**Caesalpinoidae**- *Caesalpinea.*	06	December 2021
11	Taxonomic description of family,**Asteraceae**- *Tridax.*	06	December 2021
12	Taxonomic description of family,**Apiaceae**- *Corindrum.*	06	December 2021
13	Taxonomic description of family,**Apocynaceae**- *Vinca.*	03	January 2022
14	Taxonomic description of family,**Asclepiadaceae**- *Calatropis.*	03	January 2022
15	Taxonomic description of family,**Solanaceae**- *Datura.*	03	January 2022
16	Taxonomic description of family,**Lamiaceae**- *Oscimum.*	03	January 2022
17	Group discussion, record book checking, certification	03	January 2022
Teaching Plan for Practical (Fourth Semester)		**Class : B.Sc. II**	
Sr. No.	Topic to be covered	Lectures Available	Duration
01	Squash preparation for the study of various stages of mitosis	12	February 2022
02	Smear preparation for the study of various stages of meiosis.	12	February 2022
03	To prove Mendel's Monohybrid ratio.	06	March 2022
04	To prove Mendel's Dihybrid ratio.	06	March 2022
05	Problems based on Interaction of genes	18	March 2022
06	To demonstrate test for glucose in grapes, & sucrose in cane sugar / beet root.	12	April 2022
07	To demonstrate test for protein.	06	April 2022
08	To demonstrate the lipid test in oily seeds.	06	May 2022
09	To demonstrate the test for starch / cellulose.	06	May 2022
10	To demonstrate the activity of enzyme amylase from germinating Wheat grains.	12	May 2022
Teaching Plan for Theory (Fifth Semester)		**Class : B.Sc. III**	
Sr. No.	Topic to be covered	Lectures Available	Duration

01	**Plant Water Relations**	19	September 2021 to January 2022
Teaching Plan for Practical (Fifth Semester)		**Class : B.Sc. III**	
Sr. No.	Topic to be covered	Lectures Available	Duration
01	To study the effect of temperature and organic solvent on permeability of plasma membrane.	03	October 2021
02	To determine the path of water (ascent of sap)	06	October 2021
03	To determine the rate of transpiration by Ganongs photometer.	06	October 2021
04	To determine rate of photosynthesis under varying quality of light and CO2 concentration.	03	October 2021
05	Separation of chloroplast pigments by paper chromatography method.	06	October 2021
06	To study antagonism of salts.	09	November 2021
07	To study effect of IAA and Gibberellins on seed germination.	03	November 2021
08	To demonstrate exo and endosmosis.	03	November 2021
09	To demonstrate fermentation.	03	December 2021
10	To demonstrate transpiration by Bell jar.	03	December 2021
11	To demonstrate anaerobic respiration in germinating seeds.	03	December 2021
12	To demonstrate the phenomenon of nastic movement with help of *Mimosa pudica*	03	December 2021
13	Study of morphological and anatomical adaptations in hydrophytes – *Hydrilla*and*Nymphaea*.	06	December 2021
14	Study of morphological and anatomical adaptations in xerophytes - *Nerium, Casuarina*.	06	December 2021
15	Determination of pH of different soils and water samples by pH papers	09	January 2022
16	Study of meteorological instruments -Rain gauge, Hygrometer.	09	January 2022
Teaching Plan for Theory (Sixth Semester)		**Class : B.Sc. III**	
Sr. No.	Topic to be covered	Lectures Available	Duration
01	**Unit-I : DNA the genetic material :**	16	February 2022 to May 2022
Teaching Plan for Practical (Sixth Semester)		**Class : B.Sc. III**	
Sr. No.	Topic to be covered	Lectures Available	Duration
01	Isolation of DNA by crude method	18	February 2022
02	Demonstration of Centrifugation	03	February 2022
03	Working Principle and application of Autoclave	12	March 2022
04	Working Principle and application of Laminar Air Flow	09	March 2022
05	Cleaning and Sterilization of Glassware	12	April 2022
06	Demonstration of technique of Micropropogation	12	April 2022
07	Preparation of Artificial Seed.	09	May 2022
08	Pollen viability test.	09	May 2022
09	Group discussion, record book checking, certification	06	May 2022

Perspective Plan for Implementation of Curriculum 2021-22
Dr. K. B. Theng

Teaching Plan for Theory (First Semester)			Class : B.Sc. Part I
Sr. No.	Topic to be covered	Lectures Available	Duration
01	**UNIT-I : Plant Diversity**	14	September 2021 to November 21
02	**UNIT-II: Algae**	14	November 2021 to December 2021
03	**UNIT-III : Fungi**	15	December 2021 to January 2022
Teaching Plan for Practical (First Semester)			**Class : B.Sc. Part I**
Sr. No.	Topic to be covered	Lectures Available	Duration
01	**ALGAE :-** Preparation of temporary mount, identification with reason of following algal materials-Oedogonium, Hydrodictyon	**06**	September 2021
02	Preparation of temporary mount, identification with reason of following algal materials- Chara	**06**	October 2021
03	Preparation of temporary mount, identification with reason of following algal materials- Vaucheria	**03**	October 2021
04	Preparation of temporary mount, identification with reason of following algal materials- Ectocarpus	**03**	October 2021
05	Preparation of temporary mount, identification with reason of following algal materials- Sargassum	**06**	October 2021
06	Preparation of temporary mount, identification with reason of following algal materials- Batrachospermum	**06**	October 2021
07	**FUNGI AND PLANT PATHOLOGY** Study of genus Albugo&Uncinula	**06**	November 2021
08	Study of genus Penicillium&Agaricus	**06**	November 2021
09	Study of genus Puccinia&Cercospora	**06**	November 2021
10	Study of Crustose, Fruticose& Foliose Liche	**06**	November 2021
11	Study of symptoms of fungal, viral, bacterial and Mycoplasmal diseases	**06**	December 2021
12	Collection of fungal specimen & infected plant part from local region	**06**	December 2021
13	Demonstration of Mushroom Cultivation Technology	**03**	December 2021
14	**BRYOPHYTES** Study of external and anatomy features of vegetative and reproductive parts of genera – Marchantia, Anthoceros	**03**	December 2021
15	Study of external and anatomy features of vegetative and reproductive parts of genera Funaria, Polytrichum and Sphagnum.	**06**	December 2021 & January 2022
16	**PTERIDOPHYTES** Study of Pteridophyte external and anatomy features of vegetative and reproductive parts of genera – Lycopodium& Equisetum	**03**	January 2022
17	Study of Pteridophyte external and anatomy features of vegetative and reproductive parts of genera – Osmunda&Selaginella	**03**	January 2022
18	Study of Pteridophyte external and anatomy features of vegetative and reproductive parts of genera – Adiantum&Marsilea	**03**	February 2022
19	Study of fossil specimen.	**03**	February 2022
Teaching Plan for Theory (Second Semester) Class: B.Sc. I			
Sr. No.	Topic to be covered	Lectures	Duration

		Available	
01	**UNIT-I : Palaeobotany**	15	February 2022 to March 2022
02	**UNIT-II : Gymnosperms**	15	March 2022 to April 2022
03	**UNIT-III : Morphology**	17	April 2022 to May 2022
Teaching Plan for Practical (Second Semester)		**Class: B.Sc. I**	
Sr. No.	Topic to be covered	Lectures Available	Duration
01	Gymnosperms: Morphology and anatomy of the -Pinus.	**09**	February 2022
02	Gymnosperms: Morphology and anatomy of the Gnetum	**09**	February 2022
03	Preparation of double stained permanent mount of Pinus stem, needle.	**09**	February and March 2022
04	Preparation of double stained permanent mount of Gnetum stem and leaf.	**09**	March 2022
05	Detailed morphological study of types of root with its modifications.	**09**	March 2022
06	Detailed morphological study of types of stem with its modifications.	**09**	April 2022
07	Detailed morphological study of types of leaf with its modifications.	**06**	April 2022
08	Study of Forms of corolla.	**06**	April 2022
09	Study of Types of placentation.	**06**	April, May 2022
10	Study of Morphology of fruits.	**06**	May 2022
11	Morphology of plant parts used and medicinal plants prescribed in syllabi	**06**	May 2022
12	Utilization of plants: Spices, fiber yielding plants and food plants prescribed in syllabi.	**06**	May 2022
13	Record checking, certification & group discussion	**03**	May 2022
Teaching Plan for Practical (Third Semester)		**Class : B.Sc. II**	
Sr. No.	Topic to be covered	Lectures Available	Duration
01	Embryology of Angiosperms: Observation of wide range of flowers available in the locality and methods of their pollination.	**06**	September 2021
02	Study through permanent slides of T.S. of anthers, microsporogenesis, L.S. of ovule, types of endosperms and embryo of Capsella .	**06**	October 2021
03	Mounting of T.S. of anthers, Pollen grains and pollinia.	**06**	October 2021
04	Anatomy of angiosperms : Preparation of double stained slides of root. (Dicot. & Monocot.)	**06**	October 2021
05	Anatomy of angiosperms : Preparation of double stained slides of stem. (Dicot. & Monocot.)	**06**	October, November 2021
06	Anatomy of angiosperms : Preparation of double stained slides of leaf. (Dicot. & Monocot.)	**06**	November 2021
07	Taxonomic description of family,**Verbanaceae** – *Lantana.*	**06**	November 2021
08	Taxonomic description of family,**Malvaceae**- *Hibiscus.*	**06**	November, December 2021
09	Taxonomic description of family,**Fabaceae**- *Crotalaria.*	**06**	December 2021
10	Taxonomic description of family,**Caesalpinoidae**- *Caesalpinea.*	**06**	December 2021
11	Taxonomic description of family,**Asteraceae**- *Tridax.*	**06**	December 2021
12	Taxonomic description of family,**Apiaceae**- *Corindrum.*	**06**	December 2021
13	Taxonomic description of family,**Apocynaceae**- *Vinca.*	**03**	December 2021

14	Taxonomic description of family,**Asclepiadaceae**-*Calatropis.*	**03**	January 2022
15	Taxonomic description of family,**Solanaceae**- *Datura.*	**03**	January 2022
16	Taxonomic description of family,**Lamiaceae**-*Oscimum.*	**03**	January 2022
17	Record checking, certification & group discussion	**03**	January 2022
Teaching Plan for Practical (Fourth Semester)		**Class : B.Sc. II**	
Sr. No.	Topic to be covered	Lectures Available	Duration
01	Squash preparation for the study of various stages of mitosis	**12**	February 2022
02	Smear preparation for the study of various stages of meiosis.	**12**	February, March 2022
03	To prove Mendel's Monohybrid ratio.	**06**	March 2022
04	To prove Mendel's Dihybrid ratio.	**06**	March 2022
05	Problems based on Interaction of genes	**30**	March, April 2022
06	To demonstrate test for glucose in grapes, & sucrose in cane sugar / beet root.	**06**	April, May 2022
07	To demonstrate test for protein.	**06**	May 2022
08	To demonstrate the lipid test in oily seeds.	**06**	May 2022
09	To demonstrate the test for starch / cellulose.	**06**	May 2022
10	To demonstrate the activity of enzyme amylase from germinating Wheat grains.	**03**	May 2022
Teaching Plan for Theory (Fifth Semester)			**Class : B.Sc. III**
Sr. No.	Topic to be covered	Lectures Available	Duration
01	**Unit - II: Metabolism-**	14	September 2021 to November 2021
02	**Unit - III: Metabolism and growth**	13	December 2021 to January 2022
Teaching Plan for Practical (Fifth Semester)			**Class : B.Sc. III**
Sr. No.	Topic to be covered	Lectures Available	Duration
01	To study the effect of temperature and organic solvent on permeability of plasma membrane.	06	September 2021
02	To determine the path of water (ascent of sap)	06	October 2021
03	To determine the rate of transpiration by Ganongs photometer.	06	October 2021
04	To determine rate of photosynthesis under varying quality of light and CO2 concentration.	06	October 2021
05	Separation of chloroplast pigments by paper chromatography method.	06	October 2021
06	To study antagonism of salts.	03	November2021
07	To study effect of IAA and Gibberellins on seed germination.	03	November2021
08	To demonstrate exo and endosmosis.	03	November2021
09	To demonstrate fermentation.	03	November2021
10	To demonstrate transpiration by Bell jar.	03	November2021
11	To demonstrate anaerobic respiration in germinating seeds.	03	December 2021
12	To demonstrate the phenomenon of nastic movement with help of *Mimosa pudica*	06	December 2021
13	Study of morphological and anatomical adaptations in hydrophytes – *Hydrilla*and*Nymphaea.*	06	December 2021
14	Study of morphological and anatomical adaptations in xerophytes –*Nerium, Casuarina.*	06	December 2021
15	Determination of pH of different soils and water samples by pH papers	06	December, January 2022
16	Study of meteorological instruments –Rain gauge,	03	January 2022

	Hygrometer.		
17	Record checking, certification & group discussion	03	January 2022
Teaching Plan for Theory (Sixth Semester)			**Class : B.Sc. III**
Sr. No.	Topic to be covered	Lectures Available	Duration
01	**Unit-II : Gene Structure and Expression -** Concept of gene, Fine structure of Gene.	14	February 2022 to March 2022
02	**Unit-VI : Applications of Biotechnology**	15	April 2022 to May 2022
Teaching Plan for Practical (Sixth Semester)			**Class : B.Sc. III**
Sr. No.	Topic to be covered	Lectures Available	Duration
01	Isolation of DNA by crude method	12	February 2022
02	Demonstration of Centrifugation	06	February, March 2022
03	Working Principle and application of Autoclave	12	March 2022
04	Working Principle and application of Laminar Air Flow	12	March, April 2022
05	Cleaning and Sterilization of Glassware	12	April 2022
06	Demonstration of technique of Micropropogation	06	April 2022
07	Preparation of Artificial Seed.	12	May 2022
08	Pollen viability test.	12	May 2022

Perspective Plan for Curriculum Implementation 2021-22

Dr. N.K. More

Teaching Plan for Theory (Third Semester) Part II			**Class : B.Sc.**
Sr. No.	Topic to be covered	Lectures Available	Duration
01	**UNIT-I : Angiosperm Systematics & Biodiversity**	12	September 2021 to October 21
02	**UNIT-II: Angiosperm Systematics**	16	November 2021 to December 2021
03	**UNIT-III : Angiosperm Systematics**	17	December 2021 to January 2022
Teaching Plan for Practical (First Semester) Part I			**Class : B.Sc.**
Sr. No.	Topic to be covered	Lectures Available	Duration
01	**ALGAE :-** i) Preparation of temporary mount, identification with reason of following algal materials- Oedogonium, Hydrodictyon ii) Preparation of temporary mount, identification with reason of following algal materials- Chara iii) Preparation of temporary mount, identification with reason of following algal materials- Vaucheria iv) Preparation of temporary mount, identification with reason of following algal materials- Ectocarpus v) Preparation of temporary mount, identification with reason of following algal materials- Sargassum vi) Preparation of temporary mount, identification with reason of following algal materials- Batrachospermum	**27**	September- October 2021
02	**FUNGI AND PLANT PATHOLOGY** vii) Study of genus Albugo & Uncinula viii) Study of genus Penicillium & Agaricus ix) Study of genus Puccinia & Cercospora x) Study of Crustose, Fruticose& Foliose Lichen xi) Study of symptoms of fungal, viral, bacterial and Mycoplasmal diseases xii) Collection of fungal specimen & infected plant part from local region xiii) Demonstration of Mushroom Cultivation Technology	**24**	November 2021
03	**BRYOPHYTES** i) Study of external and anatomy features of vegetative and reproductive parts of genera – Marchantia, Anthoceros ii) Study of external and anatomy features of vegetative and reproductive parts of genera Funaria, Polytrichum and Sphagnum.	**24**	December 2021

04	**PTERIDOPHYTES** iii) Study of Pteridophyte external and anatomy features of vegetative and reproductive parts of genera –Lycopodium & Equisetum iv) Study of Pteridophyte external and anatomy features of vegetative and reproductive parts of genera – Osmunda & Selaginella v) Study of Pteridophyte external and anatomy features of vegetative and reproductive parts of genera – Adiantum &Marsilea vi) Study of fossil specimen.	**18**	January 2022
Teaching Plan for Theory (Forth Semester) Class: B.Sc. II			
Sr. No.	Topic to be covered	Lectures Available	Duration
01	**UNIT-I : Cell Biology**	15	February 2022 to March 2022
02	**UNIT-II : Cell Biology Structure & Functions of Cell organelles**	14	March 2022 to April 2022
03	**UNIT-III : Genetics**	17	April 2022 to May 2022
Teaching Plan for Practical (Second Semester)		**Class: B.Sc. I**	
Sr. No.	Topic to be covered	Lectures Available	Duration
01	Gymnosperms: Morphology and anatomy of the -Pinus.	**09**	February 2022
02	Gymnosperms: Morphology and anatomy of the Gnetum	**06**	February 2022
03	Preparation of double stained permanent mount of Pinus stem, needle.	**09**	February 2022
04	Preparation of double stained permanent mount of Gnetum stem and leaf.	**09**	March 2022
05	Detailed morphological study of types of root with its modifications.	**09**	March 2022
06	Detailed morphological study of types of stem with its modifications.	**06**	March 2022
07	Detailed morphological study of types of leaf with its modifications.	**09**	April 2022
08	Study of Forms of corolla.	**09**	April 2022
09	Study of Types of Placentation.	**06**	April, May 2022
10	Study of Morphology of fruits.	**09**	May 2022
11	Morphology of plant parts used and medicinal plants prescribed in syllabi	**06**	May 2022
12	Utilization of plants: Spices, fiber yielding plants and food plants prescribed in syllabi.	**06**	May 2022
13	Record checking, certification & group discussion	**03**	May 2022
Teaching Plan for Practical (Third Semester)		**Class : B.Sc. II**	
Sr. No.	Topic to be covered	Lectures Available	Duration
01	Embryology of Angiosperms: Observation of wide range of flowers available in the locality and methods of their pollination.	**06**	September 2021
02	Study through permanent slides of T.S. of anthers, Microsporogenesis, L.S. of ovule, types of endosperms and embryo of Capsella .	**06**	October 2021
03	Mounting of T.S. of anthers, Pollen grains and Pollinia.	**12**	October 2021
04	Anatomy of angiosperms: Preparation of double stained slides of root. (Dicots & Monocot.)	**06**	October 2021

05	Anatomy of angiosperms: Preparation of double stained slides of stem. (Dicot. & Monocot.)	**06**	November 2021
06	Anatomy of angiosperms: Preparation of double stained slides of leaf. (Dicot. & Monocot.)	**06**	November 2021
07	Taxonomic description of family, **Verbenaceae** – *Lantana.*	**06**	November 2021
08	Taxonomic description of family **Malvaceae**- *Hibiscus.*	**06**	December 2021
09	Taxonomic description of family, **Fabaceae**- *Crotalaria.*	**06**	December 2021
10	Taxonomic description of family, **Caesalpinoidae**- *Caesalpinea.*	**06**	December 2021
11	Taxonomic description of family, **Asteraceae**- *Tridax.*	**06**	December 2021
12	Taxonomic description of family, **Apiaceae**- *Corindrum.*	**06**	December 2021
13	Taxonomic description of family, **Apocynaceae**- *Vinca.*	**03**	December 2021
14	Taxonomic description of family, **Asclepiadaceae**-*Calatropis*.	**03**	January 2022
15	Taxonomic description of family, **Solanaceae**- *Datura.*	**03**	January 2022
16	Taxonomic description of family, **Lamiaceae**-*Oscimum.*	**03**	January 2022
17	Record checking, certification & group discussion	**03**	January 2022
Teaching Plan for Practical (Fourth Semester)		**Class : B.Sc. II**	
Sr. No.	Topic to be covered	Lectures Available	Duration
01	Squash preparation for the study of various stages of mitosis	**12**	February 2022
02	Smear preparation for the study of various stages of meiosis.	**12**	February, 2022
03	To prove Mendel's Monohybrid ratio.	**06**	March 2022
04	To prove Mendel's Dihybrid ratio.	**06**	March 2022
05	Problems based on Interaction of genes	**18**	March, 2022
06	Problems based on Interaction of genes	**18**	March,2022
07	To demonstrate test for glucose in grapes, & sucrose in cane sugar / beet root.	**12**	April, 2022
08	To demonstrate test for protein.	**06**	April 2022
09	To demonstrate the lipid test in oily seeds.	**06**	May 2022
10	To demonstrate the test for starch / cellulose.	**06**	May 2022
11	To demonstrate the activity of enzyme amylase from germinating Wheat grains.	**12**	May 2022
Teaching Plan for Theory (Fifth Semester)			**Class : B.Sc. III**
Sr. No.	Topic to be covered	Lectures Available	Duration
01	**Unit-V Ecology and Environments**	15	September 2021 to November 2021
02	**Unit - VI: Ecosystem**	16	December 2021 to January 2022
Teaching Plan for Practical (Fifth Semester)			**Class : B.Sc. III**
Sr. No.	Topic to be covered	Lectures Available	Duration
01	To study the effect of temperature and organic solvent on permeability of plasma membrane.	03	October 2021
02	To determine the path of water (Ascent of sap)	06	October 2021
03	To determine the rate of transpiration by Ganongs photometer.	06	October 2021
04	To determine rate of photosynthesis under varying quality of light and CO2 concentration.	03	October 2021
05	Separation of chloroplast pigments by paper chromatography method.	06	October 2021
06	To study antagonism of salts.	09	November2021
07	To study effect of IAA and Gibberellins on seed germination.	03	November2021
08	To demonstrate exo and endosmosis.	03	November2021
09	To demonstrate fermentation.	03	December 2021
10	To demonstrate transpiration by Bell jar.	03	December 2021
11	To demonstrate anaerobic respiration in germinating seeds.	03	December 2021
12	To demonstrate the phenomenon of nastic movement with help of *Mimosa pudica*	03	December 2021

13	Study of morphological and anatomical adaptations in hydrophytes – *Hydrill a* and *Nymphaea.*	06	December 2021
14	Study of morphological and anatomical adaptations in xerophytes –*Nerium, Casuarina.*	06	December 2021
15	Determination of pH of different soils and water samples by pH papers	09	January 2022
16	Study of meteorological instruments –Rain gauge, Hygrometer.	09	January 2022
Teaching Plan for Theory (Sixth Semester)			**Class : B.Sc. III**
Sr. No.	Topic to be covered	Lectures Available	Duration
01	**Unit-II Gene Structure and Expression**	17	February 2022 to March 2022
02	**Unit-V : Plant Tissue Culture**	16	April 2022 to May 2022
Teaching Plan for Practical (Sixth Semester)			**Class : B.Sc. III**
Sr. No.	Topic to be covered	Lectures Available	Duration
01	Isolation of DNA by crude method	18	February 2022
02	Demonstration of Centrifugation	03	February, March 2022
03	Working Principle and application of Autoclave	12	March 2022
04	Working Principle and application of Laminar Air Flow	09	March, April 2022
05	Cleaning and Sterilization of Glassware	12	April 2022
06	Demonstration of technique of Micropropogation	12	April 2022
07	Preparation of Artificial Seed.	09	May 2022
08	Pollen viability test.	09	May 2022
09	Group discussion, record book checking, certification	06	May 2022

Perspective Plan for Curriculum Implementation 2021-22
Dr. D. K. Sherkar

Teaching Plan for Practical (First Semester)			**Class : B.Sc. Part I**
Sr. No.	Topic to be covered	Lectures Available	Duration
01	**ALGAE :-** Preparation of temporary mount, identification with reason of following algal materials-Oedogonium, Hydrodictyon.	12	September 2021
02	Preparation of temporary mount, identification with reason of following algal materials- Vaucheria.	06	October 2021
03	Preparation of temporary mount, identification with reason of following algal materials- Sargassum.	12	October 2021
04	**FUNGI AND PLANT PATHOLOGY** Study of genus Albugo & Uncinula.	12	November 2021
05	Study of genus Puccinia & Cercospora.	12	November2021
06	Study of symptoms of fungal, viral, bacterial and Mycoplasmal diseases.	12	December 2021
07	Demonstration of Mushroom Cultivation Technology.	06	December 2021
08	**BRYOPHYTES** Study of external and anatomy features of vegetative and reproductive parts of genera Funaria, Polytrichum and Sphagnum.	12	January 2022
09	**PTERIDOPHYTES** Study of Pteridophyte external and anatomy features of vegetative and reproductive parts of genera – Osmunda&Selaginella.	06	January 2022
10	Study of fossil specimen.	06	February 2022
Teaching Plan for Practical (Second Semester)			**Class : B.Sc. I**
Sr. No.	Topic to be covered	Lectures Available	Duration
01	Gymnosperms: Morphology and anatomy of the -Pinus.	18	February 2022

02	Preparation of double stained permanent mount of Pinus stem, needle.	18	March 2022
03	Detailed morphological study of types of root with its modifications.	18	March 2022
04	Detailed morphological study of types of leaf with its modifications.	12	April 2022
05	Study of Types of placentation.	12	April-May 2022
06	Morphology of plant parts used and medicinal plants prescribed in syllabi	12	May 2022
07	Record Book checking	06	May 2022
Teaching Plan for Theory (Third Semester)			**Class : B.Sc. II**
Sr. No.	Topic to be covered	Lectures Available	Duration
01	**UNIT IV: Anatomy**	16	September- October 2021
02	**UNIT V: Anatomy**	15	October- November2021
03	**UNIT VI : Embryology-**	15	December 2021 to January 2022
Teaching Plan for Practical (Third Semester)			**Class : B.Sc. II**
Sr. No.	Topic to be covered	Lectures Available	Duration
01	Embryology of Angiosperms: Observation of wide range of flowers available in the locality and methods of their pollination.	06	September 2021
02	Study through permanent slides of T.S. of anthers, microsporogenesis, L.S. of ovule, types of endosperms and embryo of Capsella .	06	October 2021
03	Mounting of T.S. of anthers, Pollen grains and pollinia.	06	October 2021
04	Anatomy of angiosperms : Preparation of double stained slides of root. (Dicot. & Monocot.)	06	October 2021
05	Anatomy of angiosperms : Preparation of double stained slides of stem. (Dicot. & Monocot.)	06	October- November 2021
06	Anatomy of angiosperms : Preparation of double stained slides of leaf. (Dicot. & Monocot.)	06	November 2021
07	Taxonomic description of family,**Verbanaceae –** *Lantana.*	06	November 2021
08	Taxonomic description of family,**Malvaceae**- *Hibiscus.*	06	November- December 2021
09	Taxonomic description of family,**Fabaceae**- *Crotalaria.*	06	December 2021
10	Taxonomic description of family,**Caesalpinoidae**- *Caesalpinea.*	06	December 2021
11	Taxonomic description of family,**Asteraceae**- *Tridax.*	06	December 2021
12	Taxonomic description of family,**Apiaceae**- *Corindrum.*	06	December 2021
13	Taxonomic description of family,**Apocynaceae**- *Vinca.*	03	December 2021
14	Taxonomic description of family,**Asclepiadaceae**-*Calatropis.*	03	January 2022
15	Taxonomic description of family,**Solanaceae**- *Datura.*	03	January 2022
16	Taxonomic description of family,**Lamiaceae**-*Oscimum.*	03	January 2022
17.	Practical record checking, certification, group discussion	03	January 2022
Teaching Plan for Theory (Fourth Semester)			**Class : B.Sc. II**
Sr. No.	Topic to be covered	Lectures Available	Duration
01	**Unit–IV: Genetics**	*17*	February-March 2022
02	**Unit – V Genetics**	15	March-April 2022
03	**Unit – VI Biochemistry**	15	April-May 2022
Teaching Plan for Practical (Fourth Semester)			**Class : B.Sc. II**
Sr.	Topic to be covered	Lectures	Duration

No.		Available	
01	Squash preparation for the study of various stages of mitosis	12	February 2022
02	Smear preparation for the study of various stages of meiosis.	12	February-March 2022
03	To prove Mendel's Monohybrid ratio.	06	March 2022
04	To prove Mendel's Dihybrid ratio.	06	March 2022
05	Problems based on Interaction of genes	30	March- April 2022
06	To demonstrate test for glucose in grapes, & sucrose in cane sugar / beet root.	06	April 2022
07	To demonstrate test for protein.	06	May 2022
08	To demonstrate the lipid test in oily seeds.	06	May 2022
09	To demonstrate the test for starch / cellulose.	06	May 2022
10	To demonstrate the activity of enzyme amylase from germinating Wheat grains.	03	May 2022
Teaching Plan for Theory (Fifth Semester)			**Class : B.Sc. III**
Sr. No.	Topic to be covered	Lectures Available	Duration
01	**Unit – IV: Plant responses**	14	October, November, December-2021, January-2022
Teaching Plan for Practical (Fifth Semester)			**Class : B.Sc. III**
Sr. No.	Topic to be covered	Lectures Available	Duration
01	To study the effect of temperature and organic solvent on permeability of plasma membrane.	06	September 2021
02	To determine the path of water (ascent of sap).	06	October 2021
03	To determine the rate of transpiration by Ganongs photometer.	06	October 2021
04	To determine rate of photosynthesis under varying quality of light and CO2 concentration.	06	October 2021
05	Separation of chloroplast pigments by paper chromatography method.	06	October 2021
06	To study antagonism of salts.	03	November2021
07	To study effect of IAA and Gibberellins on seed germination.	06	November2021
08	To demonstrate exo and endosmosis.	03	November2021
09	To demonstrate fermentation.	03	November2021
10	To demonstrate transpiration by Bell jar.	03	November2021
11	To demonstrate anaerobic respiration in germinating seeds.	03	December 2021
12	To demonstrate the phenomenon of nastic movement with help of *Mimosa pudica*	06	December 2021
13	Study of morphological and anatomical adaptations in hydrophytes – *Hydrilla*and*Nymphaea.*	06	December 2021
14	Study of morphological and anatomical adaptations in xerophytes - *Nerium, Casuarina.*	06	December 2021
15	Determination of pH of different soils and water samples by pH papers	06	December 2021 to January 2022
16	Study of meteorological instruments -Rain gauge, Hygrometer.	03	January 2022
17	Practical record checking, certification, group discussion	03	January 2022
Teaching Plan for Theory(Sixth Semester)			**Class : B.Sc. III**
Sr. No.	Topic to be covered	Lectures Available	Duration
01	**Unit-IV : Genetic Engineering -**	14	February to May-2022
Teaching Plan for Practical (Sixth Semester)			**Class : B.Sc. III**
Sr. No.	Topic to be covered	Lectures Available	Duration
01	Isolation of DNA by crude method	12	February 2022
02	Demonstration of Centrifugation	06	February-March 2022
03	Working Principle and application of Autoclave	12	March 2022

04	Working Principle and application of Laminar Air Flow	12	March- April 2022
05	Cleaning and Sterilization of Glassware	12	April 2022
06	Demonstration of technique of Micropropogation	06	April 2022
07	Preparation of Artificial Seed.	12	May 2022
08	Pollen viability test.	12	May 2022

Perspective Plan for Co-curricular activities (2021 - 22)

Department of Botany

Sr. No.	Particulars	Date
01	Study Circle Formation	
02	Wildlife week	1-7 October 2021
03	Birbal Sahni Birth Anniversary	14 November 2021
04	International Day for Biological Diversity	29 December 2021
05	Sunderlal Bahuguna:-Indian environmentalist birth anniversary	09 January 2022
06	Flower Arrangement Competition	18 January 2022
07	World Wetland Day	2 February 2022
08	National Science Day Celebration	28 February 2021
09	Natural Color Preparation for Holi (Dhulivandan)	27 March 2021
10	Excursion visit/ Tour	Month of January/February 2022
11	Seminar	Last Week of January/ May 2022

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ARTS AND COMMERCE COLLEGE

Warvat Bakal Dist- Buldana

Department of Zoology

Perspective Plan for Curriculum Implementation 2021-22

B. Sc Part I SEM I		
Unit	Available Lectures	Duration
I. Classification of non-chordate and phylum protozoa	15 period	September 2021 to November 2021
II. Phylum Porifera and phylum Coelenterate	13 periods	Septembers 2021 to January 2022
III Phylum Platyhelminthes and phylum Aschelminths	12 periods	September 2021 to January 2022
IV Phylum Annelida and Arthropoda	14 periods	September 2021 to October 2021
V phylum Mollusca and Phylum Echinodermata	15 periods	November 2021 to January 2022
VI Hemichordata, coral Reefs, Parasitic Adaptation in Helminth	15 Periods	October 2021 to January2022
B.Sc. Part II SEM III		
Unit	Available Lectures	Duration
I Phylum-chordata	12 periods	September 2021 to January 2022
II Class Amphibia	18 Periods	September 2021 to November 2021
III Class – Aves	12 Periods	November 2021 to January 2022
IV Evolution: Meaning and scope	14 periods	September 2021 to January 2022
V Evolutionary Process	14 periods	September 2020 to February 2021
VI Adaptive Radiation	13 period	September 2021 to January 2022
B.Sc. Part III SEM V		
Unit	Available Lectures	Duration
I Respiration and Circulation	15 periods	September 2021 to January 2022
II Muscle Physiology	20 periods	September 2021 to November 2021
III Nerve physiology and chemical Coordination	14 Periods	September 2021 to November 2022
IV Reproductive physiology, Homeostasis	12 periods	September 2022 to January 2022
V Agricultural Zoology: Economic Importance of Insect	09 periods	November 2021 to January 2022
VI- Aquaculture	13 periods	December2021 to January 2022
B.Sc. Part I SEM II		
Unit	Available Lectures	Duration
I Cell structure and cell organelles	10 periods	February 2022 to March 2022
II Cell Organelles	14 periods	February to May 2022
III Nucleus and chromosome	15 period	February 2022 to march 2022
IV Cell division, Gametogenesis and Fertilization	14 period	February 2022 to May2022

V Cleavage, Blastulation and Gastrulation in Amphioxus, Frog and chick	21 periods	March 2022 to may 2022
VI Placentation, Parthenogenesis, Regeneration and stem cell	16 periods	April to May 2022
B.Sc. Part II SEM IV		
Unit	Available Lectures	Duration
I Concept of genes	14 periods	February2022 to May2022
II Linkage	15 periods	February to April 2022
III Sex Determination	14 Periods	February 22 to march 22
IV Genetic Screening and Prenatal Diagnosis	15 periods	April to May 2022
V Ecology: Concept and scope	17 periods	March to May 2022
VI Ecosystem	15 periods	February 2022 to May 2022
B,Sc Part III SEM VI		
Unit	Available Lectures	Duration
I Genetic material (DNA and RNA)	12 periods	February 2022 to March 2022
II DNA replication	15 periods	February to May 2022
III The Genetic code, protein synthesis and Gene regulation	15 periods	February 2022 to April 2022
IV Mutation	15 periods	April to May 2022
V Biotechnology : Genetic Engineering	19 periods	March to May2022
VI Immunology	14 Periods	February to May 2022

Perspective Plan for Co-curricular Activities 2021-22

Sr. No.	Activity	Tentative Duration
1.	Induction program of B.Sc I	September 2021
2.	Ozone Day celebration	September 2021
3.	Wild Life Week Celebration	October 2021
4	Fishery Day	November 2021
5.	International Day For elimination of violence against women	November 2021
6.	AIDS day celebration	December 2021
7.	Zoological Study circle formation	December 2021
8.	Any one Exention Activity	January 2022
09.	Celebration of death anniversary of scientist Carl Linnaeus	January 2022
10.	Earnest Hackel Birth Anniversary	February 2022
11.	National Science Day celebration	February 2022
12	International Women's Day	March 2022
13	World Sparrow day	March 2022

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ARTS AND COMMERCE COLLEGE

Warvat Bakal Dist.- Buldana

Department of Computer Science

Perspective Plan for Curriculum Implementation 2021-2022

	B.Sc.- Part I SEM I		
Sr. No.	**Unit**	**Available Lectures**	**Duration**
1	Fundamentals of Information Technology	12 Lectures	September 2021 to January 2022
2	Operating System	12 Lectures	September 2021 to January 2022
3	Introduction to Internet	12 Lectures	September 2021 to January 2022
4	Programming Concept	12 Lectures	September 2021 to January 2022
5	Constant and Variable	12 Lectures	September 2021 to January 2022
6	I/O Operations	12 Lectures	September 2021 to January 2022
	B.Sc.- Part II SEM III		
Sr. No.	**Unit**	**Available Lectures**	**Duration**
1	Data Structure	12 Lectures	September 2021 to January 2022
2	Queue and Linked List	12 Lectures	September 2021 to January 2022
3	Tree Sorting and Searching	12 Lectures	September 2021 to January 2022
4	Object Oriented Programming	12 Lectures	September 2021 to January 2022
5	Function in C++	12 Lectures	September 2021 to January 2022
6	Operator Overloading	12 Lectures	September 2021 to January 2022
	B.Sc.- Part III SEM V		
Sr. No.	**Unit**	**Available Lectures**	**Duration**
1	Introduction to.NET Framework	12 Lectures	September 2021 to January 2022
2	Introduction to visual Programming	12 Lectures	September 2021 to January 2022
3	Decision and Loops	12 Lectures	September 2021 to January 2022
4	Introduction to JAVA	12 Lectures	September 2021 to January 2022
5	Classes and Inheritance	12 Lectures	September 2021 to January 2022
6	String, Package and Interface	12 Lectures	September 2021 to January 2022
	B.Sc.-Part I SEM II		
Sr. No.	**Unit**	**Available Lectures**	**Duration**
1	HTML	12 Lectures	February 2022 to May 2022
2	Style Sheet	12 Lectures	February 2022 to May 2022
3	XML and DTD	12 Lectures	February 2022 to May 2022
4	Array, Pointer and String	12 Lectures	February 2022 to May 2022
5	Functions	12 Lectures	February 2022 to May 2022
6	Structure, Union and File handing	12 Lectures	February 2022 to May 2022
	B.Sc.- Part II SEM IV		
Sr. No.	**Unit**	**Available Lectures**	**Duration**
1	Array and Pointer	12 Lectures	February 2022 to May 2022
2	Inheritance	12 Lectures	February 2022 to May 2022
3	Virtual Function and Polymorphism	12 Lectures	February 2022 to May 2022
4	Introduction to XML	12 Lectures	February 2022 to May 2022
5	Document Type Defination	12 Lectures	February 2022 to May 2022

6	XML Schemas	12 Lectures	February 2022 to May 2022
	B.Sc.-Part III SEM VI		
Sr. No.	**Unit**	**Available Lectures**	**Duration**
1	Functions	12 Lectures	February 2022 to May 2022
2	PL/SQL	12 Lectures	February 2022 to May 2022
3	Securities of Database	12 Lectures	February 2022 to May 2022
4	Dialog Box Control	12 Lectures	February 2022 to May 2022
5	Mouse and Control	12 Lectures	February 2022 to May 2022
6	Working With Files	12 Lectures	February 2022 to May 2022

Perspective Plan for Co-curricular Activities 2021-22

Sr. No.	Activity	Tentative Duration
01	Poster Competition	20/10/2021
02	Seminar Competition	2/12/2021
03	IT Company Visit	27/01/2022
04	National Science Day	28/02/2022
05	Guest Lecture	6/03/2022

ARTS AND COMMERCE COLLEGE

Warvat Bakal Dist.- Buldana

Department of Physics

Perspective Plan for Curriculum Implementation 2021-2022

	B.Sc.- Part I SEM I		
Sr. No.	**Unit**	**Available Lectures**	**Duration**
1	Kepler's laws of planetary motion and Gravitation	12 Lectures	September 2021 to January 2022
2	Motion of rigid body	12 Lectures	September 2021 to January 2022
3	Simple harmonic motion	12 Lectures	September 2021 to January 2022
4	Superposition of S.H.M., Ultrasonics	12 Lectures	September 2021 to January 2022
5	Elasticity	12 Lectures	September 2021 to January 2022
6	Kinematics of moving fluid and surface tension	12 Lectures	September 2021 to January 2022
	B.Sc.- Part II SEM III		
Sr. No.	**Unit**	**Available Lectures**	**Duration**
1	Mathematical background and Electrostatics	12 Lectures	September 2021 to January 2022
2	Magnetostatics and Maxwell's equation	12 Lectures	September 2021 to January 2022
3	Solid state electronics devices-I	12 Lectures	September 2021 to January 2022
4	Solid state electronics devices-II	12 Lectures	September 2021 to January 2022
5	Special theory of Relativity	12 Lectures	September 2021 to January 2022
6	Atmosphere and Geophysics	12 Lectures	September 2021 to January 2022
	B.Sc.- Part III SEM V		
Sr. No.	**Unit**	**Available Lectures**	**Duration**
1	Quantum mechanics	12 Lectures	September 2021 to January 2022
2	Schrodinger's equation and applications	12 Lectures	September 2021 to January 2022
3	Atomic and molecular Spectroscopy	12 Lectures	September 2021 to January 2022
4	Nuclear Physics	12 Lectures	September 2021 to January 2022
5	Hybrid parameters and transistor amplifier	12 Lectures	September 2021 to January 2022
6	Feedback in Amplifier, oscillators and multivibrators	12 Lectures	September 2021 to January 2022
	B.Sc.-Part I SEM II		
Sr. No.	**Unit**	**Available Lectures**	**Duration**
1	Ideal gas,real gas, and transport phenomena in gases	12 Lectures	February 2022 to May 2022
2	The laws of Thermodynamics	12 Lectures	February 2022 to May 2022
3	Liquefication of gases and thermodynamic relation	12 Lectures	February 2022 to May 2022
4	Motion of charged particles in electric and magnetic field	12 Lectures	February 2022 to May 2022
5	Network theorems; Ballistic galvanometer, varying current	12 Lectures	February 2022 to May 2022

6	Alternating currents	12 Lectures	February 2022 to May 2022
	B.Sc.- Part II SEM IV		
Sr. No.	**Unit**	**Available Lectures**	**Duration**
1	Geometrical optics & interference	12 Lectures	February 2022 to May 2022
2	Diffraction of light	12 Lectures	February 2022 to May 2022
3	Polarization of light	12 Lectures	February 2022 to May 2022
4	LASER	12 Lectures	February 2022 to May 2022
5	Fiber optics	12 Lectures	February 2022 to May 2022
6	Renewable energy sources	12 Lectures	February 2022 to May 2022
	B.Sc.-Part III SEM VI		
Sr. No.	**Unit**	**Available Lectures**	**Duration**
1	Statistical mechanics (Maxwell's Boltzman statistics)	12 Lectures	February 2022 to May 2022
2	Bose-Einstein statistics and Fermi-Dirac statistics	12 Lectures	February 2022 to May 2022
3	Crystallography	12 Lectures	February 2022 to May 2022
4	Electrical properties of materials	12 Lectures	February 2022 to May 2022
5	Magnetic properties of materials	12 Lectures	February 2022 to May 2022
6	Superconductivity and Nanotechnology	12 Lectures	February 2022 to May 2022

Perspective Plan for Co-curricular Activities 2021-22

Sr. No.	Activity	Tentative Duration
01	Hiroshima and nagasaki day	06/08/2021
02	Seminar competition	29/01/2022
03	National science day	28/02/2022
04	Guest lecture	9/03/2022

SATPUDA EDUCATION SOCIETY, JALGAON (JAMOD)'S

ARTS AND COMMERCE COLLEGE

Warvat Bakal Dist- Buldana

Dr. Rajendra S Korde
Incharge Principal

Shri. Krushnarao Ingle (Ex MLA)
President

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Criterion I: Curricular Aspects

1.1 Curriculum Planning and Implementation

1.1.1 The institution ensures effective curriculum delivery through a well-planned and documented process

Personal Time Table

Session-2021-2022

Supporting Documents F

SATPUDA EDUCATION SOCIETY, JALGAON (JAMOD)'S

ARTS AND COMMERCE COLLEGE

Warvat Bakal Dist- Buldana

Dr. Rajendra S Korde
Incharge Principal

Shri. Krushnarao Ingle (Ex MLA)
President

Phone : 07266-237126 **visit us at : www.acscwb.co.in** **Email : 327accwb@gmail.com**

CERTIFICATE

This is to certify that the documents attached as supporting documents for Criterion I: Curricular Aspects are verified from the college record and found to be correct to the best of my knowledge.

Principal
Arts & Commerce College,
Warvat Bakal Dist.Buldana

Department of English

Time Table (BA) 2021-22

Name of teacher: **Mr. NISHIGANDH SATAV** Subject: ENGLISH

Period	1	2	3	4	5	6
Day/Time	11:00 - 11:48	11:48 -12:36	12:36 1:24	1:34 - 2:22	2:22 - 3:10	3:10 - 3:58
MON	BA I		BA III	BA II		BA III (T)
TUE	BA III			BA I	BA II (T)	BA I (T)
WED	BA II		BA I	BA III	BA II (T)	BA III (T)
THUS	BA III (T)	BA II			BA I (T)	BA II (T)
FRI	BA II	BA I			BA I (T)	BA II (T)
SAT	7.30 - 8.18	8.18 - 9.06	9.06 - 9.54	10.04-10.52	10.52 - 11.40	11.40 - 12.28
			BA I (T)	BA III	BA III (T)	

Time Table (B.Com & B.Sc) 2021-22

Faculty: **Mr. NAGESH INGLE** Subject: ENGLISH

Period	1	2	3	4	5	6
Day/Time	11:00 -11:48	11:48 - 12:36	12:36 1:24	1:34 - 2:22	2:22 - 3:10	3:10 - 3:58
MON	B.Com I			B.Com III	B.Com II	B.Com I (T)
TUE	B.Com I			B.Sc I	B.Com I (T)	B.Com I (T)
WED	B.Com I			B.Sc I		B.Com I (T)
THUS	B.Com I		B.Com III	B.Sc I		B.Com I (T)
FRI	B.Com II			B.Sc I	B.Com I (T)	
SAT	7.30 - 8.18	8.18 - 9.06	9.06 - 9.54	10.04-10.52	10.52 - 11.40	11.40 - 12.28
	B.com II		B.Com III	B.Com I (T)		B.Sc I (T)

Head,Dept.of English
Arts & Commerce College
Warvat Bakal

Department of Marathi

Time Table (BA) 2021-22

Faculty: Mr. Anand Dhundale Subject: MARATHI & MLT

Period	1	2	3	4	5	6
Day / Time	11:00 to 11:48	11:48 to 12:36	12:36 to 1:24	1:34 to 2:22	2:22 to 3:10	3:10 to 3:58
MON		I(MAR)	II (MLT)	III (MLT)		I (MLT)
TUE	II (MLT)	III (MAR)	I (MLT)			III (MLT)
WED	I (MAR)	III (MLT)			I (MLT)	II (MLT)
THUS			II (MLT)	I (MLT)		III (MLT)
FRI	III (MAR)	III (MLT)	I (MAR)			
SAT		I (MAR)	II (MLT)		I (MLT)	

Head Dept of Marathi
Arts & Commerce College
Warvat Bakal

Department of Economics

Time Table (BA) 2021-22

Faculty: DR. SUBHASH GURJAR Subject: ECONOMICS

Period	1	2	3	4	5	6
Day / Time	11:00 to 11:48	11:48 to 12:36	12:36 to 1:24	1:34 to 2:22	2:22 to 3:10	3:10 to 3:58
MON	BA III		BA I		BA II	
TUE		BA II	BA III			
WED			BA II	BA I		
THUS	BA I		BA III			
FRI		BA II		BA I		BA III
SAT	7.30 to 8.18	8.18 to 9.06	9.06 to 9.54	10.04 to 10.52	10.52 to 11.40	11.40 to 12.28
	BA I	BA II		BA II		

Head,Dept.of Economics
Arts & Commerce College
Warvat Bakal

Department of Political Science

Time Table (BA) 2021-22

Faculty: DR. RAJENDRA KORDE Subject: POLITICAL-SCIENCE

Period	1	2	3	4	5	6
Day / Time	11:00 to 11:48	11:48 to 12:36	12:36 to 1:24	1:34 to 2:22	2:22 to 3:10	3:10 to 3:58
MON	BA II	BA III			BA I	
TUE	BA I		BA II	BA III		
WED		BA I	BA III			
THUS	BA III	BA I	BA II			
FRI			BA II	BA III		
SAT	7.30 to 8.18	8.18 to 9.06	9.06 to 9.54	10.04 to 10.52	10.52 to 11.40	11.40 to 12.28
	BA II			BA I		

Dr. Rajendra S. Korde
Head of Dept. Political Science
Art & Comm Collage Warwat (B)
Tq. Sangrampur Dist Buldhana

Department of History

Time Table (BA) 2021-22

Faculty: DR. SUBHASH PAWAR Subject: HISTORY

Period	1	2	3	4	5	6
Day / Time	11:00 to 11:48	11:48 to 12:36	12:36 to 1:24	1:34 to 2:22	2:22 to 3:10	3:10 to 3:58
MON		B.A. II		B.A.I	B.A. III	
TUE		B.A. I		B.A. II	B.A. III	
WED	B.A. III				B.A.II	B.A. I
THUS	B.A. II	B.A. I				
FRI	B.A. I		B.A. III			
SAT	7.30 to 8.18	8.18 to 9.06	9.06 to 9.54	10.04 to 10.52	10.52 to 11.40	11.40 to 12.28
	B.A. III	B.A. II				

H.O.D
(HISTORY)
Arts & Commerce College
Warvat Bakal, Dtst. Buldana

Department of Commerce

Time Table (B.Com.) 2021-22

Faculty: DR. SATISH RANE Subject : BEC, ITA, STA,CMA,I&WWW

Period	1	2	3	4	5	6
Day / Time	11:00 to 11:48	11:48 to 12:36	12:36 to 1:24	1:34 to 2:22	2:22 to 3:10	3:10 to 3:58
MON	II	III	I		III	
TUE	II	III	I		III	
WED	II	III	I		III	
THUS	III	I	II		III	
FRI	III	I	II		II	
Period	1	2	3	4	5	6
Day / Time	07:30 to 08:18	08:18 to 09:06	09:06 to 09:54	10:04 to 10:52	10:52 to 11:40	11:40 to 12:28
SAT		III	II			

Faculty : Mr. Suresh Bhaltadak **Subject :FAC,IFS,ITB,BST,EOD**

Period	1	2	3	4	5	6
Day / Time	11:00 to 11:48	11:48 to 12:36	12:36 to 1:24	1:34 to 2:22	2:22 to 3:10	3:10 to 3:58
MON	III (EOD)	I (FAC)		II (IFS)		II (ITB)
TUE	III (EOD)	II(IFS)	II (ITB)	I (FAC)		II (BST)
WED	III (EOD)	I (FAC)	II (BST)	II (ITB)		
THUS	II (ITB)	III (EOD)		II (IFS)	II (BST)	
FRI		III (EOD)	I (FAC)	II (IFS)		
Day / Time	07:30 to 08:18	08:18 to 09:06	09:06 to 09:54	10:04 to 10:52	10:52 to 11:40	11:40 to 12:28
SAT	I (FAC)	II (IFS)		II (ITB)		

Faculty: Dr. Sanjay Tale **Subject:** PBO, PBM, CFS-I/II,BRFC, CLAW, EOE-I/II, COA, CAT

Period	1	2	3	4	5	6
Day / Time	11:00 to 11:48	11:48 to 12:36	12:36 to 1:24	1:34 to 2:22	2:22 to 3:10	3:10 to 3:58
MON		B.Com II	B.Com III	B.Com I	B.Com I	
TUE		B.Com I	B.Com III	B.Com III	B.Com II	
WED		B.Com II	B.Com III	B.Com III	B.Com I	
THUS		B.Com II	B.Com I	B.Com III	B.Com I	
FRI	B.Com I	B.Com II	B.Com III	B.Com III		
Day / Time	07:30 to 08:18	08:18 to 09:06	09:06 to 09:54	10:04 to 10:52	10:52 to 11:40	11:40 to 12:28
SAT	B.Com III	B.Com I		B.Com III		

Head of the Department
H O D
Commerce Department
Arts/Commerce College
Warwat Bakal Tq.Sangrampur
Dist.Buldhana

Department of Chemistry

Time Table (B.Sc) 2021-22

Faculty: Mr. Nityanand Dahake **Subject: Chemistry**

Period	1	2	3	4	5	6	7	8	9
Day / Time	8:00 to 8:48 (P)	8:48 to 9:36 (P)	9.36 to 10:24 (P)	11:00 to 11:48	11:48 to 12:36	12:36 to 1:24	2:30 to 3:18 (P)	3:18 to 4:6 (P)	3: to 4:54 (P)
MON	II (P)	II (P)	II (P)	II (T)					
TUE	II (P)	II (P)	II (P)						
WED	III (P)	III (P)	III (P)				III (P)	III (P)	III (P)
THUS	III (P)	III (P)	III (P)			I (T)	III (P)	III (P)	III (P)
FRI	I (P)	I (P)	I (P)			I (T)	I (P)	I (P)	I (P)
				8.00-8.45	9.00-09.45	10.00 - 10.45	Practical 10.04 to 2.52		
SAT					III (T)		I (P) & I (P)	I (P) & I (P)	I (P) & I (P)

Faculty: Mr. Kiran Sabale **Subject: Chemistry**

Period	**1**	**2**	**3**	**4**	**5**	**6**
	Practical	**Theory**				**Practical**
Day / Time	8 to 10:24(Pr)	11:00 to 11:48	11:48 to 12:36	12:36 to 1:24	1:34 to 2:22	2:22 to 4:46(Pr)
MON	II(B_1)			I(T)		II(B_2)
TUE	II(B_1)		I(T)			II(B_2)
WED	III(C_1)		III(T)			III(C_2)
THUS	III(C_1)		III(T)			III(C_2)
FRI	I(A_1)			II(T)		--
SAT		7:30 to 8:18	8:18 to 9:06	9:06 to 9:54	10:04 to 12:28	12:28 to 2:52
					BSc-I(P)(A_1)	--

Faculty: Dr. V D Ingale **Subject: Chemistry**

Period	**1**	**2**	**3**	**4**	**5**	**6**	
Day / Time	08:00 to 10:24	11:00 to 11:48	11:48 to 12:36	12:36 to 01:24	01:24 to 2:22	2:30 to 4:54	
MON	I (P) B_1					I (P) B_2	
TUE	I (P) B_1	III (T)				I (P) B_2	
WED	I (P) C_1		III (T)				
THUS	I (P) C_1		II (T)				
FRI	I (P) A_1			II (T)		I (P) A_2	
Day / Time		7:30 to 8:18	8:18 to 9:06	9:06 to 9:54		11.00 to 1.24	124.0 to 3.48
SAT		I (T)				I (P) A_1	I (P) A_2

Faculty: Mr. Nilesh S Shelke **Subject: Chemistry**

Period	**1**	**2**	**3**	**4**	**5**	**6**
	Practical	Theory				Practical
Day/ Time	8 to 10:24 (pract)	11:00 to 11:48	11:48 to 12:36	12:36 to 1:24	1:34 to 2:22	2:22 to 4:46(Pract.)
MON	II (Pract) B-1					II (Pract) B-2
TUE	II (Pract) B-1	III(Theory)				II (Pract) B-2
WED				II(Theory)		III (Pract) C-2
THUS						III (Pract) C-2
FRI	I (Pract) A-1	III(Theory)				I (Pract) A -2
		7:30 - 8:18	8:18 - 9:06	9:16 - 10:04	10:04-12:28	12:28 -2:52
SAT		I (Theory)			I (Pract) A-1	I (Pract) A-2

प्रा.एन.डी. डहाके
(विभाग प्रमुख)
कला, वाणिज्य महाविद्यालय,
बरवट बकाल

Department of Botany

Time Table (B.Sc) 2021-22

Faculty: Mr. Santosh Mhasal **Subject : Botany**

Period	**1**	**2**	**3**	**4**	**5**	**6**
	Practical	Theory				Practical
Day/Time	8:30 to 10:54	11:00 to 11:48	11:48 to 12:36	12:36 to 1:24	1:34 to 2:22	2:30 to 4:54
MON			III (T)			I (Pract.) Batch:(C+D)
TUE	I (Pract.) Batch:(A+B)					
WED						II (Pract.) Batch:(C+D+E)
THUS	II (Pract.) Batch:(A+B)		I (T)			
FRI		I (T)				III (Pract.) Batch:(C+D+E)
		7:30 - 8:18	8:18 - 9:06	9:16 - 10:04	10:04-12:28	12:28 -2:52 2.30-4.54
SAT			I (T)			III (Pract.) Batch:(C+D+E)

Faculty: Dr. Kishor Theng **Subject: Botany**

Period	1	2	3	4	5	6
	Practical	Theory				Practical
Day/ Time	8:30 to 10:54	11:00 to 11:48	11:48 to 12:36	12:36 to 1:24	1:34 to 2:22	2:30 to 4:54
MON	I (Pract.) Batch:(A+B)		I (T)			
TUE		I (T)				I (Pract.) Batch:(C+D)
WED	II (Pract.) Batch:(A+B)	I (T)				
THUS		III(T)				II (Pract.) Batch:(C+D+E)
FRI	III (Pract.) Batch:(A+B)			III(T)		I (Pract) A -2
SAT		7:30 - 8:18	8:18 - 9:06	9:16 - 10:04	10:04-12:28	12:28 -2:52 2.30-4.54
						III (Pract.) Batch:(C+D+E)

Faculty: Dr. Dnyaneshwar Sherkar **Subject: Botany**

Period	1	2	3	4	5
Day / Time	8:30am-10:54am	11:00 to 11:48	11:48 to 12:36	12:36 to 1:24	02:30-04:54
MON	I (P)			II (T)	I (P)
TUE			II (T)		
WED		II (T)			II (P)
THUS	II (P)				
FRI					III (P)
Day / Time	07:30am-08:28am	8:28 am to 9:16am	9:16 am to 10:04am		11:40am-02:04pm
SAT			III (T)		III (P)

Faculty: Dr. Nandkishor More **Subject : Botany**

Period	1	2	3	4	5
	Practical	Theory	Practical		
Day/ Time	8:30 to 10:54	11:00 to 11:48	11:48 to 12:36	12:36 to 1:24	2:30 to 4:54
MON					I (Pract.) Batch:(C+D)
TUE	I (Pract.) Batch:(A+B)			III (T)	
WED				III (T)	II (Pract.) Batch:(C+D+E)
THUS	II (Pract.) Batch:(A+B)			II (T)	
FRI			II (T)		III (Pract.) Batch:(C+D+E)
SAT		7:30 - 8:18	8:18 - 9:06	9:16 - 10:04	12:28 -2:52 2.30-4.54
		II (T)			III (Pract.) Batch:(C+D+E)

S.S.Mhasal.
Head & Assistant Professor
Department of Botany
Arts,Commerce College,Warwat (Bk.)
Tq:Sangrampur Dist:Buldhana 444202

Department of Zoology

Time Table (BSc) 2021-22

Faculty: Dr. M. R. Solanke **Subject: Zoology**

Period	PRACTICAL	1	2	3	4	PRACTICAL
Day / Time	8.00-10.24	11:00 to 11:48	11:48 to 12:36	12:36 to 1:24	1:34 to 2:22	2:30 to 4.14pm
MON		II (T)				III (P)
TUE	III(P)					
WED						I(P)
THUS	I(P)	II (T)				
FRI				III(T)		II(P)
SAT		7.38 to 8.18	8.18 to 9.06	9.06 to 9.54 am	Practical (batch I) 10.04 to12.28	Practical (II batch) 12.28 to 2.52
				I (T)		II(P)

Faculty: Dr.Madhuri S. Hingankar **Subject: ZOOLOGY**

Period	PRACTICAL	1	2	3	4	PRACTICAL
Day / Time	08.00 to 10.24	11:00 to 11:48	11:48 to 12:36	12:36 to 1:24	1:34 to 2:22	2:30 to 4.54
MON	III (Pr.)			III (Th.)		
TUE			III (Th.)			III (Pr.)
WED				I (Th.)		I (Pr.)
THUS	I (Pr.)	I (Th.)				
FRI	II (Pr.)	II (Th.)				
SAT		7.30 to 8.18	8.18 to 9.06	9.06 to 9.54 am	Practical 10.04 - 12.28 pm	Practical 12.28 to 2.52 pm
					II (Pr.)	

FACULTY: Miss Sonali Anil Tayade **Subject: Zoology**

Period	Practical	1	2	3	4	Practical
Day / Time	8.20 to 11	11:00 to 11:48	11:48 to 12:36	12:36 to 1:24	1:34 to 2:22	2:30 to 5:10
MON	III(P)	I (T)				
TUE				I (T)		III (P)
WED	I(P)		II (T)			
THUS				III (T)		I (P)
FRI						II (P)
		1	2	3	Practical	Practical
SAT		7.30 to 8.18 AM	8.18 to 9.06 AM	9.06 to 9.54 AM	10.04 to 12.28 PM	12.28 to 2.52PM
			II (T)			II(P)

FACULTY: Mr. Sushil Deshmukh **Subject: Zoology**

Period	PRACTICAL	1	2	3	4	PRACTICAL
Day / Time	08.00 to 10.24	11:00 to 11:48	11:48 to 12:36	12:36 to 1:24	1:34 to 2:22	2:30 to 4.54
MON						III (Pr.)
TUE	III (Pr.)	II (Th.)				
WED	I (Pr.)	III (Th.)				
THUS						I (Pr.)
FRI	II (Pr.)			I (Th.)		
SAT		7.30 to 8.18	8.18 to 9.06	9.06 to 9.54 am	Practical 10.04 - 12.28 pm	Practical 12.28 to 2.52 pm
		III (Th.)			II (Pr.)	

Dr.M.R.Solanke.
Assistant Professor &
Head of Zoology Department
Arts,Commerce College Warwat (Bk.)
Tq.Shirgaonpur Dist:Belathana 444202

SATPUDA EDUCATION SOCIETY, JALGAON (JAMOD)'S

ARTS AND COMMERCE COLLEGE

Warvat Bakal Dist- Buldana

Dr. Rajendra S Korde
Incharge Principal

Shri. Krushnarao Ingle (Ex MLA)
President

Phone : 07266-237126 visit us at : www.acscwb.co.in Email : 327accwb@gmail.com

Criterion I: Curricular Aspects

1.1 Curriculum Planning and Implementation

1.1.1 The institution ensures effective curriculum delivery through a well-planned and documented process

Academic Diary

Session-2021-2022

Supporting Document - G

Dr. Rajendra S Korde
Incharge Principal

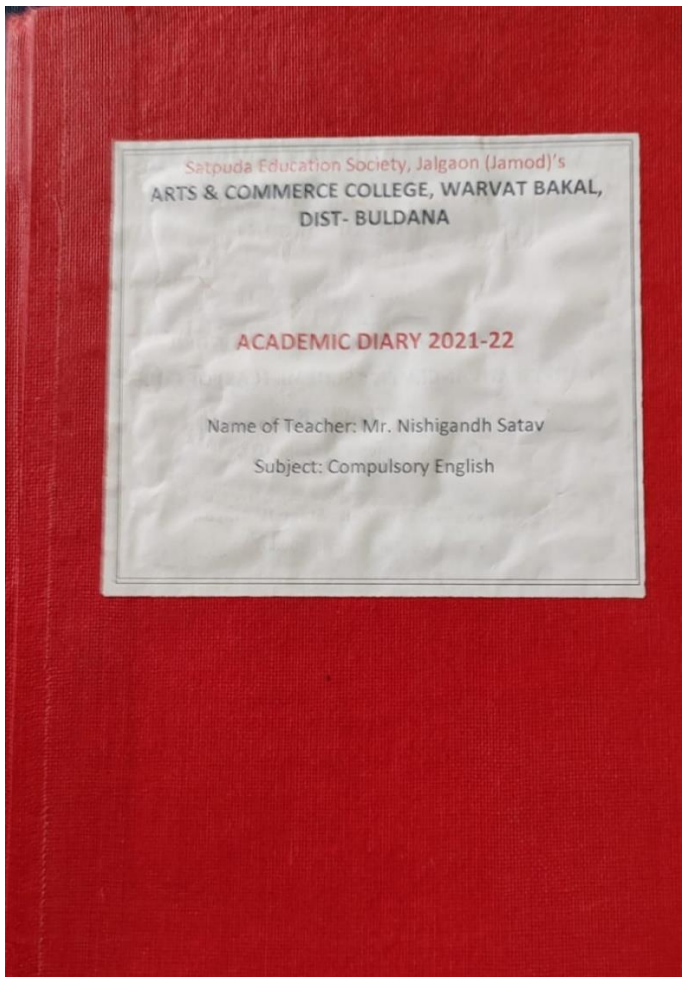
Shri. Krushnarao Ingle (Ex MLA)
President

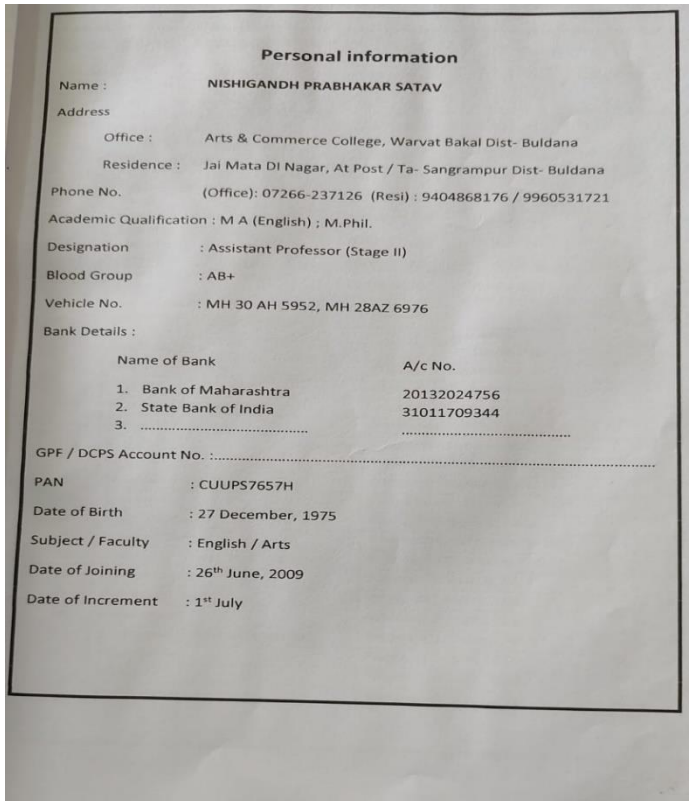
Phone : 07266-237126 visit us at : www.acscwb.co.in Email : 327accwb@gmail.com

CERTIFICATE

This is to certify that the documents attached as supporting documents for Criterion I: Curricular Aspects are verified from the college record and found to be correct to the best of my knowledge.

Principal
Arts & Commerce College,
Warvat Bakal Dist.Buldana





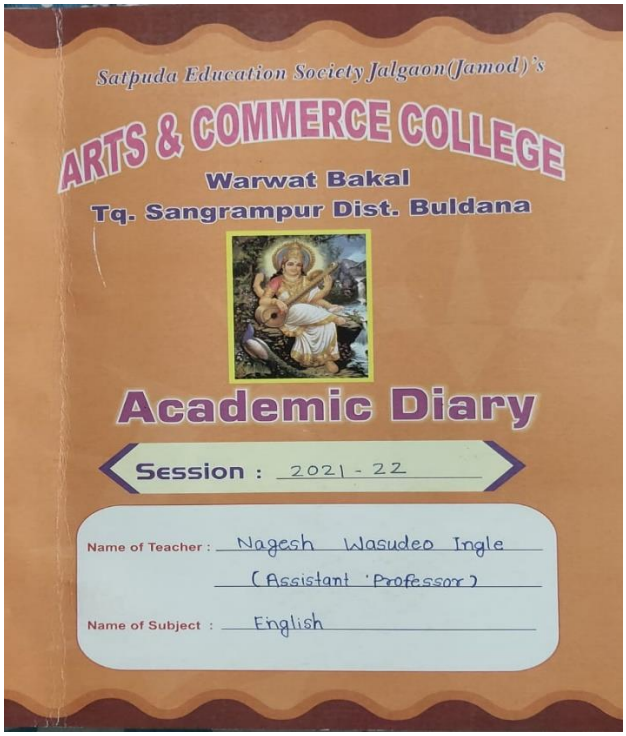
Personal information

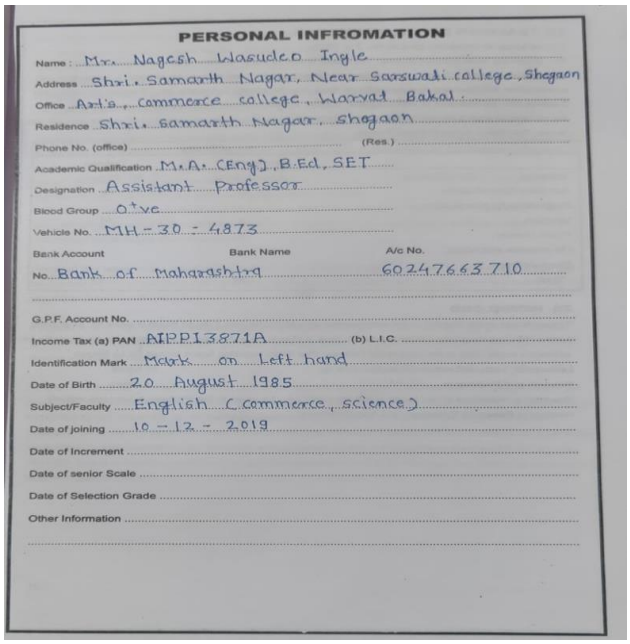
Name :	NISHIGANDH PRABHAKAR SATAV
Address	
Office :	Arts & Commerce College, Warvat Bakal Dist- Buldana
Residence :	Jai Mata Di Nagar, At Post / Ta- Sangrampur Dist- Buldana
Phone No.	(Office): 07266-237126 (Resi) : 9404868176 / 9960531721
Academic Qualification :	M A (English) ; M.Phil.
Designation	: Assistant Professor (Stage II)
Blood Group	: AB+
Vehicle No.	: MH 30 AH 5952, MH 28AZ 6976
Bank Details :	

Name of Bank	A/c No.
1. Bank of Maharashtra	20132024756
2. State Bank of India	31011709344
3.	.....

GPF / DCPS Account No. :.....

PAN	: CUUPS7657H
Date of Birth	: 27 December, 1975
Subject / Faculty	: English / Arts
Date of Joining	: 26th June, 2009
Date of Increment	: 1st July





PERSONAL INFROMATION

Name : Mr. Nagesh Wasudeo Ingle

Address Shri. Samarth Nagar, Near Saraswati college, Shegaon

Office Arts, commerce college, Warwat Bakal

Residence Shri. Samarth Nagar, Shegaon

Phone No. (office) (Res.)

Academic Qualification M.A. (Engl), B.Ed, SET

Designation Assistant Professor

Blood Group O+ve

Vehicle No. MH-30-4873

Bank Account No. Bank of Maharashtra — Bank Name — A/c No. 60247663710

G.P.F. Account No.

Income Tax (a) PAN AIPPI3871A (b) L.I.C.

Identification Mark Mark on left hand

Date of Birth 20 August 1985

Subject/Faculty English (commerce, science)

Date of joining 10-12-2019

Date of Increment

Date of senior Scale

Date of Selection Grade

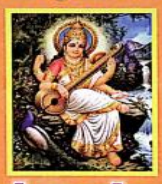
Other Information

Satpuda Education Society Jalgaon(Jamod)'s

ARTS & COMMERCE COLLEGE

Warwat Bakal

Tq. Sangrampur Dist. Buldana



Academic Diary

Session : 2021 - 2022

Name of Teacher : Dr. Subhash R. Gurjar

Name of Subject : Economics

PERSONAL INFROMATION

Name : Dr. Subhash Ramchandra Gurjar

Address At-post:- Warwat Bakal Tq :- Sangrampur Dist :- Buldana

Office Arts & Commerce College, Warwat Bakal

Residence Warwat Bakal

Phone No. (office) ..... (Res.) 9423912821

Academic Qualification M.A. (MAR, SOC, ECO) M.phil, ph.d, Set (Eco)

Designation Assistant professor

Blood Group B+ve

Vehicle No. MH-28 AN 0763

Bank Account No. Bank Name Bank of Maharashtra Sangrampur A/c No.

G.P.F. Account No. 6761

Income Tax (a) PAN AGSPG 2069 F (b) L.I.C. .....

Identification Mark .....

Date of Birth 07/09/1971

Subject/Faculty Economics

Date of joining 13/9/1996

Date of Increment .....

Date of senior Scale .....

Date of Selection Grade .....

Other Information .....

Satpuda Education Society Jalgaon(Jamod)'s

ARTS & COMMERCE COLLEGE

Warawat Bakal

Tq. Sangrampur Dist. Buldana

Academic Diary

Session : 2021-2022

Name of Teacher : Dr. Rajendra S. Korde
(Asst. Prof)

Name of Subject : Political - Science

PERSONAL INFROMATION

Name : Dr. Rajendra Shrirampant Korde

Address 33 "Shrikrupa" Muktai Nagar, SBI Colony, Shegaon

Office Art & Comm College Warwat-Bakal

Residence 33 Shrikrupa' Muktai Nagar SBI Colony, Shegaon

Phone No. (office) 07266-295243 (Res.) 9420446022

Academic Qualification M.A. P.hd.

Designation Assistant-Prof.

Blood Group AB+

Vehicle No. MH28AN2569

Bank Account No. — Bank Name — A/c No.

Bank of Maharastra, Sangrampur - 20232008224

State Bank of India Shegaon - 10883919207

G.P.F. Account No. 6760

Income Tax (a) PAN AIMPK2865P (b) L.I.C.

Identification Mark Totten my Name 'Rajendra' Right Hand

Date of Birth 13-12-1969

Subject/Faculty Political-Science

Date of joining 13 Sep 1996

Date of Increment Nil

Date of senior Scale - Nil -

Date of Selection Grade — Nil —

Other Information Attend Conf., Seminar, study circle formation, Competative Exam organized Dept. etc.

Satpuda Education Society Jalgaon(Jamod)'s

ARTS & COMMERCE COLLEGE

Warwat Bakal

Tq. Sangrampur Dist. Buldana

Academic Diary

Session : 2021-2022

Name of Teacher : Dr. Subhash S. Pawar

Name of Subject : History

PERSONAL INFROMATION

Name : Dr. Subhash Shankarrao Pawar

Address 28, Muktai Nagar, Shegaon, Dist:-Buldana

Office Arts & Commerce College, Warwat-Bakal

Residence 28, Muktai Nagar Shegaon, Dist:-Buldana

Phone No. (office) (Res.) 9423721646

Academic Qualification MA; M Phil, Ph D (History)

Designation Associate Professor

Blood Group O+ve

Vehicle No. MH28V7559

Bank Account No. Bank Name Bank of Maharashtra, Main Road Sangrampur Dist:-Buldana A/c No. 20232005213

G.P.F. Account No. BLD/6764

Income Tax (a) PAN AHYPP7259B (b) L.I.C.

Identification Mark Mole on chest

Date of Birth 26/10/1970

Subject/Faculty History (Humanities Arts)

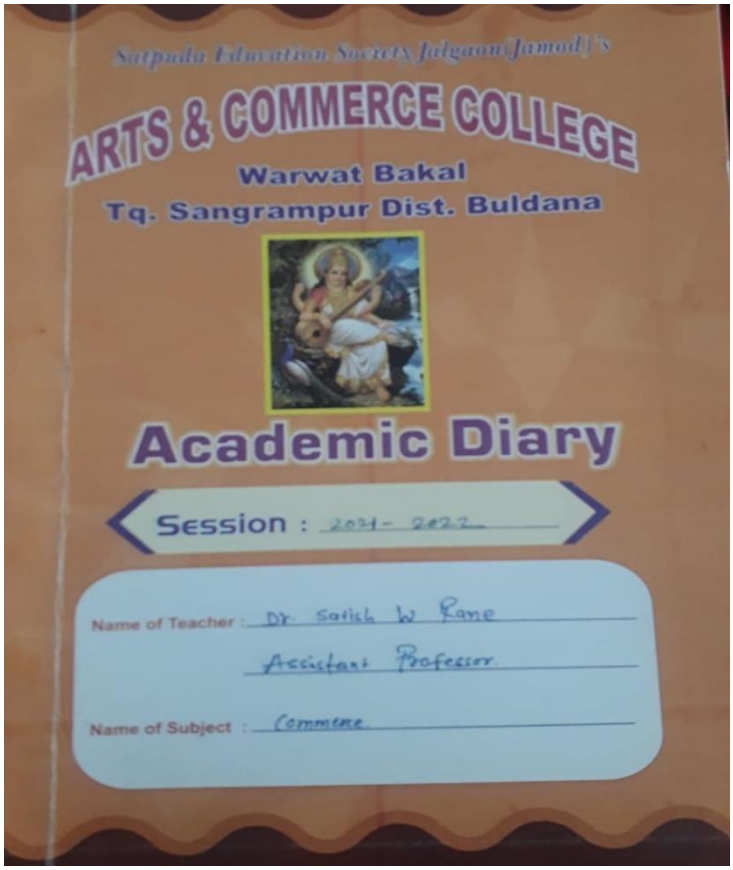
Date of joining 06/02/1998

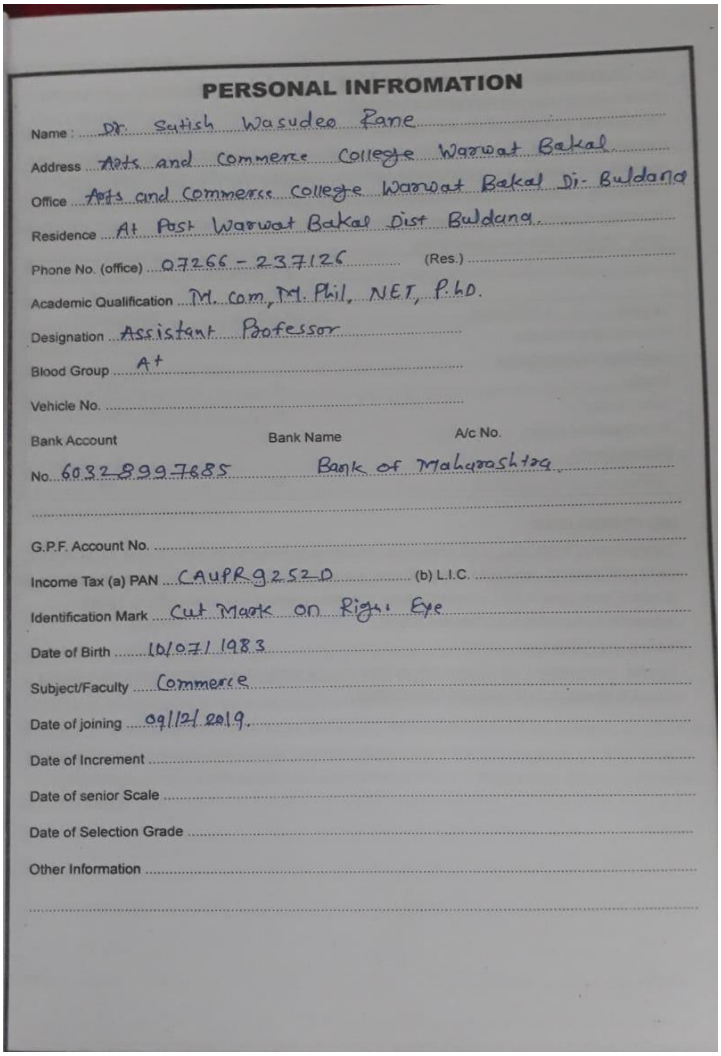
Date of Increment

Date of senior Scale 06/02/2003

Date of Selection Grade 06/02/2008.

Other Information


Satpuda Education Society Jalgaon Jamod's
ARTS & COMMERCE COLLEGE
Warwat Bakal
Tq. Sangrampur Dist. Buldana
Academic Diary
Session : 2021- 2022
Name of Teacher : Dr Satish W Rane
Assistant Professor
Name of Subject : Commerce



PERSONAL INFROMATION

Name : Dr. Satish Wasudeo Pane

Address Arts and Commerce College Warwat Bakal

Office Arts and Commerce College Warwat Bakal Di- Buldana

Residence At Post Warwat Bakal Dist Buldana

Phone No. (office) 07266 - 237126 (Res.)

Academic Qualification M. Com, M. Phil, NET, P.hD.

Designation Assistant Professor

Blood Group A+

Vehicle No.

Bank Account No. 60328997685 Bank Name Bank of Maharashtra A/c No.

G.P.F. Account No.

Income Tax (a) PAN CAUPR9252D (b) L.I.C.

Identification Mark Cut Mark on Right Eye

Date of Birth 10/07/1983

Subject/Faculty Commerce

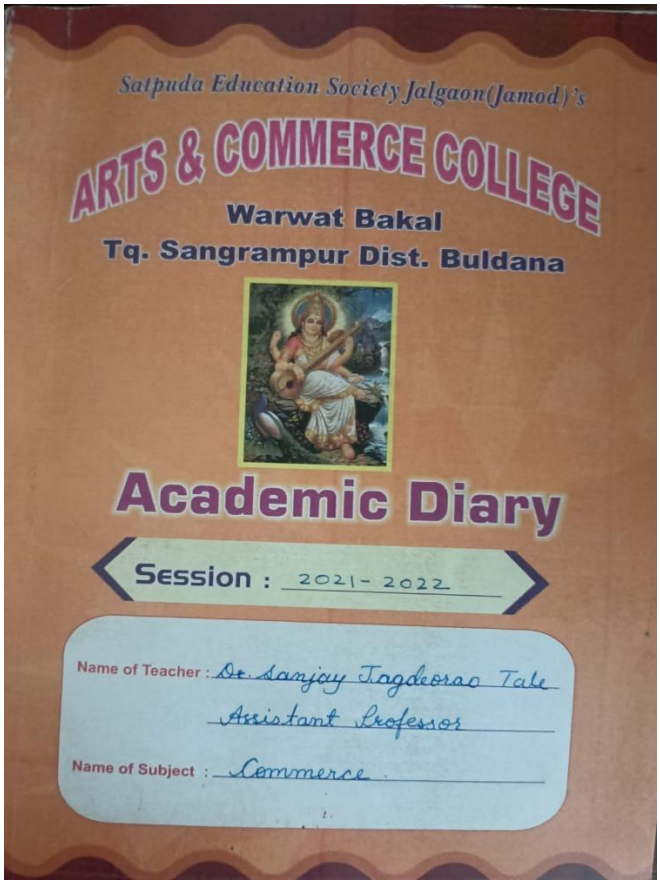
Date of joining 09/12/2019.

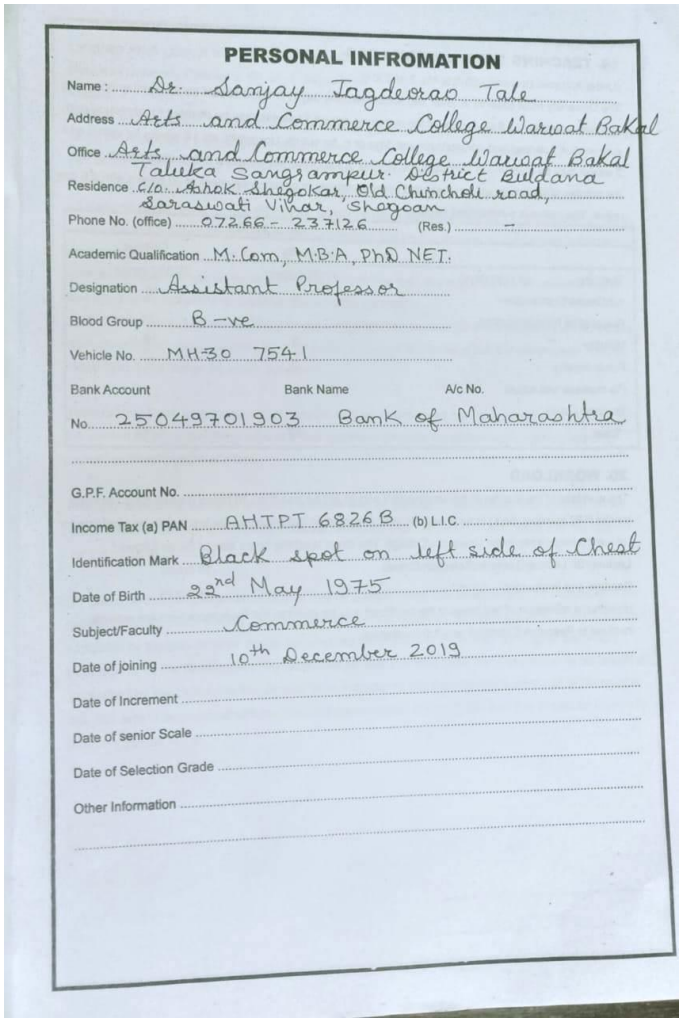
Date of Increment

Date of senior Scale

Date of Selection Grade

Other Information


Satpuda Education Society Jalgaon(Jamod)'s
ARTS & COMMERCE COLLEGE
Warwat Bakal
Tq. Sangrampur Dist. Buldana
Academic Diary
Session : 2021- 2022
Name of Teacher : Dr. Sanjay Jagdeorao Tale
Assistant Professor
Name of Subject : Commerce



PERSONAL INFROMATION

Name : Dr. Sanjay Jagdeorao Tale

Address : Arts and Commerce College Warwat Bakal

Office : Arts and Commerce College Warwat Bakal Taluka Sangrampur District Buldana

Residence : C/o. Ashok Shegokar, Old Chincholi road, Saraswati Vihar, Shegaon

Phone No. (office) : 07266 - 237126 (Res.) : -

Academic Qualification : M.Com, M.B.A, PhD NET.

Designation : Assistant Professor

Blood Group : B -ve

Vehicle No. : MH-30 7541

Bank Account No.	Bank Name	A/c No.
25049701903	Bank of Maharashtra	

G.P.F. Account No. :

Income Tax (a) PAN : AHTPT 6826B (b) L.I.C. :

Identification Mark : Black spot on left side of Chest

Date of Birth : 22nd May 1975

Subject/Faculty : Commerce

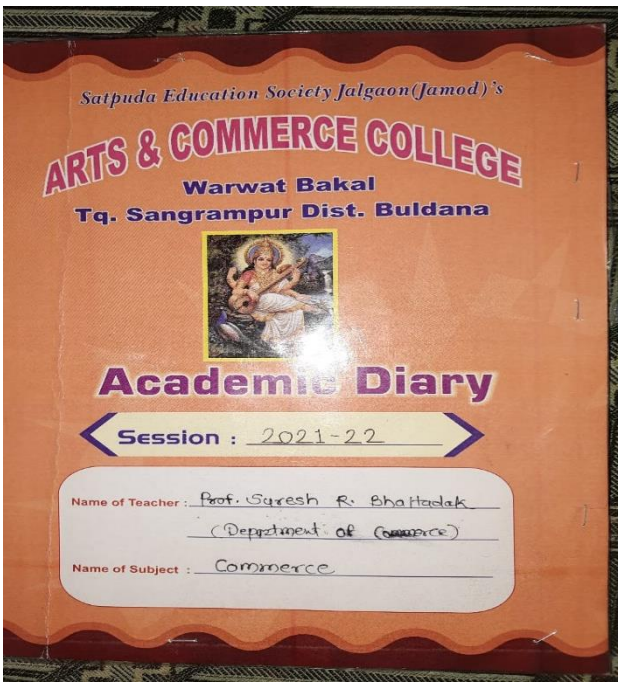
Date of joining : 10th December 2019

Date of Increment :

Date of senior Scale :

Date of Selection Grade :

Other Information :



Satpuda Education Society Jalgaon(Jamod)'s

ARTS & COMMERCE COLLEGE

Warwat Bakal

Tq. Sangrampur Dist. Buldana

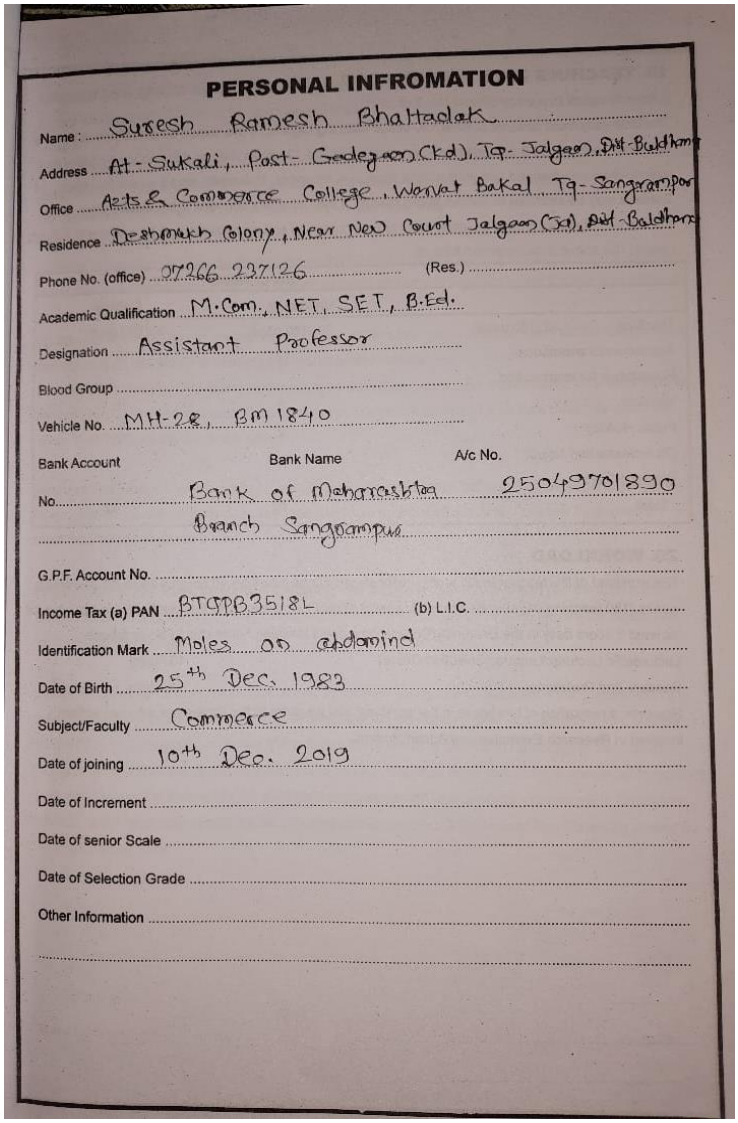
Academic Diary

Session : 2021-22

Name of Teacher : Prof. Suresh R. Bhattadak

(Department of Commerce)

Name of Subject : Commerce



PERSONAL INFROMATION

Name : Suresh Ramesh Bhattadak

Address At - Sukali, Post - Gadegaon (Kd), Tq - Jalgaon, Dist - Buldhana

Office Arts & Commerce College, Wanvat Bakal Tq - Sangrampur

Residence Deshmukh Colony, Near New Court Jalgaon (Jn), Dist - Buldhana

Phone No. (office) 07266 237126 (Res.)

Academic Qualification M.Com., NET, SET, B.Ed.

Designation Assistant Professor

Blood Group

Vehicle No. MH-28, BM 1840

Bank Account No.	Bank Name	A/c No.
	Bank of Maharashtra Branch Sangrampur	25049701890

G.P.F. Account No.

Income Tax (a) PAN BTGPB3518L (b) L.I.C.

Identification Mark Moles on abdomind

Date of Birth 25th Dec. 1983

Subject/Faculty Commerce

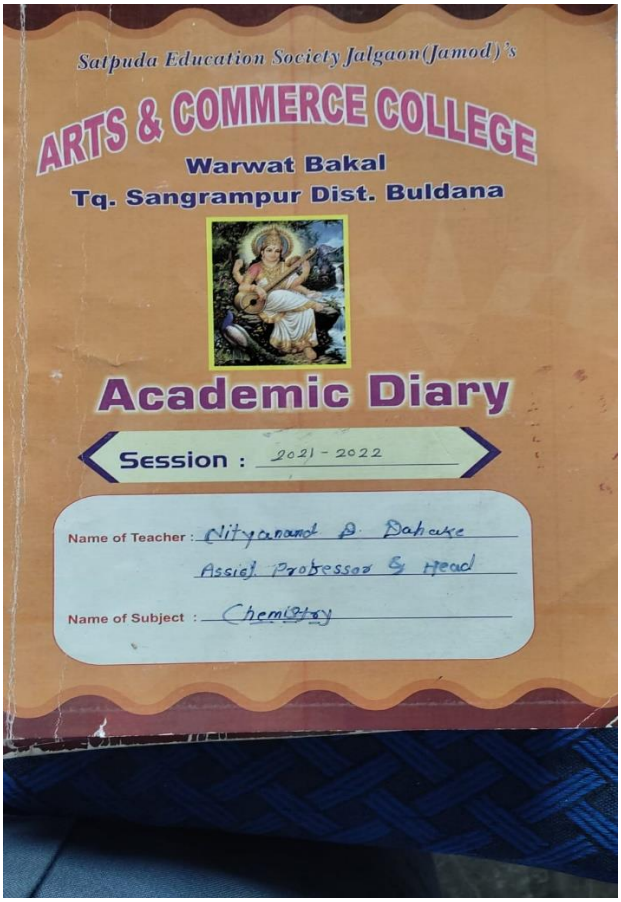
Date of joining 10th Dec. 2019

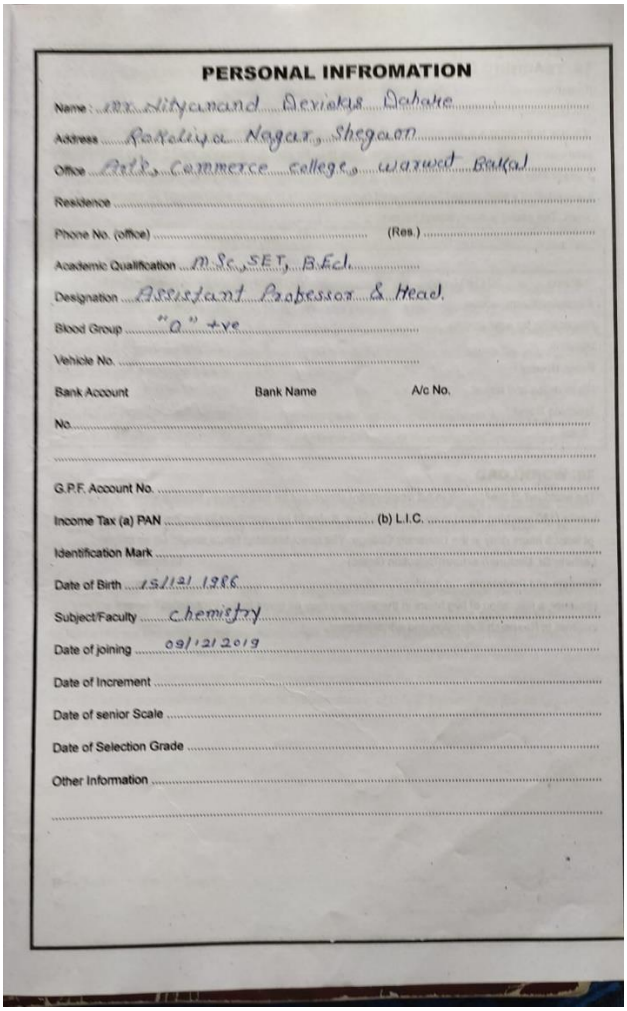
Date of Increment

Date of senior Scale

Date of Selection Grade

Other Information


Satpuda Education Society Jalgaon(Jamod)'s
ARTS & COMMERCE COLLEGE
Warwat Bakal
Tq. Sangrampur Dist. Buldana
Academic Diary
Session : 2021 - 2022
Name of Teacher : Nityanand D. Dahake
Assist. Professor & Head
Name of Subject : Chemistry



PERSONAL INFROMATION

Name : Mr. Vidyanand Devidas Dahare

Address Patelliya Nagar, Shegaon

Office Arts, Commerce college, warwat Bakal

Residence

Phone No. (office) (Res.)

Academic Qualification M.Sc, SET, B.Ed.

Designation Assistant Professor & Head.

Blood Group "O" +ve

Vehicle No.

Bank Account Bank Name A/c No.

No.

G.P.F. Account No.

Income Tax (a) PAN (b) L.I.C.

Identification Mark

Date of Birth 15/12/1986

Subject/Faculty Chemistry

Date of joining 09/12/2019

Date of Increment

Date of senior Scale

Date of Selection Grade

Other Information

Satpuda Education Society Jalgaon(Jamod)'s

ARTS & COMMERCE COLLEGE

Warwat Bakal

Tq. Sangrampur Dist. Buldana

Academic Diary

Session : 2021 - 2022

Name of Teacher : Mr. Kiran Prakash Jabale

Assist. Prof. of Chemistry

Name of Subject : Chemistry

PERSONAL INFROMATION

Name : Mr. Kiran Prakash Sabale

Address Arts commerce college warwat Bakal

Office Arts Commerce college warwat Bakal, Tq. Sangrampur Dist Buldana

Residence

Phone No. (office) 07266 - 233126 (Res.)

Academic Qualification M.Sc. (Chemistry) NET, GATE

Designation Assistant Professor

Blood Group AB-ve

Vehicle No.

Bank Account No	Bank Name	A/c No.
60108626268	Bank of Maharashtra	

G.P.F. Account No.

Income Tax (a) PAN GZNPS2477B (b) L.I.C.

Identification Mark Mole on right hand

Date of Birth 07/06/1991

Subject/Faculty Department of Chemistry

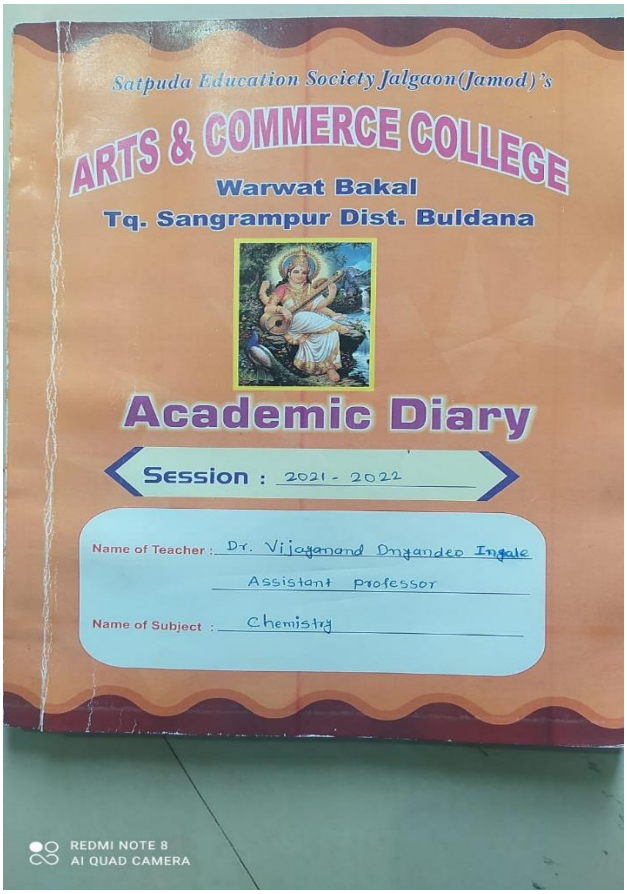
Date of joining 10/12/2019

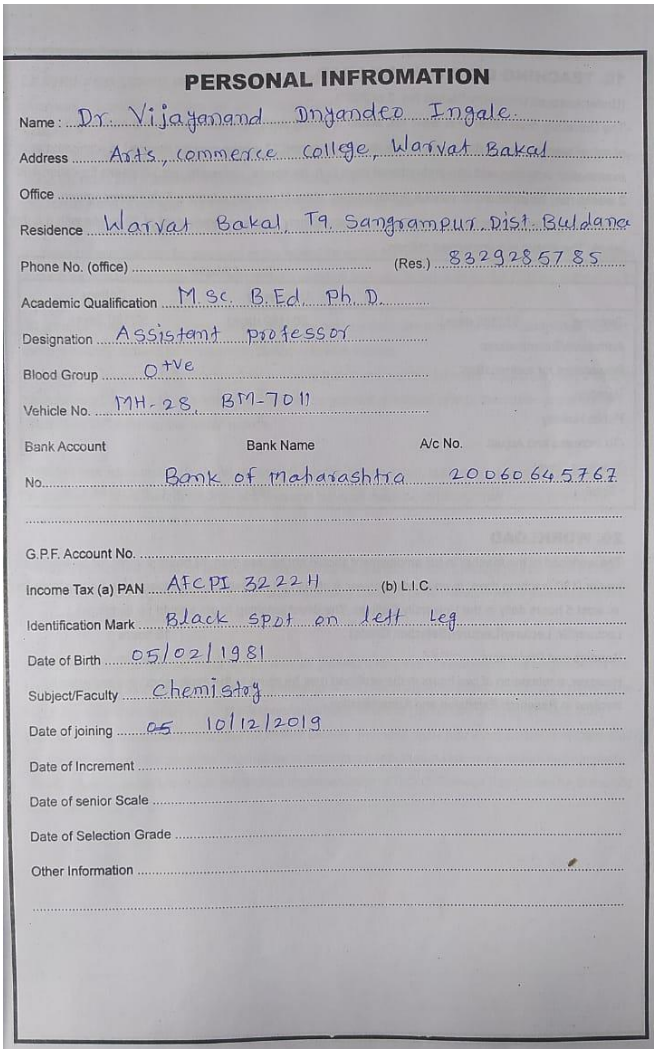
Date of Increment

Date of senior Scale

Date of Selection Grade

Other Information


Satpuda Education Society Jalgaon(Jamod)'s
ARTS & COMMERCE COLLEGE
Warwat Bakal
Tq. Sangrampur Dist. Buldana
Academic Diary
Session : 2021 - 2022
Name of Teacher : Dr. Vijayanand Dnyandeo Ingale
Assistant professor
Name of Subject : Chemistry
REDMI NOTE 8
AI QUAD CAMERA



PERSONAL INFROMATION

Name : Dr. Vijayanand Dnyandeo Ingale.

Address Arts, commerce college, Warvat Bakal

Office

Residence Warvat Bakal Tq. Sangrampur, Dist. Buldana

Phone No. (office) (Res.) 8329285785

Academic Qualification M Sc B Ed Ph D.

Designation Assistant professor

Blood Group O+ve

Vehicle No. MH-28 BM-7011

Bank Account No.	Bank Name	A/c No.
	Bank of Maharashtra	20060645767

G.P.F. Account No.

Income Tax (a) PAN AFCPI 3222H (b) L.I.C.

Identification Mark Black spot on left Leg

Date of Birth 05/02/1981

Subject/Faculty Chemistry

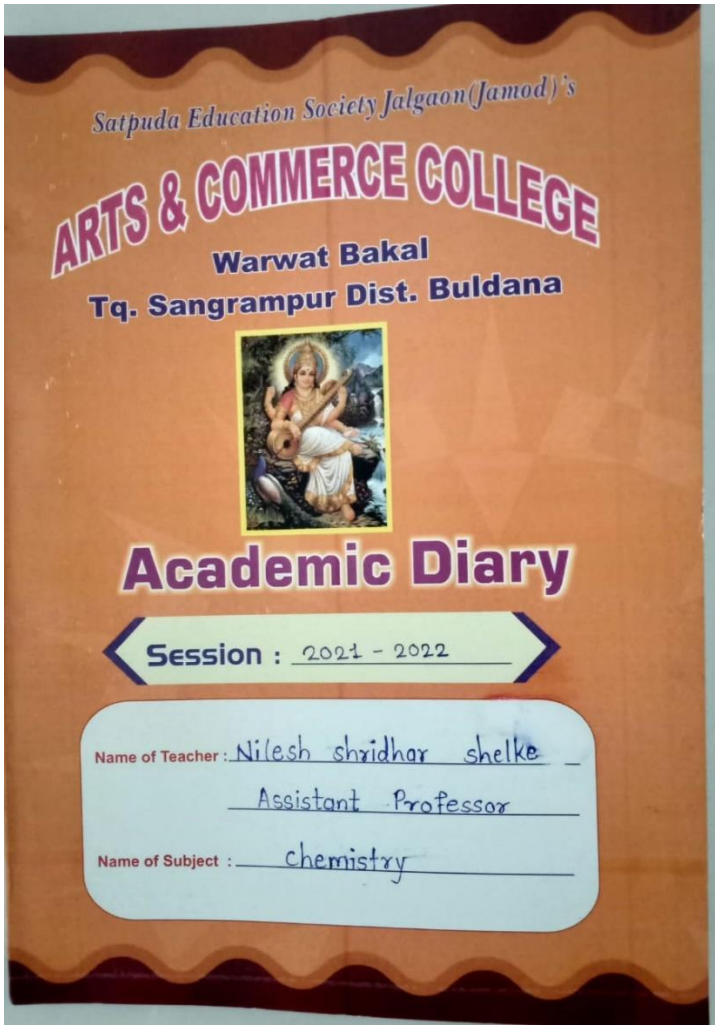
Date of joining 05 10/12/2019

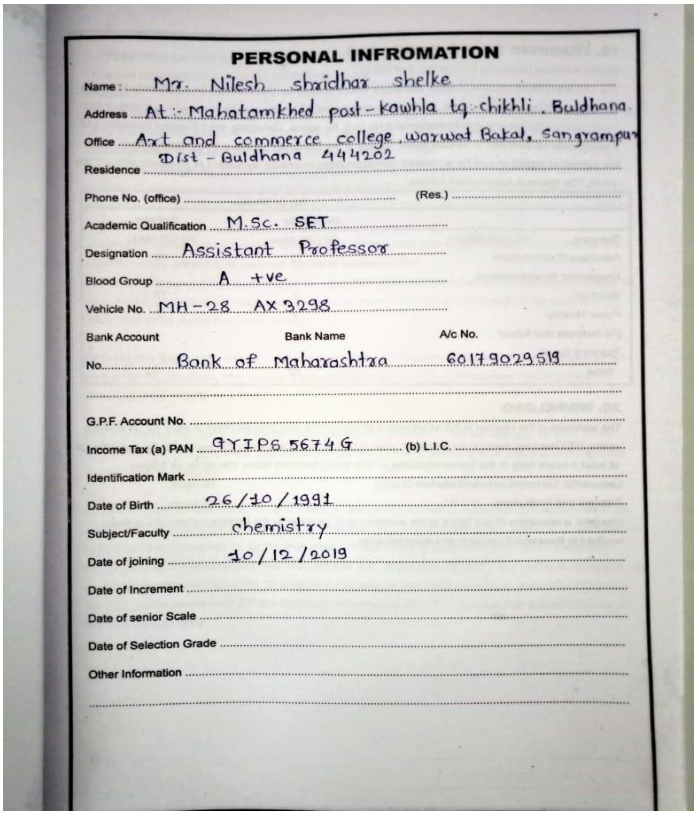
Date of Increment

Date of senior Scale

Date of Selection Grade

Other Information





PERSONAL INFROMATION

Name : Mr. Nilesh shridhar shelke

Address At :- Mahatamkhed post - kawhla tq chikhli . Buldhana

Office Art and commerce college warwat Bakal, Sangrampur Dist - Buldhana 444202

Residence

Phone No. (office) (Res.)

Academic Qualification M.Sc. SET

Designation Assistant Professor

Blood Group A +ve

Vehicle No. MH-28 AX 3298

Bank Account No.	Bank Name	A/c No.
	Bank of Maharashtra	60179029519

G.P.F. Account No.

Income Tax (a) PAN GYIPS 5674G (b) L.I.C.

Identification Mark

Date of Birth 26/10/1991

Subject/Faculty chemistry

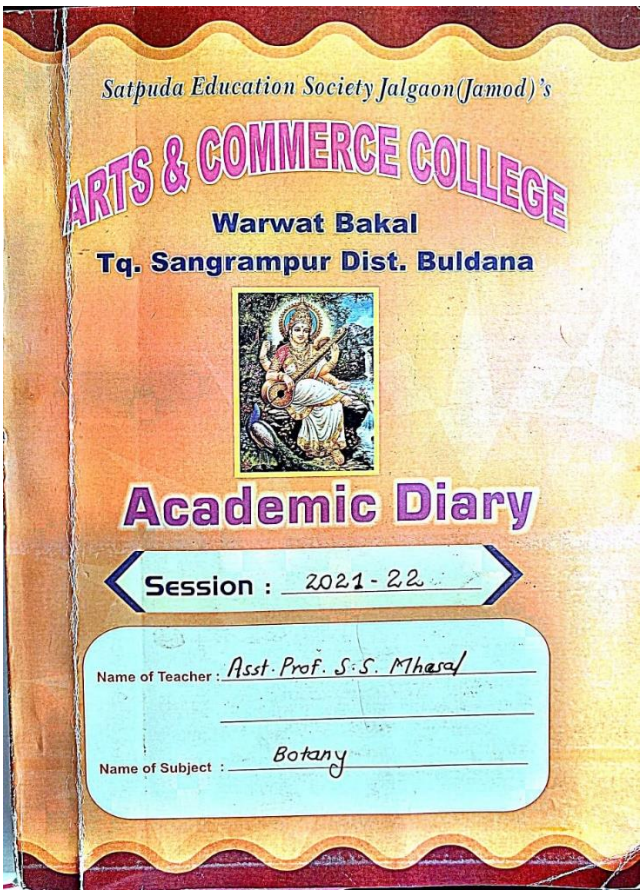
Date of joining 10/12/2019

Date of Increment

Date of senior Scale

Date of Selection Grade

Other Information


Satpuda Education Society Jalgaon(Jamod)'s
ARTS & COMMERCE COLLEGE
Warwat Bakal
Tq. Sangrampur Dist. Buldana
Academic Diary
Session : 2021-22
Name of Teacher : Asst. Prof. S.S. Mhaisal
Name of Subject : Botany

PERSONAL INFROMATION

Name : Mr. Santosh Shriknushna Mhasal

Address Near Dalal Hospital Talgaon (Jamod)

Office Arts and Commerce College, Warwat (Baka)

Residence At+Po+Tq:- Talgaon (J), Dist:- Buldhana

Phone No. (office) - (Res.) -

Academic Qualification M.Sc., B.Ed., SET

Designation Assistant Professor

Blood Group 'O' +ve

Vehicle No. MH-28, AN0335

Bank Account No.	Bank Name	A/c No.
	Bank of Maharashtra Sangrampur	25049701914

G.P.F. Account No.

Income Tax (a) PAN AHSPM 3428R (b) L.I.C.

Identification Mark Mole on upper arm of left hand

Date of Birth 19/03/1976

Subject/Faculty Botany

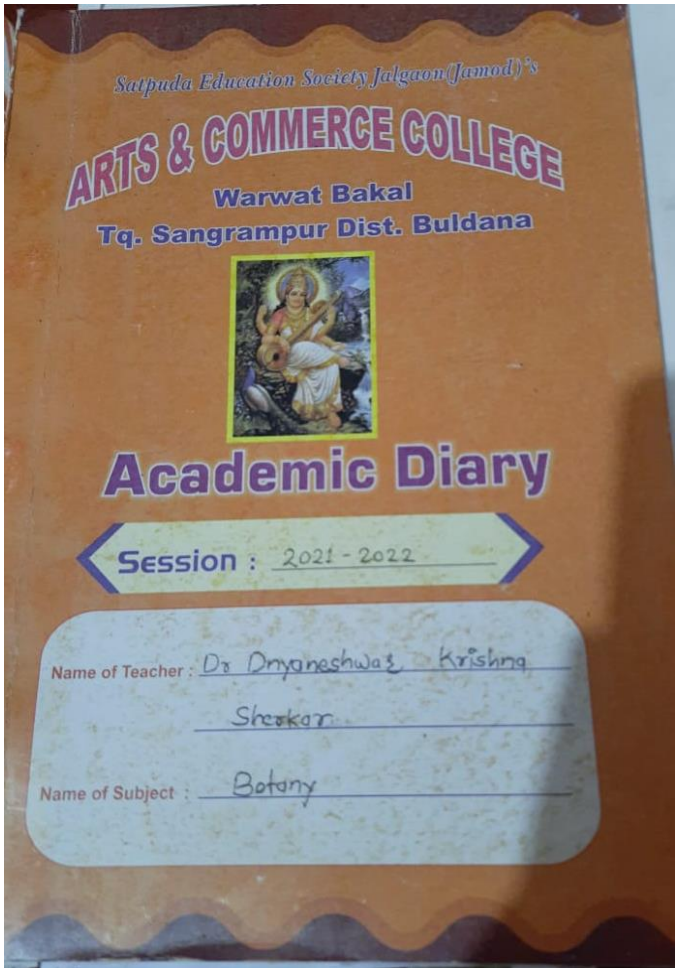
Date of joining 09/12/2019

Date of Increment

Date of senior Scale

Date of Selection Grade

Other Information



Satpuda Education Society Jalgaon(Jamod)'s

ARTS & COMMERCE COLLEGE

Warwat Bakal

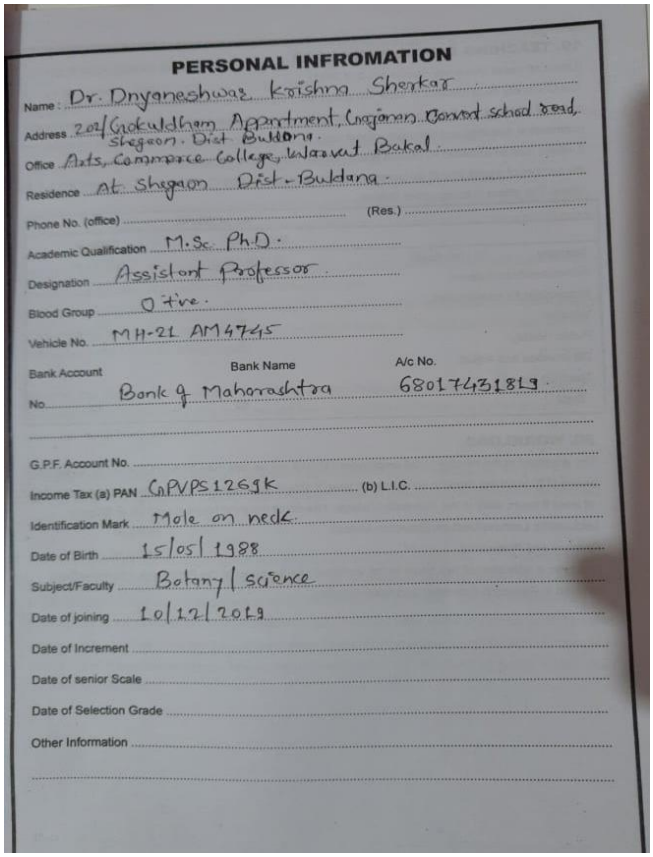
Tq. Sangrampur Dist. Buldana

Academic Diary

Session : 2021 - 2022

Name of Teacher : Dr Dnyaneshwar Krishna Shenkar

Name of Subject : Botany



PERSONAL INFROMATION

Name : Dr. Dnyaneshwar krishna Shenkar

Address 204/Gokuldham Apartment, Gajanan Convent school road, Shegaon. Dist Buldana.

Office Arts, Commerce College, Warwat Bakal

Residence At Shegaon Dist-Buldana.

Phone No. (office) (Res.)

Academic Qualification M.Sc. Ph.D.

Designation Assistant Professor

Blood Group O tive.

Vehicle No. MH-21 AM4745

Bank Account No.	Bank Name	A/c No.
	Bank of Maharashtra	60174731819

G.P.F. Account No.

Income Tax (a) PAN GPVPS1261K (b) L.I.C.

Identification Mark Mole on neck

Date of Birth 15/05/1988

Subject/Faculty Botany / Science

Date of joining 10/12/2019

Date of Increment

Date of senior Scale

Date of Selection Grade

Other Information

Satpuda Education Society Jalgaon(Jamod)'s

ARTS & COMMERCE COLLEGE

Warwat Bakal

Tq. Sangrampur Dist. Buldana

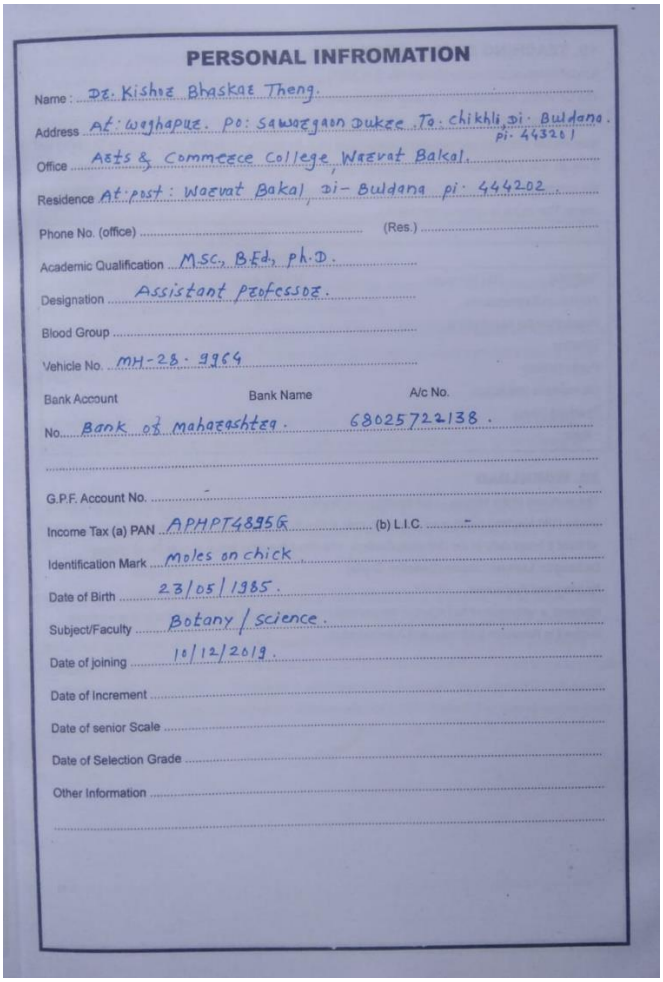
Academic Diary

Session : 2021-22

Name of Teacher : Dr. Kishor Bhaskar Thenge

(Assistant Professor)

Name of Subject : Botany.



PERSONAL INFROMATION

Name : Dr. Kishor Bhaskar Theng.

Address At: waghapur. Po: sawargaon dukre Ta. chikhli Di: Buldana. pi. 443201

Office Arts & Commerce College Warvat Bakal.

Residence At: post: Warvat Bakal, Di- Buldana pi: 444202.

Phone No. (office) ..... (Res.) .....

Academic Qualification M.Sc, B.Ed, ph.D.

Designation Assistant Professor.

Blood Group .....

Vehicle No. MH-28. 9964

Bank Account No.	Bank Name	A/c No.
	Bank of mahazashtra.	68025722138.

G.P.F. Account No. -

Income Tax (a) PAN APHPT4895G (b) L.I.C. -

Identification Mark Moles on chick

Date of Birth 23/05/1985.

Subject/Faculty Botany / science.

Date of joining 10/12/2019.

Date of Increment .....

Date of senior Scale .....

Date of Selection Grade .....

Other Information .....

Satpuda Education Society Jalgaon(Jamod)'s

ARTS & COMMERCE COLLEGE

Warwat Bakal

Tq. Sangrampur Dist. Buldana

Academic Diary

Session : 2021-22

Name of Teacher : DR. NANDKISHOR K. MORE

ARTS AND COMMERCE COLLEGE, WARVAT (BAKAL)

Name of Subject : DEPARTMENT OF BOTANY

PERSONAL INFROMATION

Name : DR. Nandkishor Keshavrao More

Address : Dept. of Botany, Arts & commerce college, Warvat Bakal Tal. Sangrampur Dist. Buldana-444202

Office : Arts and commerce college, warvat Bakal

Residence : At. post warvat Bakal Tal. Sangrampur Dist. Buldana

Phone No. (office) : 9921494198 (Res.) :

Academic Qualification : M.Sc; B.Ed, Ph.D.

Designation : Assistant Professor

Blood Group : AB +ve

Vehicle No. : -

Bank Account No.	Bank Name	A/c No.
	Bank of Maharashtra	60002462900

G.P.F. Account No. :

Income Tax (a) PAN : CMBPM0816R (b) L.I.C. :

Identification Mark : Mark present on right Eyebrow

Date of Birth : 10/03/1984

Subject/Faculty : Botany / Science

Date of joining : 10/12/2019

Date of Increment :

Date of senior Scale :

Date of Selection Grade :

Other Information :

Satpuda Education Society Jalgaon(Jamod)'s

ARTS & COMMERCE COLLEGE

Warwat Bakal

Tq. Sangrampur Dist. Buldana

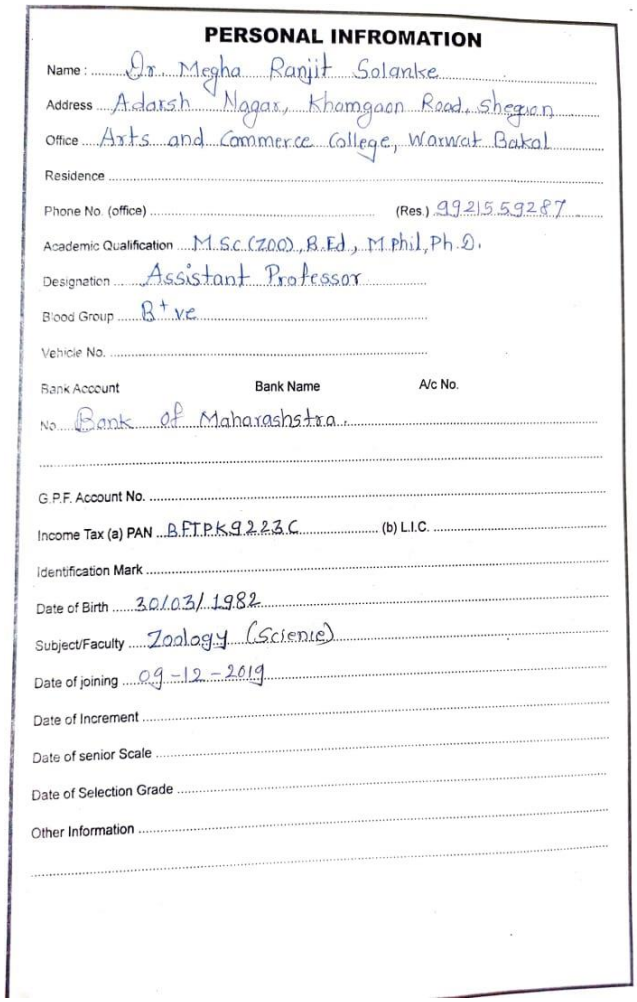
Academic Diary

Session : 2021-2022

Name of Teacher : Dr. Megha Ranjit Solanke

Head and Assistant Professor

Name of Subject : Zoology



PERSONAL INFROMATION

Name : Dr. Megha Ranjit Solanke

Address Adarsh Nagar, Khamgaon Road, Shegaon

Office Arts and Commerce College, Warwat Bakal

Residence

Phone No. (office) (Res.) 9921559287

Academic Qualification M.Sc.(Zoo), B.Ed., M.Phil, Ph.D.

Designation Assistant Professor

Blood Group B+ve

Vehicle No.

Bank Account No	Bank Name	A/c No.
	Bank of Maharashstra	

G.P.F. Account No.

Income Tax (a) PAN BFTPK9223C (b) L.I.C.

Identification Mark

Date of Birth 30/03/1982

Subject/Faculty Zoology (Science)

Date of joining 09-12-2019

Date of Increment

Date of senior Scale

Date of Selection Grade

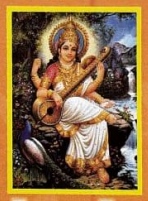
Other Information

Satpuda Education Society Jalgaon(Jamod)'s

ARTS & COMMERCE COLLEGE

Warwat Bakal

Tq. Sangrampur Dist. Buldana



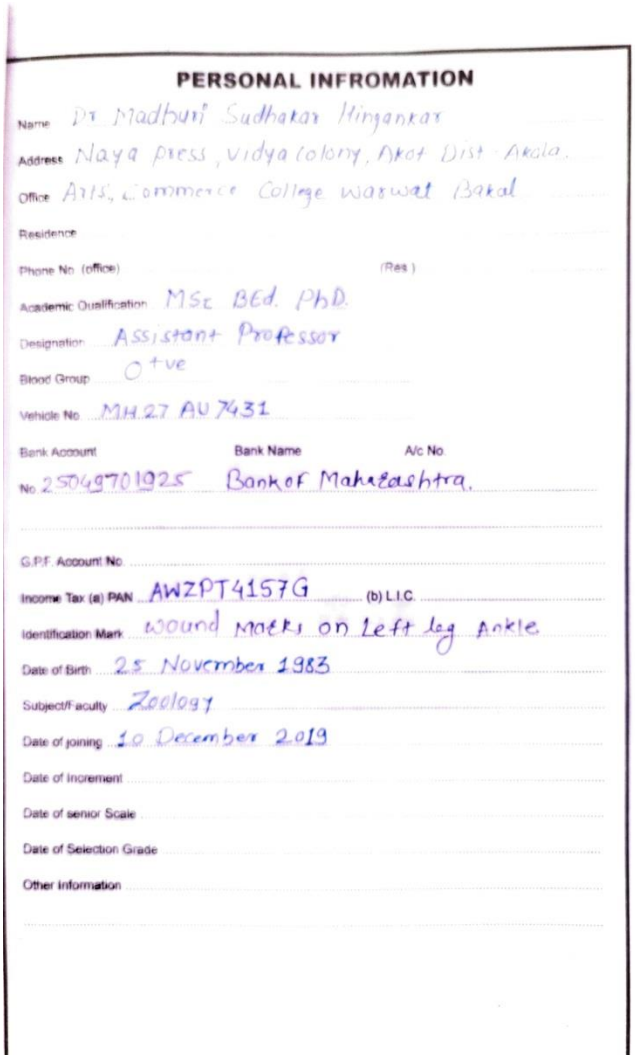
Academic Diary

Session : 2020-21

Name of Teacher : Dr. Madhuri S. Hingankar

Assistant Professor Arts, Commerce College Warwat Bakal

Name of Subject : Zoology



PERSONAL INFROMATION

Name: Dr Madhuri Sudhakar Hinganikar

Address: Naya press, Vidya colony, Akot Dist Akola.

Office: Arts, Commerce College Warwat Bakal

Residence:

Phone No (office): (Res.)

Academic Qualification: MSc BEd. PhD.

Designation: Assistant Professor

Blood Group: O+ve

Vehicle No: MH.27 AU 7431

Bank Account No: 25049701925 Bank Name: Bank of Maharashtra. A/c No.

G.P.F. Account No:

Income Tax (a) PAN: AWZPT4157G (b) L.I.C.

Identification Mark: wound marks on left leg Ankle

Date of Birth: 25 November 1983

Subject/Faculty: Zoology

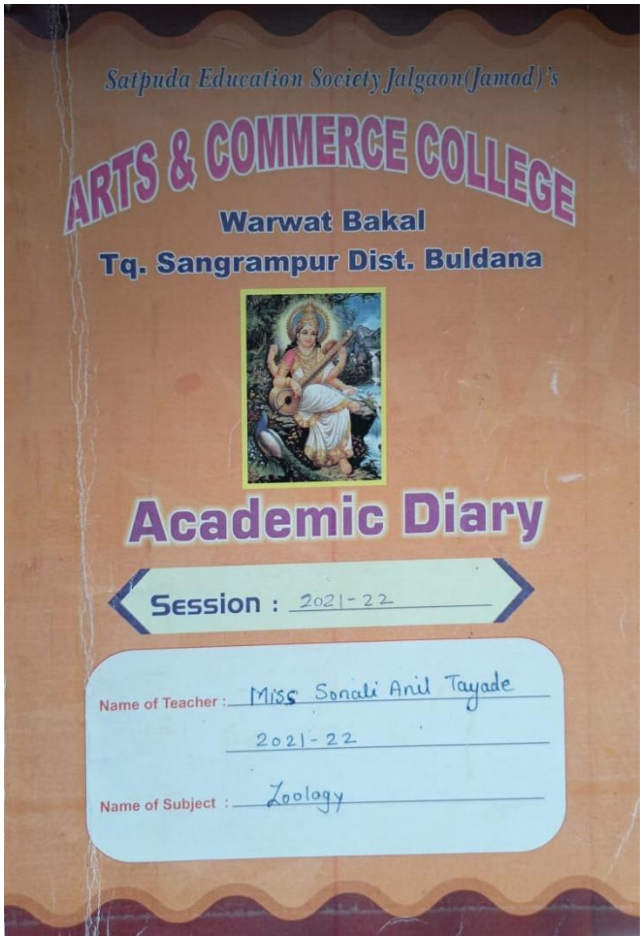
Date of joining: 10 December 2019

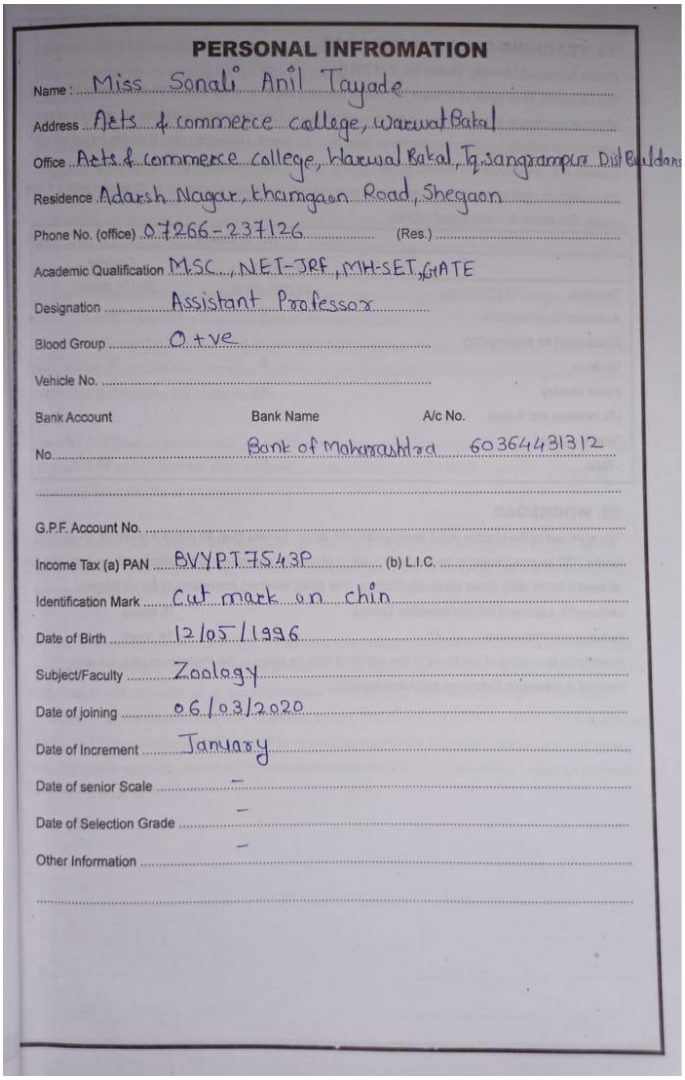
Date of Increment:

Date of senior Scale:

Date of Selection Grade:

Other Information:


Satpuda Education Society Jalgaon(Jamod)'s
ARTS & COMMERCE COLLEGE
Warwat Bakal
Tq. Sangrampur Dist. Buldana
Academic Diary
Session : 2021-22
Name of Teacher : Miss Sonali Anil Tayade
2021-22
Name of Subject : Zoology



PERSONAL INFROMATION

Name : Miss Sonali Anil Tayade

Address Arts & commerce college, Warwat Bakal

Office Arts & commerce college, Warwat Bakal, Tq. Sangrampur Dist Buldana

Residence Adarsh Nagar, Khamgaon Road, Shegaon

Phone No. (office) 07266-237126 (Res.)

Academic Qualification M.Sc., NET-JRF, MH-SET, GATE

Designation Assistant Professor

Blood Group O+ve

Vehicle No.

Bank Account No.	Bank Name	A/c No.
	Bank of Maharashtra	60364431312

G.P.F. Account No.

Income Tax (a) PAN BVYPT7543P (b) L.I.C.

Identification Mark Cut mark on chin

Date of Birth 12/05/1996

Subject/Faculty Zoology

Date of joining 06/03/2020

Date of Increment January

Date of senior Scale –

Date of Selection Grade –

Other Information –

Satpuda Education Society Jalgaon(Jamod)'s

ARTS & COMMERCE COLLEGE

Warwat Bakal

Tq. Sangrampur Dist. Buldana

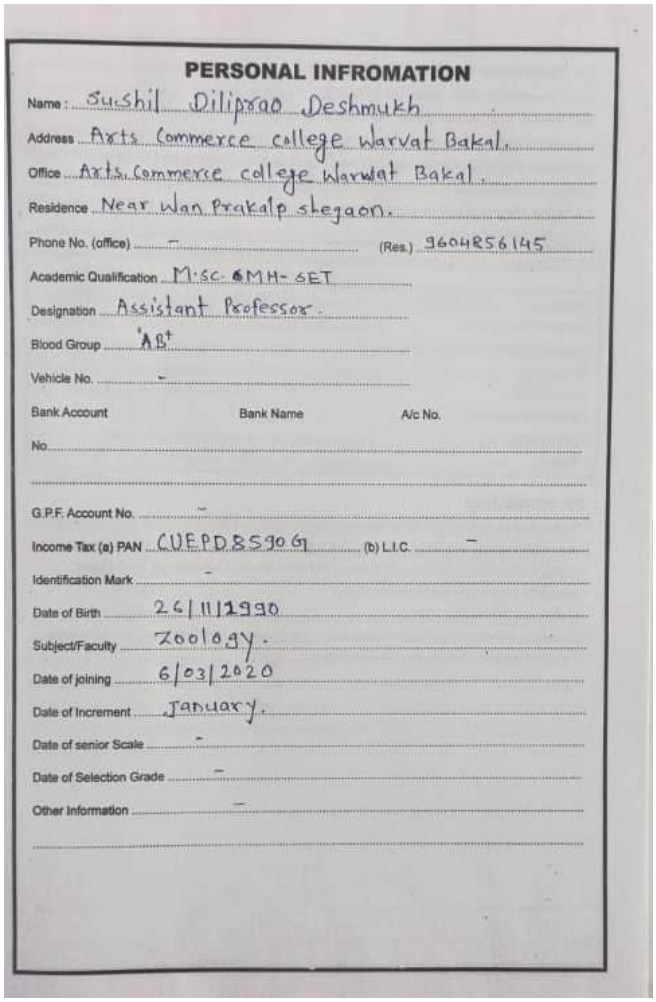
Academic Diary

Session : 2021-22

Name of Teacher : Sushil D. Deshmukh.

Assistant Professor

Name of Subject : Zoology.



PERSONAL INFROMATION

Name : Sushil Diliprao Deshmukh

Address Arts Commerce college Warvat Bakal.

Office Arts. Commerce college Warwat Bakal.

Residence Near Wan Prakalp shegaon.

Phone No. (office) – (Res.) 9604856145

Academic Qualification M.Sc. SMH- SET

Designation Assistant Professor.

Blood Group 'AB+'

Vehicle No. –

Bank Account No. | Bank Name | A/c No.

G.P.F. Account No. –

Income Tax (a) PAN CUEPD8590G (b) L.I.C. –

Identification Mark –

Date of Birth 26/11/1990

Subject/Faculty Zoology.

Date of joining 6/03/2020

Date of Increment January.

Date of senior Scale –

Date of Selection Grade –

Other Information –

SATPUDA EDUCATION SOCIETY, JALGAON (JAMOD)'S

ARTS AND COMMERCE COLLEGE

Warvat Bakal Dist- Buldana

Dr. Rajendra S Korde
In-charge Principal

Shri. Krushnarao Ingle (Ex MLA)
President

Phone : 07266-237126 visit us at : www.acscwb.co.in Email : 327accwb@gmail.com

Criterion I: Curricular Aspects

1.1 Curriculum Planning and Implementation

1.1.1 The institution ensures effective curriculum delivery through a well-planned and documented process

Use of ICT Tool in Curriculum Delivery

Session-2021-2022

Supporting Documents- H

SATPUDA EDUCATION SOCIETY, JALGAON (JAMOD)'S

ARTS AND COMMERCE COLLEGE

Warvat Bakal Dist- Buldana

Dr. Rajendra S Korde
Incharge Principal

Shri. Krushnarao Ingle (Ex MLA)
President

Phone : 07266-237126 visit us at : www.acscwb.co.in Email : 327accwb@gmail.com

CERTIFICATE

This is to certify that the documents attached as supporting documents for Criterion I: Curricular Aspects are verified from the college record and found to be correct to the best of my knowledge.

Principal
Arts & Commerce College,
Warvat Bakal Dist.Buldana

ARTS & COMMERCE COLLEGE, WARVAT BAKAL

The following are the Google Classroom and You Tube Channel Links created by the teachers of our college for the effective implementation of curriculum.

Sr. No.	Subject	Class	Google Classroom Link
1.	Political Science	B.A.-1	https://classroom.google.com/c/NDA2MzExMTY3MDk3?cjc=wbvzlcx
		B.A. -2	https://classroom.google.com/c/NDM4NTM4MjU5MzI3?cjc=zztjrcn
		B.A.-3	https://classroom.google.com/c/NDM4NTM3ODE3NzMw?cjc=pguhx47
2.	Economics	B.A.-1	https://classroom.google.com/c/MTE3OTk1NTEwNDA2?cjc=qe4rygm
		B.A. -2	https://classroom.google.com/c/MTE4MDAwNDIxNjk2?cjc=q3iaydh
		B.A.-3	https://classroom.google.com/c/MTE4MDAxNTU4MzA3?cjc=6xsbcvj
3.	History	B.A.-1	https://classroom.google.com/c/MTI5NDI5MzA4MDA5?cjc=qbivnmu
		B.A. -2	https://classroom.google.com/c/MTM3ODQzNjE3NDYy?cjc=dbkxcdd
		B.A.-3	https://classroom.google.com/c/MTI5NDMxNzEzOTU3?cjc=7y65q4t
4.	English	B.A.-1	https://classroom.google.com/c/MTU5MTkxNzU0OTM0?cjc=5obtok4
		B.A. -2	https://classroom.google.com/c/MTA4ODkzODAyODc5?cjc=e23xsll
		B.A.-3	https://classroom.google.com/c/NDg2MDA4MzY1Njha?cjc=cnyvxg2
		B.Com. -1	https://classroom.google.com/c/MTA4ODI2OTc5OTE1?cjc=76xgiam
		B.Com. -2	https://classroom.google.com/c/MTM3Njg4OTk1MDA4?cjc=vxt4t4d
		B.Com. -3	https://classroom.google.com/c/MTM1Mjg3NjA2MTA2?cjc=q5frrkq
		B.Sc.-1	https://classroom.google.com/c/MzM4MzgxMjk3MTc5?cjc=ddt54lh
		B. Voc NMT I	https://classroom.google.com/c/MzQ4MDE4ODc4OTEz?cjc=jqr3iyp
		B. Voc GHT I	https://classroom.google.com/c/MzQ4MDIwNDc4MjM2?cjc=62scjgn
5.	Commerce	B.Com. -1	https://classroom.google.com/c/MTY4MjQzMDkyNjkw?cjc=ptegtnc
		B.Com. -2	https://classroom.google.com/c/MTE1NjkwOTMxNTk2?cjc=y7uaake
		B.Com. -3	https://classroom.google.com/c/OTIxNjA0MDE3MTRa?cjc=phvasnl
6.	Chemistry	B.Sc.-1	https://classroom.google.com/c/Mjg1NjI1NDc0MTE3?cjc=qlx2ogn
		B.Sc.-2	https://classroom.google.com/c/NDgyMzM0NTE0NTc1?cjc=j3ciu3f
		B.Sc.-3	https://classroom.google.com/c/NDgyMzMyMjM0MDE3?cjc=in4ukwa
7.	Botany	B.Sc.-1	https://classroom.google.com/c/MTE3MzUwNTc0NDgy?cjc=wcz26gg
		B.Sc.-2	https://classroom.google.com/c/MTE4MTYyMzgzNjQ5?cjc=ke6qdrn
		B.Sc.-3	https://classroom.google.com/c/MTE5MDE5MjIyNDUw?cjc=klo6a54
8.	Zoology	B.Sc.-1	https://classroom.google.com/c/MTE3MzUwODc0OTEw?cjc=4dwtoxm
		B.Sc.-2	https://classroom.google.com/c/MTE3MzUzNDY1NDA5?cjc=7hutgul
		B.Sc.-3	https://classroom.google.com/c/MTE3MzQ5MjI0MTE5?cjc=6p33s7h

Sr. No.	Name of Teacher	You Tube Channel Link
1.	Mr. Nityanand Dahake	https://youtube.com/channel/UC2H010yB9SajTi51B8AiJxA
2.	Dr. Madhuri Hingankar	https://youtube.com/channel/UCFDojxVn_J0xD5IWvC6ELbA
3.	Dr. Satish Rane	https://youtube.com/channel/UCX3LCKHhvZiB06Z2yMHpTBw
4.		
5.	Dr. Megha Solanke	https://youtu.be/YgQ1ozyDcBk
6.	Mr. Santosh Mhasal	https://youtube.com/channel/UCxhmbzWqs5hmAQUxPNsfe9w
7.	Mr. Nishigandh Satav	https://www.youtube.com/channel/UCmBUAr9IhALRgnh8tdgM6xw
8.	Mr. Suresh Bhaltadak	https://youtube.com/channel/UChUUbNL73xuR_Bnur-1hZWA
9.	Mr. Kiran Sabale	https://youtube.com/channel/UCm_o3CkTSIqHbtnwb6l-ZXw
10.	Mr. Sushil Deshmukh	https://youtube.com/channel/UCpnmXFFN8jCgyNwomIYRuBA
11.	Dr. Rajendra Korde	https://youtube.com/channel/UCGRZWGTuJAx5zuPOn3yTDBg
12.	Ms. Sonali Tayade	https://youtube.com/channel/UCrz5TvaBk69DBwjpzyQH5rQ
13.	Mr. Nagesh Ingle	https://youtube.com/channel/UCHZIlfwZiC7zu1cj6rsQdoQ

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Warvat Bakal Dist- Buldana

Dr. Rajendra S Korde
In- Charge Principal

Shri. Krushnarao Ingle (Ex MLA)
President

Phone : 07266-237126 visit us at : www.acscwb.co.in Email : 327accwb@gmail.com

Criterion I: Curricular Aspects

1.1 Curriculum Planning and Implementation

1.1.1 The institution ensures effective curriculum delivery through a well-planned and documented process

List of Courses offered across all programs

Session-2021-2022

Supporting Document - I

SATPUDA EDUCATION SOCIETY, JALGAON (JAMOD)'S

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CERTIFICATE

This is to certify that the documents attached as supporting documents for Criterion I: Curricular Aspects are verified from the college record and found to be correct to the best of my knowledge.

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ARTS AND COMMERCE COLLEGE

Warvat Bakal Dist- Buldana

COURSES OFFERED

Program code	Program Name	Course code	Course Name	Year of introduction
B.A. I Semester I	Bachelor of Arts	1011	Marathi Compulsory	2017
		1052	Marathi Literature	2017
		1001	English Compulsory	2017
		1022	Economics	2017
		1021	History	2017
		1025	Political Science	2017
B.A. I Semester II	Bachelor of Arts	1011	MarathiCompulsory	2017
		1052	Marathi Literature	2017
		1001	EnglishCompulsory	2017
		1022	Economics	2017
		1021	History	2017
		1025	Political Science	2017
B.A. I Semester III	Bachelor of Arts	1011	MarathiCompulsory	2018
		1052	Marathi Literature	2018
		1001	EnglishCompulsory	2018
		1022	Economics	2018
		1021	History	2018
		1025	Political Science	2018
B.A. I Semester IV	Bachelor of Arts	1011	MarathiCompulsory	2018
		1052	Marathi Literature	2018
		1001	EnglishCompulsory	2018
		1022	Economics	2018
		1021	History	2018
		1025	Political Science	2018
		EVS	Environmental Studies	2018
B.A. I Semester V	Bachelor of Arts	1011	MarathiCompulsory	2019
		1052	Marathi Literature	2019
		1001	EnglishCompulsory	2019
		1022	Economics	2019
		1021	History	2019
		1025	Political Science	2019
B.A. I Semester VI	Bachelor of Arts	1011	MarathiCompulsory	2019
		1052	Marathi Literature	2019
		1001	EnglishCompulsory	2019
		1022	Economics	2019
		1021	History	2019
		1025	Political Science	2019
B.Com Semester I	Bachelor of Commerce	1001	English Compulsory	2017
		1011	Marathi Compulsory	2017
		3014	Computer Fundamental Operating System-I	2017
		3011	Principles of Economics	2017
		3012	Advanced Accountancy	2017
		3013	Principles of Business Organization	2017
B.Com Semester II	Bachelor of Commerce	1001	English Compulsory	2017
		1011	Marathi Compulsory	2017
		3021	Computer Fundamental Operating System-II	2017
		3021	Business Economics	2017
		3022	Financial Accountancy	2017

		3023	Principles of Business Management	2017
B.Com Semester III	Bachelor of Commerce	1001	English Compulsory	2018
		1011	Marathi Compulsory	2018
		3031	Company Account	2018
		3032	Business Mathematics	2018
		3033	Auditing	2018
		3034	Monetary System	2018
		3035	Information Technology & Business Data Processing-I	2018
B.Com Semester IV	Bachelor of Commerce	1001	English Compulsory	2018
		1011	Marathi Compulsory	2018
		3041	Corporate Account	2018
		3042	Business Statistics	2018
		3043	Income Tax	2018
		3044	Indian Financial System	2018
		3045	Information Technology & Business Data Processing-II	2018
		EVS	Environmental Studies	2018
B.Com Semester V	Bachelor of Commerce	1001	English Compulsory	2019
		1011	Marathi Compulsory	2019
		3051	Cost Accounting	2019
		3052	Business Environment	2019
		3053	Business Regulatory Frame Work	2019
		3058	Internet & WWW - I	2019
		3059	e-Commerce- I	2019
B.Com Semester VI	Bachelor of Commerce	1001	English Compulsory	2019
		1011	Marathi Compulsory	2019
		3061	Management Accounting	2019
		3062	Economics Of Development	2019
		3063	Company Law	2019
		3068	Internet & WWW - II	2019
		3069	e-Commerce- II	2019
B.Sc. Semester I	Bachelor of Science	ENG	English Compulsory	2017
		MAR	Marathi Compulsory	2017
		BOT	Botany	2017
		ZOO	Zoology	2017
		CHE	Chemistry	2017
		PHY	Physics	2017
		CPS	Computer Science	2017
B.Sc. Semester II	Bachelor of Science	ENG	English Compulsory	2017
		MAR	Marathi Compulsory	2017
		BOT	Botany	2017
		ZOO	Zoology	2017
		CHE	Chemistry	2017
		PHY	Physics	2017
		CPS	Computer Science	2017
B.Sc.	Bachelor of	BOT	Botany	2018

Semester III	Science	ZOO	Zoology	2018
		CHE	Chemistry	2018
		PHY	Physics	2018
		CPS	Computer Science	2018
B.Sc. Semester IV	Bachelor of Science	BOT	Botany	2018
		ZOO	Zoology	2018
		CHE	Chemistry	2018
		PHY	Physics	2018
		CPS	Computer Science	2018
		EVS	Environmental Studies	2018
B.Sc. Semester V	Bachelor of Science	BOT	Botany	2019
		ZOO	Zoology	2019
		CHE	Chemistry	2019
		PHY	Physics	2019
		CPS	Computer Science	2019
B.Sc. Semester VI	Bachelor of Science	BOT	Botany	2019
		ZOO	Zoology	2019
		CHE	Chemistry	2019
		PHY	Physics	2019
		CPS	Computer Science	2019
B. Voc. (NMT) Semester I	Bachelor of Vocational Science	1401	Communication Skills - I	2020
		1402	Applied Computer Skills-I	2020
		1403	Skill Components	2020
		1404	Communication Skills-I-Lab.	2020
		1405	Applied Computer Skills-I-Lab.	2020
B. Voc. (NMT) Semester II	Bachelor of Vocational Science	1401	Communication Skills - I	2020
		1402	Applied Computer Skills-I	2020
		1403	Skill Components	2020
		1404	Communication Skills-I-Lab.	2020
		1405	Applied Computer Skills-I-Lab.	2020
B. Voc. (GHT) Semester I	Bachelor of Vocational Science	1401	Communication Skills - I	2020
		1402	Applied Computer Skills-I	2020
		1403	Skill Components	2020
		1404	Communication Skills-I-Lab.	2020
		1405	Applied Computer Skills-I-Lab.	2020
B. Voc. (GHT) Semester II	Bachelor of Vocational Science	1401	Communication Skills - I	2020
		1402	Applied Computer Skills-I	2020
		1403	Skill Components	2020
		1404	Communication Skills-I-Lab.	2020
		1405	Applied Computer Skills-I-Lab.	2020
		Certificate Course in Tally	Tally	2020

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