



SHRI SHIVAJI EDUCATION SOCIETY, AMRAVATI'S

## SHRI SHIVAJI COLLEGE OF ARTS, COMMERCE AND SCIENCE, AKOLA (MS)

Affiliated with Sant Gadge Baba Amravati University, Amravati (MS)

NAAC Reaccredited with A++ grade with CGPA 3.58 in Fourth cycle

UGC Status- College with Potential for Excellence (Phase II Completed)

DST- FIST (Level "00") Support;

Lead College Status by S. G. B. Amravati University, Amravati (MS)

Website: [www.shivajiakola.ac.in](http://www.shivajiakola.ac.in)

**2023-2024**

**Criterion 1 – Curricular Aspects.**

**1.1.2**

***The institution adheres to the academic calendar  
including for the conduct of CIE***

Shri Shivaji Education Society, Amravati's

# SHRI SHIVAJI COLLEGE OF ARTS, COMMERCE AND SCIENCE, AKOLA

NAAC Re-Accredited A++ Grade with CGPA 3.58

UGC Status 'College with Potential for Excellence', DST-FIST level-0 Support

Lead College Status by S.G.B.A.U. Amravati

Near Shivaji Park, Akola - 444 001 (Maharashtra)

Phone & Fax : 0724-2410438/2411039

Website : shivajiakola.ac.in E-mail : principal@shivajiakola.ac.in



Late Dr. Panjabrao alias Bhausaheb Deshmukh  
Founder President

Shri. Harshvardhan P. Deshmukh  
President

Dr. Rameshwar M. Bhise  
Principal

Date: 1-7-2024

No. SSCAKL/

## Declaration

This is to declare that the information, reports, true copies and numerical data etc. furnished in this file as supporting documents is verified by IQAC and found correct.

Dr. A. S. Raut  
IQAC Co-ordinator

**Dr. A. S. Raut**  
IQAC CO-ordinator  
Shri Shivaji College of Arts,  
Commerce & Science AKOLA  
A++ Grade CGPA.3.58 by NAAC

Dr. R. M. Bhise  
**PRINCIPAL**  
Shri Shivaji College of Arts,  
Commerce & Science Akola.  
A++ Grade CGPA.3.58 by NAAC  
Akola



# INDEX

## 1.1.2 - The institution adheres to the academic calendar including for the conduct of CIE

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### ACADEMIC CALENDAR

2023-2024

Criterion 1 – Curricular Aspects.

1.1.1 & 1.1.2

*The institution adheres to the academic calendar  
including for the conduct of CIE*

# SHRI SHIVAJI COLLEGE OF ARTS, COMMERCE AND SCIENCE, AKOLA



NAAC Re-Accredited A<sup>++</sup> Grade with CGPA 3.58  
UGC Status 'College with Potential for Excellence', DST-FIST level- 0 Support  
Lead College Status by S.G.B.A.U. Amravati  
Near Shivaji Park, Akola - 444 001 (Maharashtra)  
Phone & Fax : 0724-2410438/2411039  
Website : shivajiakola.ac.in E-mail : principal@shivajiakola.ac.in



Late Dr. Panjabrao alias Bhausaheb Deshmukh  
Founder President

Shri. Harshvardhan P. Deshmukh  
President

Dr. Rameshwar M. Bhise  
Principal

No. SSCAKL/

Date :

## ACADEMIC CALENDAR 2023-2024

1. Academic Session (First Term) : 03<sup>rd</sup> July, 2023 to 07<sup>th</sup> November, 2023
2. Induction Programme for 1<sup>st</sup> Year Students : 11<sup>th</sup> July, 2023 to 14<sup>th</sup> July, 2023
3. Teaching Days (Odd Semesters) : 15<sup>th</sup> July, 2023 to 07<sup>th</sup> November, 2023
4. First Term Test Examination : 01<sup>st</sup> November, 2023 to 07<sup>th</sup> November, 2023
5. First Term Vacation (Winter) : 08<sup>th</sup> November, 2023 to 27<sup>th</sup> November, 2023
6. Academic Session (Second Term) : 28<sup>th</sup> November, 2023 to 27<sup>th</sup> April, 2024
7. Teaching Days (Even Semesters) : 05<sup>th</sup> January, 2024 to 27<sup>th</sup> April, 2024
8. Second Term Test Examination : 20<sup>th</sup> April, 2024 to 27<sup>th</sup> April, 2024
9. Second Term Vacation (Summer) : 29<sup>th</sup> April, 2024 to 10<sup>th</sup> June, 2024
8. Commencement of Next Academic Session: (2024-25) : 11<sup>th</sup> June, 2024

## HOLIDAYS

1. Moharum : Saturday, 29<sup>th</sup> July, 2023
2. Independence Day : Tuesday, 15<sup>th</sup> August, 2023
3. Parsi New Year : Wednesday, 16<sup>th</sup> August, 2023
4. Rakshabandhan : Wednesday, 30<sup>th</sup> August, 2023
5. Shri Ganesh Chaturthi : Tuesday, 19<sup>th</sup> September, 2023
6. Gauri Poojan : Friday, 22<sup>nd</sup> September, 2023
7. Anant Chaturdashi : Thursday, 28<sup>th</sup> September, 2023
8. Mahatma Gandhi Jayanti : Monday, 2<sup>nd</sup> October, 2023
9. Dasara : Tuesday, 24<sup>th</sup> October, 2023
10. Christmas : Monday, 25<sup>th</sup> December, 2023
11. Republic Day : Friday, 26<sup>th</sup> January, 2024
12. Chhtrapati Shivaji Maharaj Jayanti : Monday, 19<sup>th</sup> February, 2024
13. Mahashivratri : Friday, 8<sup>th</sup> March, 2024
14. Holi (Second Day) : Monday, 25<sup>th</sup> March, 2024
15. Good Friday : Friday, 29<sup>th</sup> March, 2024
16. Gudhi Padwa : Tuesday, 9<sup>th</sup> April, 2024
17. Ramzan Id : Thursday, 11<sup>th</sup> April, 2024
18. Shriram Navmi : Wednesday, 17<sup>th</sup> April, 2024

Day

Event

July : 2023

3rd July

College Re-opens

3rd -10th July

Admission Process

11th July

Address by Principal

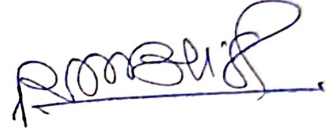
Organizing Department

Admission Committee

11-14 July	Induction Programme	
11th July	World Population Day	Economics
23rd July	Lokmanya Bal Gangadhar Tilak Jayanti	Marathi 23rd
July	Forest Conservation Day	Botany
26th July	Kargil Victory Day	N.C.C.
<b>August : 2023</b>		
1st August	World Breast Feeding Day	Home Science
1st August	Sahityaratna Annabhau Sathe Jayanti	Marathi
1st August	Lokmanya Tilak Memorial Day	Political Science 6th
August	Hiroshima Day	Physics
9th August	August Kranti Din	N.C.C.
9th August	Dr. S. R. Ranganathan Jayanti	Library
12th August	Dr. Vikram Sarabhai Jayanti	Physics (Junior)
15th August	Independence Day (Prize Distribution to Merit Students of Junior College)	N.C.C. & Sports
20th August	Sadbhavna Day (Rajiv Gandhi Birth Anniversory)	N.S.S.
30th August	Rakshabandhan	Sociology & N.S.S
29th August	National Sport Day	Games and Sport
<b>September : 2023</b>		
1st Sept.	Nutrition Week	Home Science (Jr. & Sr.)
5th Sept.	Teachers Day Celebration	Respective Department
8th Sept.	International Literacy Day	N.S.S.
11th Sept.	Acharya Vinobha Bhave Jayanti	Marathi & Hindi (Jr. & Sr.)
14th Sept.	Hindi Rashtrabhasha Day	Hindi
15th Sept.	National Engineers Day	M.C.V.C. & Bifocal Vocational
16th Sept.	Kamgar Shikshan Day	M.C.V.C. & Sociology (Jr. & Sr.)
	Ozone Day	Zoology
23rd Sept.	Blood Donation Day	Biochemistry & Microbiology
27th Sept.	Dr. S. R. Ranganathan Death Annv.	Library
27th Sept.	World Tourism Day	History
<b>October : 2023</b>		
1st to 7th Oct.	Wild Life Conservation Week	Zoology
2nd Oct.	Mahatma Gandhi Jayanti	Political Science
2nd Oct.	Lalbahadur Shastri Jayanti	Political Science
10th Oct.	World Mental Health Day	Home Science (Jr. & Sr.) & Health Club
15th Oct.	World Blind Day	Music
15th Oct.	Dr. A. P. J. Abdul Kalam Jayanti	Political Science
16th Oct.	World Food Day	Home Science
20th Oct.	National Integrity Day	Games & Sports, NSS
21st Oct.	Alfred Nobel Birth Anniversory	Chemistry (Junior)
24th Oct.	Shri. Ramchandra Jagobaji Gharphalkar (Ex. President) Jayanti	Marathi 30th
Oct.	Dr. Homi Bhabha Day	Chemistry
31st Oct.	Indira Gandhi Death Anniversory & Rashtriya Sankalp Diwas	Political Science
31st Oct.	Sardar Vallabhbhai Patel Jayanti & National Unity Day	Political Science
<b>November : 2023</b>		
01st - 07th Nov.	First Term Test Examination	Examination Committee
7th November	Anti Poverty Day	Economics
8th November	Prof. Vasudeorao Motiram Kalmegh (Ex. President) Jayanti	Marathi
14th November	Pandit Jawaharlal Nehru Jayanti	Political Science

19th November	Indira Gandhi Jayanti	Political Science
21th November	Maharashtra Hutatma Day	History
26th November	Indian Constitution Day	Dr. B. R. Ambedkar Study Center
28th November	Mahatma J. Phule Death Anniversary	Marathi & N.S.S.
30th November	Dr. J. C. Bose Jayanti	Botany
<b>December : 2023</b>		
1st December	World Aids Day	Microbiology & Biochemistry
3rd December	International Day of Disable Person	Statistics & Geology
3rd December	Bhopal Day	Chemistry
6th December	Dr. B. R. Ambedkar Mahaparinirvan Day	Dr. B. R. Ambedkar Study Center
10th December	Human Right Day	Sociology
20th December	Sant Gadge Maharaj Death Anniversary	N.S.S.
22nd December	Shrinivas Ramanujan Jayanti	Mathematics
24th December	National Consumer Day	Commerce & Economics
25th December	Atalbihari Vajpyee Jayanti	History
25th-27th Dec.	Dr. P. Deshmukh Birth Anniversary	Cultural Committee
28th December	Day of Orphan Children Due to HIV	Biochemistry
<b>January :</b>		
<b>2024</b>		
1st - 04th Jan.	N S S Camp	NSS
3rd January	Savitribai Phule Jayanti & Mahila Mukti Din	N.S.S.
9th January	National Tourism Day	History
12th January	Swami Vivekananda Jayanti / Youth Day (Prize Distribution) - N.S.S. & Sports	
12th January	Rajmata Maa Jijau Jayanti	History
14th January	Geography Day	Geography & Geology
23rd January	N. Subhashchandra Bose Jayanti	N.S.S. & Sports
26th January	Republic Day Prize Distribution Merit Students of Senior College	N.S.S. & Sports to
30th January	Hutatma Day	N.S.S.
30th January	Anti-Leprosy Day	Microbiolgoy, Zoology & Biochemistry
<b>February : 2024</b>		
02nd February	World Wetland Day	Botany
11th February	World Day of Stick	Music
14th February	Shri. Vasanttrao Ramrao Dhotre (Ex.President) Jayanti	Marathi
19th February	Chhatrapati Shivaji Maharaj Jayanti	History
23th February	Sant Gadgebaba Jayanti	N.S.S.
25th February	T. B. Day	Biotechnology & Microbiology
28th February	National Science Day	Physics
<b>March : 2024</b>		
8th March	International Women's Day	Chemistry
12th March	Yashwantrao Chavhan Jayanti	YCMOU Center
15th March	World Consumer Day	Economics & Commerce & Mangement
22nd March	World Day of Water	Geology
23rd March	Shri Bhagwantrao Marotrao Ingole (Ex.President) Jayanti	Marathi
23rd March	Shaheed Diwas	NCC
<b>April : 2024</b>		
7th April	World Health Day	Sociology
10th April	Dr. Panjabrao Deshmukh	Physical Education

	Death Anniversary	
11th April	Mahatma J. Phuley Jayanti	Marathi
14th April	Dr. Babasaheb Ambedkar Jayanti	Dr. B. R. Ambedkar Study Center
20th-27th April	Second Term Test Examination	Examination Committee
22nd April	Earth Day	Geography
23rd April	World Book Day	Library
30th April	Rashtrasant Tukdoji Maharaj Jayanti	NSS
<b>May : 2024</b>		
1st May	Maharashtra Day	N.S.S. & Sports
<b>June : 2024</b>		
5th June	Word Environment Day	Botany
21st June	Yogdin	Yogshatra - Arts Faculty
26th June	Anti Drug Day	Microbiology / Biochemistry & Chemistry
	Rajashri Shahu Maharaj Jyanti	Marathi

**PRINCIPAL**  
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 and Science Akola.  
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### Internal Assessment Time Tables UG and PG 2023-2024

Criterion 1 – Curricular Aspects.


1.1.2

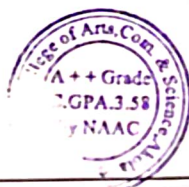
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To,  
 All Heads of Teaching Departments  
 Shri Shivaji College of Arts, Commerce & Science,  
 Akola

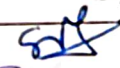

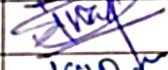


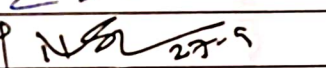

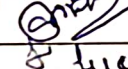
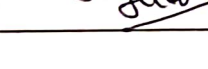
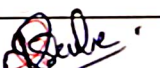
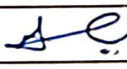
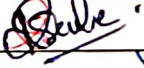
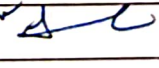
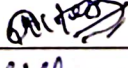
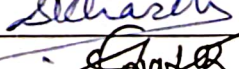
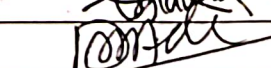
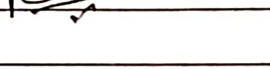
**Time Table and Schedule for Unit Test Examination, Home Assignments, Seminars and Projects  
 SEM I , SEM III and SEM V of 2023-24 academic session**

The copy of Time Table and Schedule for Unit Test Examination, Home Assignments, Seminars and Projects for Sem I, Sem III and Sem V for 2023-24 academic session is enclosed herewith. You should inform the teachers of your department about their examination related duties (paper setting, invigilation, paper valuation, seminar conduction, home assignments, projects etc.) as per the enclosed time table.

  
 Coordinator  
 College Examination Committee



  
 PRINCIPAL  
 Shri Shivaji College, Akola  
 Commerce & Science Akola  
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Sr. No.	Department	Signature of HOD
1.	Physics	
2.	Statistics	
3.	Geology	
4.	Chemistry	
5.	Zoology	
6.	Forensic Science	
7.	Electronics	
8.	Mathematics	
9.	Biochemistry	
10.	Microbiology	
11.	Biotechnology	
12.	Comp. Sci.	
13.	Botany	
14.	English	
15.	Marathi	
16.	Hindi	
17.	Urdu	

**SHRI SHIVAJI COLLEGE OF ARTS, COMMERCE AND SCIENCE, AKOLA**  
**Academic Calendar of Unit Test Examination and Home Assignment 2023-24**

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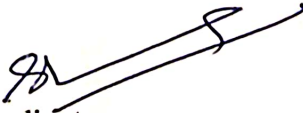
**Class: B. Sc. I Semester I**

- |                                    |   |
|------------------------------------|---|
| 1) Allotment of Assignment         | 29 Sept to 03 Oct 2023  |
| 2) Submission of Assignment        | 06/10/2023 to 10/10/2023  |
| 3) 1 <sup>st</sup> Unit Test (T-1) | 09/10/2023 to 19/10/2023  |
| 4) 2 <sup>nd</sup> Unit Test (T-2) | 20 <sup>th</sup> Oct 2023 to 23 <sup>rd</sup> Oct 2023<br>Need basis to be arranged by<br>Concerned HOD |

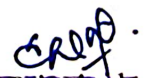
**B. Sc. II Sem- III and B. Sc. III Sem.- V**

- |  |  |
|--|--|
| 1) Allotment of Project Assignment   | 29 Sept to 03 Oct 2023   |
| 2) Submission of Project Assignment  | 06/10/2023 to 10/10/2023   |
| 3) 1 <sup>st</sup> Unit Test (T-1)   | 09/10/2023 to 17/10/2023   |
| 4) 2 <sup>nd</sup> Unit Test (T-2)   | 19 <sup>th</sup> Oct. 2023 to 21 <sup>st</sup> Oct 2023<br>Need basis to be arranged by<br>Concerned HOD |
| 5) Submission of Seminar, study tour report, On or before 10/10/2023<br>Industrial visits, Visit to educational Institutes Group discussion etc. |  |

All HOD of PG Departments are requested to arrange their PG College Unit test examination as per your convenience and maintain the record.

  
Coordinator,  
College Examination Committee



  
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**SHRI SHIVAJI COLLEGE OF ARTS, COMMERCE AND SCIENCE, AKOLA**

**B. Sc. I Semester I (2023-24)**

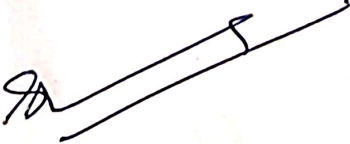
**1<sup>st</sup> Unit Test Examination Time Table**

**Time- 12.00 to 02.00 PM**

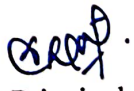
Sr. No.	Subject	Date	Room Number	Roll Number
01	Physics	09/10/2023	20,21,22,23	
02	Statistics	10/10/2023	15,16	
03	Geology	10/10/2023	23,24	
04	Chemistry	11/10/2023	10,11,12, 13,14,20,21,22,23	
05	Zoology	12/10/2023	20,21,22	
06	Forensic Science	12/10/2023	25,26	
07	Electronics	12/10/2023	10,11	
08	Math- I	13/10/2023	20,21,22	
09	Biochemistry	13/10/2023	16,17	
10	Microbiology	14/10/2023	10,11	
11	Biotechnology	14/10/2023	15,16	
12	Comp. Sci.	14//10/2023	20,21,22	
13	Botany	16/10/2023	10,11,12,13,14,15,16	
14	Math- II	17/10/2023	20,21,22	
15	English	18/10/2023	10,11,12, 13,14,17,18,19,20,21,22	
16	Marathi	19/10/2023	12,13,14,17,18,19,20,21,22,	
17	Hindi	19/10/2023	10,11	
18	Urdu	19/10/2023	23,24	

Note:

All Heads are requested to appoint the Paper setters, Invigilators and Valuers. Students can be equally divided into rooms, if more than one rooms allotted for the subject.

  
Coordinator,  
College Examination Committee



  
Principal,  
Shri Shiji College, Akola  
Commerce & Science Akola  
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**SHRI SHIVAJI COLLEGE OF ARTS, COMMERCE AND SCIENCE, AKOLA**

**B. Sc. II Semester III (2023-24)**

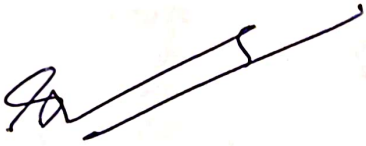
**1<sup>st</sup> Unit Test Examination Time Table**

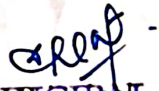
**Time- 12.00 to 2.00 PM**

Sr. No,	Subject	Date	Room Number	Roll Number
01	Physics	09/10/2023	20,21,22,23	
02	Statistics	10/10/2023	15,16	
03	Geology	10/10/2023	23,24	
04	Chemistry	11/10/2023	10,11,12, 13,14,20,21,22,23	
05	Zoology	12/10/2023	20,21,22	
06	Forensic Science	12/10/2023	25,26	
07	Electronics	12/10/2023	10,11	
08	Math- I	13/10/2023	20,21,22	
09	Biochemistry	13/10/2023	16,17	
10	Microbiology	14/10/2023	10,11	
11	Biotechnology	14/10/2023	15,16	
12	Comp. Sci.	14//10/2023	20,21,22	
13	Botany	16/10/2023	10,11,12,13,14,15,16	
14	Math- II	17/10/2023	20,21,22	

Note:

All Heads are requested to appoint the Paper setters, Invigilators and Valuers. Students can be equally divided into rooms, if more than one rooms allotted for the subject.

  
Coordinator,  
College Examination Committee

  
Principal  
Shri Shivaji College, Akola  
Commerce & Science Akola  
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SHRI SHIVAJI COLLEGE OF ARTS, COMMERCE AND SCIENCE, AKOLA


B. Sc. III Semester V (2023-24)  
1<sup>st</sup> Unit Test Examination Time Table

Time- 03.00 to 05.00 PM


Sr. No,	Subject	Date	Room Number	Roll Number
01	Physics	09/10/2023	20,21,22,23	
02	Statistics	10/10/2023	15,16	
03	Geology	10/10/2023	23,24	
04	Chemistry	11/10/2023	10,11,12, 13,14,20,21,22,23	
05	Zoology	12/10/2023	20,21,22	
06	Forensic Science	12/10/2023	25,26	
07	Electronics	12/10/2023	10,11	
08	Math- I	13/10/2023	20,21,22	
09	Biochemistry	13/10/2023	16,17	
10	Microbiology	14/10/2023	10,11	
11	Biotechnology	14/10/2023	15,16	
12	Comp. Sci.	14//10/2023	20,21,22	
13	Botany	16/10/2023	10,11,12,13,14,15,16	
14	Math- II	17/10/2023	20,21,22	

Note:

All Heads are requested to appoint the Paper setters, Invigilators and Valuers. Students can be equally divided into rooms, if more than one rooms allotted for the subject.

  
Coordinator,  
College Examination Committee



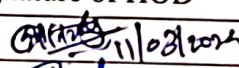
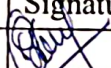
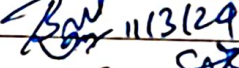
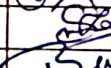
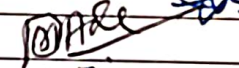
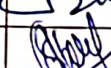


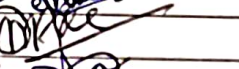

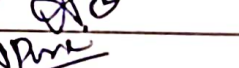
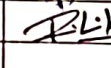





  
Principal,  
Shri Shivaji College of Arts,  
Commerce & Science Akola  
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To,  
All Heads of Teaching Departments  
Shri Shivaji College of Arts, Commerce & Science,  
Akola

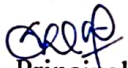
**Revised Time Table and Schedule for Unit Test Examination, Home Assignments, Seminars and Projects SEM II SEM IV and SEM VI of 2023-24 academic session**

The copy of Time Table and Schedule for Unit Test Examination, Home Assignments, Seminars and Projects for Sem II, Sem IV and Sem VI for 2023-24 academic session is enclosed herewith. You should inform the teachers of your department about their examination related duties (paper setting, invigilation, paper valuation, seminar conduction, home assignments, projects etc.) as per the enclosed time table. All the heads are requested to submit the manuscript of question paper on or before 13/03/2024 at 2.00 pm to Dr. P. J Thakare (Physics Dept.)

Received the copy of time table

Department	Signature of HOD	Department	Signature of HOD
English		Statistics	
Marathi		Microbiology	
Hindi		Forensic Science	
Urdu		Geology	
Physics		Electronics	
Botany		Mathematics	
Zoology		Biochemistry	
Comp. Sci.		Biotechnology	
Chemistry			

  
Coordinator  
College Examination Committee

  
Principal  
Shri Shivaji College Akola  
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**SHRI SHIVAJI COLLEGE OF ARTS, COMMERCE AND SCIENCE, AKOLA**  
**Academic Calendar of Unit Test Examination and Home Assignment 2023-24**

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**Class: B. Sc. I Semester II**


- |                                    |   |
|------------------------------------|---|
| 1) Allotment of Assignment         | 12 March to 14 Mar 2024   |
| 2) Submission of Assignment        | 13/03/2024 to 24/03/2024  |
| 3) 1 <sup>st</sup> Unit Test (T-1) | 15/03/2024 to 23/03/2024  |
| 4) 2 <sup>nd</sup> Unit Test (T-2) | 24 <sup>th</sup> Mar 2024 to 26 <sup>th</sup> Mar 2024<br>Need basis to be arranged by Concerned<br>HOD |

**B. Sc. II Sem- IV and B. Sc. III Sem.- VI**

- |  |   |
|--|---|
| 1) Allotment of Project Assignment and Activity  | 12 March to 14 Mar 2024   |
| 2) Submission of Project Assignment and Activity   | 13/03/2024 to 24/03/2024  |
| 3) 1 <sup>st</sup> Unit Test (T-1)   | 18/03/2024 to 23/03/2024  |
| 4) 2 <sup>nd</sup> Unit Test (T-2)   | 24 <sup>th</sup> Mar 2024 to 26 <sup>th</sup> Mar 2024<br>Need basis to be arranged by Concerned<br>HOD |
| 5) Submission of Seminar, study tour report, on or before 24 <sup>th</sup> /03/2024 Industrial visits, Visit to educational Institutes Group discussion etc. |   |

All HOD of PG Departments are requested to arrange their PG College Unit test examination as per your convenience and maintain the record.

  
Coordinator,  
College Examination Committee

  
Principal  
**PRINCIPAL**  
Shri Shivaji College of Akola  
Shri Shivaji College of Akola  
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**SHRI SHIVAJI COLLEGE OF ARTS, COMMERCE AND SCIENCE, AKOLA**  
**B. Sc. I Semester II (2023-24)**  
**1<sup>st</sup> Unit Test Examination Time Table**

**Time- 12.00 to 02.00 PM**


Sr. No.	Subject	Date	RoomNumber	RollNumber
01	English	15/03/2024	10,11,12, 13,14,17,18,19,20,21,22	
02	Marathi	16/03/2024	12,13,14,17,18,19,20,21,22,	
03	Hindi	16/03/2024	10,11	
04	Urdu	16/03/2024	23,24	
05	Physics	18/03/2024	17, 18, 19	
06	Botany.	18/03/2024	20,21,22,23	
07	Zoology	19/03/2024	20,21,22	
08	Comp. Sci.	19/03/2024	17, 18, 19	
09	Chemistry	20/03/2024	10,11,12, 13,14,20,21,22,	
10	Statistics	20/03/2024	23	
11	Microbiology	21/03/2024	20, 21	
12	Forensic Science	21/03/2024	25	
13	Geology	21/03/2024	10, 11	
14	Electronics	21/03/2024	17, 18	
15	Math- I	22/03/2024	20,21,	
16	Biochemistry	22/03/2024	17, 18	
17	Biotechnology	22/03/2024	19	
18	Math- II	23/03/2024	20,21	

Note:

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Coordinator,

College Examination Committee

  
Principal,  
PRINCIPAL  
Shri Shivaji College, Akola  
Shri Shivaji College of Arts,  
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**SHRI SHIVAJI COLLEGE OF ARTS, COMMERCE AND SCIENCE, AKOLA**  
**B. Sc. II Semester IV (2023-24)**  
**1<sup>st</sup> Unit Test Examination Time Table**

**Time- 12.00 to 2.00 PM**

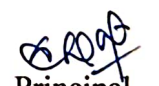
Sr. No,	Subject	Date	Room Number	Roll Number
01	Physics	18/03/2024	17, 18, 19	
02	Botany	18/03/2024	20,21,22,23	
03	Zoology	19/03/2024	20,21,22	
04	Comp. Sci.	19/03/2024	17, 18, 19	
05	Chemistry	20/03/2024	10,11,12, 13,14,20,21,22,23	
06	Statistics	20/03/2024	23	
07	Microbiology	21/03/2024	20, 21	
08	Forensic Science	21/03/2024	25	
09	Geology	21/03/2024	10, 11	
10	Electronics	21/03/2024	17, 18	
11	Math- I	22/03/2024	20,21,	
12	Biochemistry	22/03/2024	17, 18	
13	Biotechnology	22/03/2024	19	
14	Math- II	23/03/2024	20,21,	

Note:

All Heads are requested to appoint the Paper setters, Invigilators and Valuers. Students can be equally divided into rooms, if more than one rooms allotted for the subject.



Coordinator,  
College Examination Committee




Principal  
**PRINCIPAL**  
Shri Shivaji College, Akola  
Shri Shivaji College of Arts,  
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**SHRI SHIVAJI COLLEGE OF ARTS, COMMERCE AND SCIENCE, AKOLA**  
**B. Sc. III Semester VI (2023-24)**  
**1<sup>st</sup> Unit Test Examination Time Table**

**Time- 03.00 to 05.00 PM**

Sr. No.	Subject	Date	Room Number	RollNumber
01	Physics	18/03/2024	17, 18, 19	
02	Botany	18/03/2024	20,21,22,23	
03	Zoology	19/03/2024	20,21,22	
04	Comp. Sci.	19/03/2024	17, 18, 19	
05	Chemistry	20/03/2024	10,11,12, 13,14,20,21,22,	
06	Statistics	20/03/2024	23	
07	Microbiology	21/03/2024	20, 21	
08	Forensic Science	21/03/2024	25	
09	Geology	21/03/2024	10, 11	
10	Electronics	21/03/2024	17, 18	
11	Math- I	22/03/2024	20,21,	
12	Biochemistry	22/03/2024	17, 18	
13	Biotechnology	22/03/2024	19	
14	Math- II	23/03/2024	20,21,	

**Note:** All Heads are requested to appoint the Paper setters, Invigilators and Valuers. Students can be equally divided into rooms, if more than one rooms allotted for the subject.

  
 Coordinator,  
 College Examination Committee

  
 PRINCIPAL,  
 Shri Shivaji College Akola,  
 Shri Shivaji College of Arts,  
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Day	Date	Time	Class	Subject
Monday	16.10.2023	09:30-10:30 AM	B.Com I Sem I	English
Tuesday	17.10.2023			Marathi/Hindi
Wednesday	18.10.2023			POA
Thursday	19.10.2023			POE
Friday	20.10.2023			PBO
Saturday	21.10.2023			CFS-I


Monday	16.10.2023	09:30-10:30 AM	B.Com II Sem III	English
Tuesday	17.10.2023			Marathi/Hindi
Wednesday	18.10.2023			CAT
Thursday	19.10.2023			MS
Friday	20.10.2023			AUD
Saturday	21.10.2023			MM
Monday	23.10.2023			ITB-I

Monday	16.10.2023	09:30-10:30 AM	B.Com III Sem V	English
Tuesday	17.10.2023			Marathi/Hindi
Wednesday	18.10.2023			CA
Thursday	19.10.2023			BE
Friday	20.10.2023			BRF
Saturday	21.10.2023			EOE-I
Monday	23.10.2023			IWW-I

Unit Test & Assignment Submission – Timetable 2023-2024 (PG)

Day	Date	Time	Class	Subject
Monday	16.10.2023	09:30-10:30 AM	M.Com I Sem I	RM & IPR
Tuesday	17.10.2023			MEC
Wednesday	18.10.2023			AFC
Thursday	19.10.2023			SM
Friday	20.10.2023			BIS

Monday	16.10.2023	09:30-10:30 AM	M.Com II Sem III	RML
Tuesday	17.10.2023			STA
Wednesday	18.10.2023			CTM
Thursday	19.10.2023			ECT

  
 Head of Faculty  
 Faculty  
 Shri Shivaji College of Arts, Commerce and Science, Akola

  
 PRINCIPAL  
 Shri Shivaji College of Arts,  
 Commerce & Science, AKOLA  
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SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI  
Shri Shivaji College of Arts, Commerce & Science, Akola

Unit Test I

Time Table Summer 2024

**B.Sc. Home Science Semester II**

Sr. No.	Subject	Date
1	Communication Skills	1-2 -2024
2	Composite Home Science I	1-2 -2024
3	Composite Home Science II	2-2 -2024
4	Nutritional Biochemistry	3-2 -2024

**B.Sc. Home Science Semester IV**

Sr. No.	Subject	Date
1	Assessment of Nutritional Status	1-2 -2024
2	Community Development	1-2 -2024
3	Children with Special Needs	2-2 -2024
4	Apparel Design	2-2 -2024
5	Home Appliances	3-2 -2024
6	Environmental Studies	3-2 -2024

**B.Sc. Home Science Semester VI**

Sr. No.	Subject	Date
1	Resource Management	1-2 -2024
2	Food and Nutrition	1-2 -2024
3	Human Development	2-2 -2024
4	Health Hygiene and Microbiology	2-2 -2024
5	Communication and Extension	3-2 -2024
6	Regional Embroidery	3-2 -2024
7	Textile and Clothing	3 -2-2024

*Ajayali J. Kaware*

**HEAD**

*Dr. Ajayali J. Kaware*  
Professor & Head,  
Department of Home Science  
Shri Shivaji College of Arts, Commerce  
& Science, Akola

SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI  
Shri Shivaji College of Arts, Commerce & Science, Akola  
Unit Test Time Table Summer 2024  
M.Sc. Home Science Semester II

**Food Science & Nutrition**

Sr. No.	Subject	Date
1	Nutritional Biochemistry	1-2 -2024
2	Clinical Nutrition & Dietetics II	1-2 -2024
3	Community Nutrition	2-2 -2024
4	Food Service Management	3-2 -2024

**Textile & Clothing**

Sr. No.	Subject	Date
1	Textile Testing & Quality Control	1-2 -2024
2	Apparel Design	1-2 -2024
3	Social Psychological Aspects of Clothing	2-2 -2024
4	Historic Textiles	3-2 -2024

*Anjali Kavare*  
**HEAD**  
Dr. Anjali J. Kavare  
Professor & Head,  
Department of Home Science  
Shri Shivaji College of Arts, Commerce  
& Science, Akola

SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI  
Shri Shivaji College of Arts, Commerce & Science, Akola

Unit Test I

Time Table Summer 2024

M.Sc. Home Science Semester IV

**Food Science & Nutrition CBCS**

Sr. No.	Subject	Date
1	Food Safety and Quality Control	1-2 -2024
2	Trends in Nutrition and Diet Counselling	1-2 -2024
3	Entrepreneurship Development	2-2 -2024
4	food Safety and Quality Control	3-2 -2024

**Textile & Clothing CBCS**

Sr. No.	Subject	Date
1	CAD	1-2 -2024
2	Entrepreneurship Development	1-2 -2024
3	Advanced Apparel Construction	2-2 -2024
4	Pattern Making & Styling (Internal)	3-2 -2024

*Anyali J. Kaware*

**Head**

Dr. Anyali J. Kaware  
Professor & Head,  
Department of Home Science  
Shri Shivaji College of Arts, Commerce  
& Science, Akola

SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI  
Shri Shivaji College of Arts, Commerce & Science, Akola

Unit Test II

Time Table Summer 2024

**B.Sc. Home Science Semester II**

Sr. No.	Subject	Date
1	Communication Skills	4-4 -2024
2	Composite Home Science I	4-4 -2024
3	Composite Home Science II	5-2 -2024
4	Nutritional Biochemistry	6-2 -2024

**B.Sc. Home Science Semester IV**

Sr. No.	Subject	Date
1	Assessment of Nutritional Status	4-4 -2024
2	Community Development	4-4 -2024
3	Children with Special Needs	5-2 -2024
4	Apparel Design	5-2 -2024
5	Home Appliances	6-4 -2024
6	Environmental Studies	6-4 -2024

**B.Sc. Home Science Semester VI**

Sr. No.	Subject	Date
1	Resource Management	4-4 -2024
2	Food and Nutrition	4-4 -2024
3	Human Development	5-2 -2024
4	Health Hygiene and Microbiology	5-2 -2024
5	Communication and Extension	6-4 -2024
6	Regional Embroidery	6-4 -2024
7	Textile and Clothing	6-4 -2024

*Anjali Kaware*  
**HEAD**  
Dr. Anjali J. Kaware  
Professor & Head,  
Science

**SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI**  
**Shri Shivaji College of Arts, Commerce & Science, Akola**

**Unit Test II**

**Time Table Summer 2024**

**M.Sc. Home Science Semester II**

**Food Science & Nutrition**

Sr. No.	Subject	Date
1	Nutritional Biochemistry	4-4 -2024
2	Clinical Nutrition & Dietetics II	4-4 -2024
3	Community Nutrition	5-2 -2024
4	Food Service Management	6-2 -2024

**Textile & Clothing**

Sr. No.	Subject	Date
1	Textile Testing & Quality Control	4-4 -2024
2	Apparel Design	4-4 -2024
3	Social Psychological Aspects of Clothing	5-2 -2024
4	Historic Textiles	6-2 -2024

*Anjali Kaware*

**HEAD**

*Dr. Anjali J. Kaware*  
Professor & Head,  
Department of Home Science  
Shri Shivaji College of Arts, Commerce  
& Science, Akola

SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI  
Shri Shivaji College of Arts, Commerce & Science, Akola  
Unit Test II

Time Table Summer 2024  
M.Sc. Home Science Semester IV

**Food Science & Nutrition CBCS**

Sr. No.	Subject	Date
1	Food Safety and Quality Control	4-4 -2024
2	Trends in Nutrition and Diet Counselling	4-4 -2024
3	Entrepreneurship Development	5-2 -2024
4	food Safety and Quality Control	6-2 -2024

**Textile & Clothing CBCS**

Sr. No.	Subject	Date
1	CAD in Textile and Fashion	4-4 -2024
2	Entrepreneurship Development	4-4 -2024
3	Advanced Apparel Construction	5-2 -2024
4	Pattern Making & Styling (Internal)	6-2 -2024

*Dyali Kware*

**Head**

Dr. Anjali J. Kaware  
Professor & Head,  
Department of Home Science  
Shri Shivaji College of Arts, Commerce  
& Science, Akola

**Shri Shivaji College of Arts, Commerce and Science, Akola**  
**Department of Mathematics**  
**Unit Test Time-Table (FOR P. G.)**  
**( Winter – 2023)**

Date	Class	Time	Subject
03/10/2023	M.Sc.- I	11:00 am To 12:30 pm	Research Methodology
	M.Sc.- II		Functional Analysis-I
04/10/2023	M.Sc.- I	11:00 am To 12:30 pm	Real Analysis
	M.Sc.- II		Advance Mechanics
05/10/2023	M.Sc.- I	11:00 am To 12:30 pm	Advance Abstract Algebra
	M.Sc.- II		Operations Research
06/10/2023	M.Sc.- I	11:00 am To 12:30 pm	Complex Analysis
	M.Sc.- II		Fluid Dynamics – I
07/10/2023	M.Sc.- I	11:00 am To 12:30 pm	Differential Geometry
	M.Sc.- II		General Relativity

**Note:- 1] Unit test is compulsory.**  
**2] Retest will not be taken.**

*M. P. Sarode*

HEAD  
 Department of Mathematics  
 Shri Shivaji College of Arts,  
 Commerce & Sciences, Akola

**Shri Shivaji College of Arts, Commerce and Science, Akola**  
**Department of Mathematics**  
**Unit Test Time-Table (FOR P. G.)**  
**(Summer – 2024)**

Date	Class	Time	Subject
01/03/2024	M.Sc.- I	11:00 am To 12:00 noon	Advance Linear Algebra
	M.Sc.- II		Functional Analysis-II
02/03/2024	M.Sc.- I	11:00 am To 12:00 noon	Topology
	M.Sc.- II		Partial Diff. Equation
04/03/2024	M.Sc.- I	11:00 am To 12:00 noon	Integral Equation
	M.Sc.- II		Numerical Analysis
05/03/2024	M.Sc.- I	11:00 am To 12:00 noon	Riemannian Geometry
	M.Sc.- II		Relativistic Cosmology
06/03/2024	M.Sc. II	11:00 am To 12:00 noon	Fluid Dynamics – II

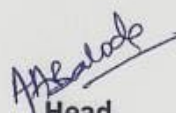


**HEAD**  
**Department of Mathematics**  
**Shri Shivaji College of Arts,**  
**Commerce & Science, AKOLA**

**Shri. Shivaji College of Arts, Commerce & Science, Akola.**

**M.Sc. Preliminary examination Time Table 2023**

Class	Subject	Date	Day	Time
M.Sc I (Sem I)	General Biochemistry	26/10/2023	Thursday	12.00-1.30PM
M.Sc II (Sem III)	Immunochemistry	26/10/2023	Thursday	12.00-3.00 PM
M.Sc I (Sem I)	Adv. Enzymology	27/10/2023	Friday	12.00-1.30PM
M.Sc II (Sem III)	Adv.Molecular Biology	27/10/2023	Friday	12.00-3.00 PM
M.Sc I (Sem I)	Nutritional Biochemistry	28/10/2023	Saturday	12.00-1.30PM
M.Sc II (Sem III)	Human Physiology	28/10/2023	Saturday	12.00-3.00 PM
M.Sc I (Sem I)	Bioenergetics & Biological Oxidation	30/10/2023	Monday	12.00-1.30PM
M.Sc II (Sem III)	Industrial Biochemistry	30/10/2023	Monday	12.00-3.00 PM
M.Sc I (Sem I)	Research Methodology	31/10/2023	Tuesday	12.00-1.30PM

  
**Head**  
Department of Biochemistry  
**Department of Biochemistry**  
Commerce & Science Akola  
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# Shri. Shivaji College of Arts, Commerce & Science, Akola.

## M.Sc. Preliminary examination

### Time Table Summer- 2024

Class	Subject	Date	Day	Time
M.Sc I (Sem II)	Clinical Biochemistry	20/03/2024	Wednesday	12.00-2.00PM
M.Sc II (Sem IV)	Cell physiology			12.00-3.00 PM
M.Sc I (Sem II)	Endocrinology	21/03/2024	Thursday	12.00-2.00PM
M.Sc II (Sem IV)	Genetics			12.00-3.00 PM
M.Sc I (Sem II)	Analytical biochemistry	22/03/2024	Friday	12.00-2.00PM
M.Sc II (Sem IV)	Recombinant DNA technology			12.00-3.00 PM
M.Sc I (Sem II)	Cell biology	23/03/2024	Saturday	12.00-2.00PM
M.Sc II (Sem IV)	Plant biochemistry			12.00-3.00 PM

*Ashutosh*  
Head

Department of Biochemistry

SHRI SHIVAJI COLLEGE OF ARTS, COMMERCE AND SCIENCE, AKOLA

DEPARTMENT OF BOTANY

P.G UNIT TEST TIME TABLE WINTER -2023

Sr. No.	Date	Time	Class	Name of Paper
1	25/10/23	11.30 am - 02.30 pm	M.Sc. I	Research Methodology and IPR
			M.Sc. II	DSC-IX: Systematics and Taxonomy of Angiosperm
2	26/10/23	11.30 am - 02.30 pm	M.Sc. I	DSC -I :Cell and Molecular Biology
			M.Sc. II	DSC-X: Paleobotany, Evolution and Diversity of Gymnosperm
3	27/10/23	11.30 am - 02.30 pm	M.Sc. I	DSC- II :Evolution and Diversity of Algae and Fungi
			M.Sc. II	DSE-I : Angiosperm Taxonomy, Phytochemistry and Pharmacognosy (Elective –I)
				DSE-I : Basic and Applied Mycology (Elective –I)
4	28/10/23	11.30 am -02.30 pm	M.Sc. I	DSC -III :Plant Development, Economic Botany and Resource Utilization
			M.Sc. II	DSE-II : Angiosperm Taxonomy, Phytochemistry and Pharmacognosy (Elective –II)
				DSE-II : Plant Pathology (Elective –II)
5	30/10/23	11.30 am -02.30 pm	M.Sc. I	DSE-I : Angiosperm Taxonomy, Phytochemistry and Pharmacognosy.
				DSE-I : Basic and Applied Mycology

*Pranav*  
Head

Department of Botany  
Shri Shivaji College of Arts,  
Commerce & Science AKOLA  
A++ Grade CGPA.3.58 by NAAC

SHRI SHIVAJI COLLEGE OF ARTS, COMMERCE AND SCIENCE, AKOLA

DEPARTMENT OF BOTANY

P.G UNIT TEST TIME TABLE SUMMER -2024

Sr. No.	Date	Time	Class	Name of Paper
1	26/03/24	11.00 am - 02.00 pm	M.Sc. I	DSC I.2: Plant Physiology
			M.Sc. II	DSC XI : Applied Botany
2	27/03/24	11.00 am - 02.00 pm	M.Sc. I	DSC II.2: Evolution and Diversity of Bryophytes and Pteridophytes
			M.Sc. II	DSC XII :Plant Ecology
3	28/03/24	11.00 am - 02.00 pm	M.Sc. I	DSC VII : Plant Biochemistry, Genetics and Plant Breeding
			M.Sc. II	DSC XIII : Environmental Ecology
4	30/03/24	11.00 am -02.00 pm	M.Sc. I	DSE -II : Angiosperm Taxonomy, Phytochemistry and Pharmacognosy
				DSE-II : Basic and Applied Mycology
			M.Sc. II	SEC I : Plant Biotechnology and Genetic Engineering

  
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 Department of Botany  
 Shri Shivaji College of Arts,  
 Commerce & Science, Akola

**SHRI SHIVAJI COLLEGE OF ARTS, COMMERCE AND SCIENCE AKOLA**  
**P.G. DEPARTMENT OF CHEMISTRY**  
**INTERNAL UNIT TEST 2023-2024**

**Notice**

All students of M.Sc. Chemistry are hereby inform that their College Unit test

(For internal assessment) is scheduled as per following time table.

Class	Paper	Date	Time
M.Sc. I Sem I	Faculty specific core Research Methodology & IPR in Chemistry	01/11/2023	11:00 to 2:00 PM
	Structural inorganic Chemistry DSC I.1	02/11/2023	
	General Organic Chemistry DSC II.1	03/11/2023	
	Physical Chemistry-I DSC III.1	04/11/2023	
	Organic Reaction Mechanism DSE I (ii)	06/11/2023	
M.Sc. II Sem III	Spectroscopy-I (DSC IX)	01/11/2023	11:00 to 2:00 PM
	Selected topics in Chemistry-I (DSC X)	02/11/2023	
	Organic Chemistry Special Paper-I (Organic Synthesis-I) (DSE-I)	03/11/2023	
	Organic Chemistry Special Paper-II (Drugs Chemistry) (DSE-II)	04/11/2023	

*KADUR*  
**Head**  
**Professor & Head**  
**Department of Chemistry**  
**Department of Chemistry**  
**Shri Shivaji College of Arts,**  
**Commerece & Science, Akola**

**SHRI SHIVAJI COLLEGE OF ARTS, COMMERCE & SCIENCE, AKOLA**

**P.G DEPARTMENT OF CHEMISTRY**

**INTERNAL UNIT TEST 2023-24**

**Notice**

All the students of M.Sc are hereby inform that their College Unit Test (For internal assessment) is scheduled as per following time table.

<b>Class</b>	<b>Paper</b>	<b>Date</b>	<b>Time</b>
<b>M.Sc I semester II</b>	DSC I.2 Physical Chemistry-II	22/04/2024	11.00 to 2.00
	DSC II.2 Coordination Chemistry	23/04/2024	
	DSC III.2 Basic Analytical Chemistry	24/04/2024	
	DSE II Organic Chemistry	25/04/2024	
<b>M.Sc II semester IV</b>	DSC XI Spectroscopy – II	22/04/2024	11.00 to 2.00
	DSC XII Selected topics in chemistry-II	23/04/2024	
	DSE III Organic synthesis II	24/04/2024	
	DSE IV Organic Chemistry special paper – IV Natural Products	25/04/2024	

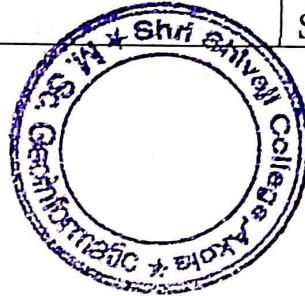
  
Head


Professor & Head  
Department of Chemistry  
Shri Shivaji College of Arts  
& Commerce & Science, Akola

**SHRI SHIVAJI COLLEGE OF ARTS, COMMERCE & SCIENCE, AKOLA**  
**M.Sc. Geo-informatics Unit Test Examination of Winter – 2023**  
**Department of Geology & Geoinformatics**

**M.Sc. Geoinformatics – I<sup>st</sup> Year Sem-I**

Day	Date	Subject	Class	Time
Wednesday	18-10-2023	1 GNF 1C: Research Methodology and IPR	M.SC. (GEO-INFORMATICS) SEMESTER – I	12.00 PM To 02.00 PM
Thursday	19-10-2023	1 GNF 2C: DSC- I Principles of Remote Sensing	M.SC. (GEO-INFORMATICS) SEMESTER – I	12.00 PM To 02.00 PM
Friday	20-10-2023	1 GNF 3C: DSC-II Introduction to GIS	M.SC. (GEO-INFORMATICS) SEMESTER – I	12.00 PM To 02.00 PM
Saturday	21-10-2023	1 GNF 4C: DSC-III Photogrammetry	M.SC. (GEO-INFORMATICS) SEMESTER – I	12.00 PM To 02.00 PM
Monday	23-10-2023	1 GNF 5A: DSE I- 1. Geodesy and GPS	M.SC. (GEO-INFORMATICS) SEMESTER – I	12.00 PM To 02.00 PM

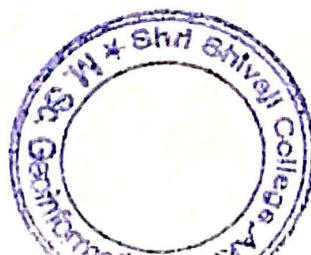


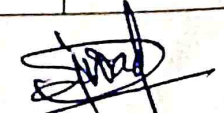
  
**DR. G. D. GAIKWAD**  
 Asst. Professor & Head  
 HOD Dept. of Geology & Geoinformatics  
 Shri Shivaji College, AKOLA.

**SHRI SHIVAJI COLLEGE OF ARTS, COMMERCE & SCIENCE, AKOLA**  
**M.Sc. Geo-informatics Unit Test Examination of Winter – 2023**  
**Department of Geology & Geoinformatics**

**M.Sc. Geoinformatics – II<sup>nd</sup> Year Sem-III**


Day	Date	Subject	Class	Time
Wednesday	18-10-2023	3GNF-1C: Research Methodology	M.SC. (GEO-INFORMATICS) SEMESTER – III	12.00 PM To 02.00 PM
Thursday	19-10-2023	3GNF-2C: GIS Development and Open Source GIS	M.SC. (GEO-INFORMATICS) SEMESTER – III	12.00 PM To 02.00 PM
Friday	20-10-2023	3GNF-3C: GIS Applications in Natural Resources Management	M.SC. (GEO-INFORMATICS) SEMESTER – III	12.00 PM To 02.00 PM
Saturday	21-10-2023	3GNF-4C: GIS for Urban Planning and Infrastructure Development	M.SC. (GEO-INFORMATICS) SEMESTER – III	12.00 PM To 02.00 PM



  
**HOD DR. G. D. GAIKWAD**  
 Asst. Professor & Head  
 Dept. of Geology & Geoinformatics  
 Shri Shivaji College, AKOLA.


**SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI**  
**SHRI SHIVAJI COLLEGE OF ARTS, COMMERCE & SCIENCE, AKOLA**  
 Department of Geology  
 Unit Test Exam Time Table  
 Summer – 2024 Examination

Date	Class	Subject Code	Subject	Time
06-04-2024	M.Sc. -I (Sem-II)	2 GNF 1C	Fundamentals of Cartography	11.00am To 01.00pm
06-04-2024	M.Sc. -I (Sem-II)	2 GNF 2C	Digital Image Processing	02.00pm To 04.00pm
10-04-2024	M.Sc. -I (Sem-II)	2 GNF 3C	Spatial Modelling & Analysis	11.00am To 01.00pm
10-04-2024	M.Sc. -I (Sem-II)	2GNF 4B	Fundamentals of Geomorphology.	02.00pm To 04.00pm

  
**HOD. G. D. GAIKWAD**  
 Asst. Professor & Head  
 Dept. of Geology & Geoinformatics  
 Shri Shivaji College, AKOLA.

**SHRI SHIVAJI COLLEGE OF ARTS, COMMERCE & SCIENCE, AKOLA**  
 Department of Geology & Geoinformatics  
 M.Sc. Geoinformatics  
 Unit Test Exam Time Table  
 Summer – 2024 Examination

Date	Class	Subject Code	Subject	Time
06-04-2024	M.Sc. -II (Sem-IV)	4 GNF 1C	Database Management System	11.00am To 01.00pm
06-04-2024	M.Sc. -II (Sem-IV)	4GNF 2C	Web Mapping and Web GIS.	11.00am To 01.00pm
10-04-2024	M.Sc. -II (Sem-IV)	4GNF 3C	Geoinformatics Applications in Agriculture..	11.00am To 01.00pm
10-04-2024	M.Sc. -II (Sem-IV)	4GNF 4C	Geoinformatics Application in Water Resources Management	02.00pm To 04.00pm

  
**DR. G. D. GAIKWAD**  
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**SHRI SHIVAJI COLLEGE OF ARTS, COMMERCE AND SCIENCE AKOLA**

**DEPARTMENT OF ZOOLOGY**

**CLASS: M.SC.**

**UNIT TEST SCHEDULE SUMMER 2024**

Sr. No.	Class	Paper	Date/day	Time
1	M.Sc. Semester II	V structure and Function of Vertebrates	08/04/2024	12-01 pm
	M.Sc. Semester IV	XIII (Compulsory) Biochemistry	08/04/2024	12-01 pm
2	M.Sc. Semester II	VI Molecular Cell Biology	10/04/2024	12-01 pm
	M.Sc. Semester IV	XIV (Compulsory) Enzymology and Biostatistics	10/04/2024	12-01 pm
3	M.Sc. Semester II	VII Environment and Ecology (Also GIC)	12/04/2024	12-01 pm
	M.Sc. Semester IV	XV (Elective paper III); Entomology: III Developmental and Commercial Entomology	12/01/2024	12-01 pm
4	M.Sc. Semester II	VIII Advance Tools and Techniques	13/04/2024	12-01 pm
	M.Sc. Semester IV	XVI (Elective paper IV) Entomology: IV. Insect pests and pest control	13/04/2024	12-01 pm

Head

Department of Zoology  
Department of Zoology  
Shri Shivaji College of Arts,  
Commerce & Science, AKOLA

SHRI SHIVAJI COLLEGE OF ARTS, COMMERCE AND SCIENCE, AKOLA

Post Graduate Department of Zoology

Time table for Unit Test Examination PG winter - 2023

Sr . no.	Class	Date	Paper
1.	M.Sc. I Sem I	26/10/2023	Animal Structure and Function (Non-Chordata)
2.	M.Sc. I Sem I	27/10/2023	Animal Structure and Function (Chordata)
3.	M.Sc. I Sem I	28/10/2023	Gamete Biology
4.	M.Sc. I Sem I	30/10/2023	Genes and Differentiation
1.	M.Sc II Sem III	26/10/2023	Molecular cytogenetics-I
2.	M.Sc II Sem III	27/10/2023	Molecular cytogenetics-II
3.	M.Sc II Sem III	28/10/2023	Entomology- I
4.	M.Sc II Sem III	30/10/2023	Entomology -II


Head

Dept. of Zoology

**PG DEPARTMENT OF COMPUTER SCIENCE**  
**Session 2023-24**  
**Notice**  
**Preliminary Examination**  
**Time Table for the M.Sc.-I (Semester-II) and M.Sc. II (Semester-IV)**  
**Summer 2024**

Sr. No.	Date	Time	M.Sc.-I	M.Sc.-II
1	01/04/2024	12:00 PM to 02:00 PM	N2MCS1	4MCS1
2	02/04/2024	12:00 PM to 02:00 PM	N2MCS2	4MCS2
3	03/04/2024	12:00 PM to 02:00 PM	N2MCS3	4MCS3
4	04/04/2024	12:00 PM to 02:00 PM	N2MCS4(2)	4MCS4
5	05/04/2024	12:00 PM to 02:00 PM	-----	4MCS6(1)

**Notes: Unit Test will be based on first 4 units of all subjects.**

  
**Head**  
**HEAD**  
Dept. of Computer Science  
Department Of Computer Science  
Shri Shivaji College, Akola

**PG DEPARTMENT OF COMPUTER SCIENCE**

Session 2023-24

Notice

**Preliminary Examination**

**Time Table for the M.Sc.-I (Semester-I) and M.Sc. II (Semester-II)**

**Winter 2023**

<b>Sr. No.</b>	<b>Date</b>	<b>Time</b>	<b>M.Sc.-I</b>	<b>M.Sc.-II</b>
1	16/10/2023	12:00 PM to 02:00 PM	1MCS1	3MCS1
2	17/10/2023	12:00 PM to 02:00 PM	1MCS2	3MCS2
3	18/10/2023	12:00 PM to 02:00 PM	1MCS3	3MCS3
4	19/10/2023	12:00 PM to 02:00 PM	1MCS4	3MCS4
5	20/10/2023	12:00 PM to 02:00 PM	1MCS6(5)	-----

**Notes: Unit Test will be based on all 6 units of all subjects.**



**Head**

**Dept. of Computer Science**

**HEAD**

**Department Of Computer Science  
Shri Shivaji College, Akola**

**SHRI SHIVAJI COLLEGE OF ARTS, COMMERCE AND  
SCIENCE, AKOLA  
DEPARTMENT OF PHYSICS  
(2023-24)**

**M.Sc-I (PHYSICS) SEM-I  
Second Unit Test**

<b>Date</b>	<b>Subject</b>	<b>Time</b>
<b>10/10/2023</b>	<b>Mathematical Physics (U2)</b>	<b>12:00 – 12:45 pm</b>
<b>12/10/2023</b>	<b>Computational methods &amp; C Programming (U2)</b>	<b>12:00 – 12:45 pm</b>
<b>14/10/2023</b>	<b>Classical Mechanics (U2)</b>	<b>12:00 – 12:45 pm</b>
<b>16/10/2023</b>	<b>Quantum Mechanics-I (U2)</b>	<b>12:00 – 12:45 pm</b>
<b>18/10/2023</b>	<b>Research Methodology (U5)</b>	<b>12:00 – 12:45 pm</b>

**SHRI SHIVAJI COLLEGE OF ARTS, COMMERCE AND  
SCIENCE, AKOLA  
DEPARTMENT OF PHYSICS  
(2023-24)**

**M.Sc-I (PHYSICS) SEM-I  
Terminal Examination**

Date	Subject	Time
25/10/2023	Research Methodology	12:00 – 3:00 pm
27/10/2023	Mathematical Physics	12:00 – 3:00 pm
30/10/2023	Classical Mechanics	12:00 – 3:00 pm
01/10/2023	Quantum Mechanics-I 01/11/2023	12:00 – 3:00 pm
03/10/2023	Computational methods & C Programming 03/11/2023	12:00 – 3:00 pm



SHRI SHIVAJI EDUCATION SOCIETY, AMRAVATI'S

## SHRI SHIVAJI COLLEGE OF ARTS, COMMERCE AND SCIENCE, AKOLA (MS)

Affiliated with Sant Gadge Baba Amravati University, Amravati (MS)

NAAC Reaccredited with A++ grade with CGPA 3.58 in Fourth cycle

UGC Status- College with Potential for Excellence (Phase II Completed)

DST- FIST (Level "00") Support;

Lead College Status by S. G. B. Amravati University, Amravati (MS)

Website: [www.shivajiakola.ac.in](http://www.shivajiakola.ac.in)

### Internal Assessment Question Papers UG & PG 2023-2024

Criterion 1 – Curricular Aspects.

1.1.2

*The institution adheres to the academic calendar  
including for the conduct of CIE*

**Shri Shivaji College of Arts, Commerce and Science, Akola**  
**DEPARTMENT OF PHYSICS**

Class: B.Sc.II SEM-IV

Skill Enhancement Module Activities Examination Summer 2024 (Part - I)

Subject: Physics

Time: 30 min.

Date: 18 / 03 / 2024

Max. Marks. 10

Note: All questions are compulsory.

Name of Student: \_\_\_\_\_ Class Roll No. \_\_\_\_\_

Marks Obtained: \_\_\_\_\_ Signature of Examiner: \_\_\_\_\_

Note: All questions are compulsory.

**Q. 1. Multiple Choice Questions.**

**10 M**

- i) A converging lens of small focal length is known as \_\_\_\_\_.  
A) Microscope    B) Telescope    C) Stethoscope    D) None of these
- ii) The process of enlarging the apparent size of an object is known as \_\_\_\_\_.  
A) Multiplication    B) Magnification    C) Collimation    D) None of these
- iii) The magnifying power of simple microscope increases with \_\_\_\_\_ in focal length.  
A) Increase    B) Decrease    C) No effect of increase or decrease    D) None of these
- iv) An astronomical refracting telescope will have large angular magnification and high angular resolution when it has an objective lens of \_\_\_\_\_ focal length and \_\_\_\_\_ diameter.  
A) Large, Large    B) Small, Small    C) Large, Small    D) Small, Large
- v) A telescope will be constructed using two lenses with focal lengths of 10 cm and 100cm. For the objective which lens will you use?  
A) Both    B) 100 cm    C) 10 cm    D) None of these
- vi) In microscope, \_\_\_\_\_ used to make small, precise adjustments to an image in order to enhance its clarity.  
A) Nosepiece    B) Eyepiece    C) Arm    D) Fine adjustment knob
- vii) In microscope, \_\_\_\_\_ is used to reflect the light into aperture.  
A) Mirror    B) Condenser    C) Arm    D) All of these
- viii) Large aperture telescope is used for \_\_\_\_\_.  
A) Greater Resolving power    B) Low dispersion    C) Aberration    D) None of these
- ix) A person using a lens as a simple microscope gets an \_\_\_\_\_.  
A) inverted virtual image    B) upright real magnifying image    C) upright virtual image    D) None
- x) The SI unit of focal length is \_\_\_\_\_.  
A) Meter    B) Centimeter    C) Nanometer    D) All of these

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SHRI SHIVAJI COLLEGE OF ARTS, COMMERCE & SCIENCE, AKOLA  
DEPARTMENT OF PHYSICS  
B. Sc. II (Semester IV)  
Common Unit Test-Summer-2024

Time: Two Hours

Date: 18/03/2024

Max. Marks: 30

6

**Q. 1 Choose the correct option**

- i) How much phase change occurs when reflection takes place from surface of transparent rarer medium?  
a)  $\pi$  b)  $\pi/2$  c) zero d)  $2\pi$
- ii) Newton's rings are formed as a result of interference in thin film occurring by  
(a) division of wavelength (b) division of wavefront (c) division of amplitude (d) none of these.
- iii) The diameter  $D_n$  of  $n^{\text{th}}$  dark ring obtained by reflected ray in Newton's ring is proportional to  
(a)  $n$  (b)  $\sqrt{n}$  (c)  $n^2$  d)  $1/n$
- iv) As temperature of liquid increases its viscosity  
a) increases b) decreases c) remains same d) can't say
- v) The velocity of flow at a distance  $x$  from the axis of the tube  
a) increases as  $x$  increases b) decreases as  $x$  increases
- vi) SI. unit of coefficient of viscosity is  
(a)  $\text{N.s.m}^{-2}$  (b)  $\text{Nsm}$  (c) poise (d) both (a) and (c)
- vii) Bending of light around an obstacle is known as  
(a) Refraction b) reflection (c) Total internal reflection d) diffraction
- viii) Which of the following is essential for observing diffraction?  
(a) A screen. (b) White light c) A narrow slit (d) Two coherent sources.
- ix) The essential condition for Fresnel class of diffraction is that the incident wavefront must be  
(a) plane (b) spherical (c) cylindrical (d) (b) & (c)
- x) The main components of any laser system is  
a) active media b) resonant cavity c) pumping source d) all of these
- xi) Ruby laser is a  
a) semiconductor laser b) solid state laser c) gas laser d) liquid laser
- xii) The rate of spontaneous emission depends on  
a) number of atoms in lower energy state b) number of atoms in excited state c) number of atoms in all energy states d) none of these

**Q.2 A) Answer in short (any one).**

2

1. Define principal of super position.
2. What are Newton's ring?

**B) Answer in detail (any two).**

6

1. Obtain an expression for the path difference in the interference in thin films due to reflected light.
2. Derive an expression for the diameter of  $n^{\text{th}}$  dark and bright Newton's rings by reflected light.
3. Describe with necessary theory how you would determine the wavelength of monochromatic light using Newton's rings.
4. Show that interference due to reflected light and transmitted light are complementary in nature.

**Q.3 A) Answer in short (any one).**

2

1. Distinguish between Fresnel and Fraunhofer diffraction
2. What is LASER? Give its full form.

**B) Answer in detail (any two).**

6

1. Explain the Fraunhofer diffraction due to double slit and obtain an equation for diffraction maxima and minima.
2. Show that the half period zones constructed on a plane wavefront have equal area.
3. Describe the construction and working of Ruby laser with necessary diagram.
4. Explain a) stimulated emission b) spontaneous emission c) population inversion

**Q.4 A) Answer in short (any one).**

2

1. Define (i) Streamline flow (ii) Critical velocity
2. What is the significance of Reynold's number?

**B) Answer in detail (any two).**

6

1. State and derive an equation of continuity.
2. State and prove Bernoulli's theorem.
3. State Stokes law. Derive the relation by the method of dimensions.
4. What is Venturimeter? Derive an expression for the rate of flow of a liquid through capillary tube.

**SHRI SHIVAJI COLLEGE OF ARTS, COMMERCE & SCIENCE, AKOLA**  
**DEPARTMENT OF COMPUTER SCIENCE**  
**SESSION 2023-24**

Class: - B.Sc. III (SEM VI)  
Time: - 02 Hr.  
Date:- 19/03/2024

Paper: - Advanced Java and VB.Net  
Marks: - 30 Marks  
Time:- 03 to 05 PM

.....  
**Q 1 A] Fill in the blanks (1/2 mark each) (3)**

- 1) \_\_\_\_\_ method is called only once during the run time of an applet.
- 2) \_\_\_\_\_ exceptions are also called compile-time exceptions.
- 3) \_\_\_\_\_ block follows try or catch block.
- 4) Whenever an application is created, a \_\_\_\_\_ is added.
- 5) Object instantiation is done using \_\_\_\_\_ keyword.
- 6) OOP stands for \_\_\_\_\_.

**Q 1 B] Choose alternative from the following. (1/2 mark each) (2)**

1) Which tags are necessary for the operation of an Applet ?

- a) Name, height, width
- b) Codebase, height, width
- (c) code, height, width
- (d) Code, name, class

2) throws keyword is

- (a) required only for checked exception
- (b) required only to convince compiler
- (c) Both a and b
- (d) None of the above

3) Object Oriented program uses \_\_\_\_\_

- a) Top down approach
- b) Vertical approach
- c) Bottom up approach
- d) Horizontal approach

4) Timer control uses \_\_\_\_\_ property to set the time.

- a) Clock
- b) Timer
- c) Interval
- d) None of the above.

**Q 1 C) Answer in one sentence. (1 mark each) (4)**

- 1) What is an Applet?
- 2) What is Multithreading?
- 3) What do you mean by property of a control?
- 4) What is Method?

**Q 2 A] What is Exception handling in Java? Explain the different types of Exceptions. (3)**

**B] Draw and Explain the Life cycle of an Applet. (4)**

**OR**

**Q 3 A] Explain a) try block b) catch block (4)**

**B] Write an Applet Program for displaying Olympic symbol. (3)**

**Q 4 A] Explain Button control with few common properties and methods. (4)**

**B] Explain the creation and working of MDI applications with example. (3)**

**OR**

**Q 5 A] What is VB .net form? Write the steps for creating VB .NET form. (3)**

**B] What is a user defined exception? How it is created and handled. (4)**

**Q 6 A] Explain Nested try with the help of a suitable example (4)**

**B] Differentiate between SDI and MDI applications. (3)**

**OR**

**Q7 A] State and explain the difference between Applets and Applications. (3)**

**B] What is an Exception? Explain exception classes in .NET framework. (4)**

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**SHRI SHIVAJI COLLEGE OF ARTS, COMMERCE & SCIENCE, AKOLA**  
**DEPARTMENT OF PHYSICS**

B. Sc. III (Semester VI)  
Common Unit Test-Summer-2024

Time: Two Hours

Date: 18/03/2024

Max. Marks: 30

- Q. 1** 1 ½
- a) **Fill in the blanks.**
- i) The volume of a cell in six dimensional phase space is \_\_\_\_\_
- ii) The unit of energy gap is \_\_\_\_\_.
- iii) Superconductors are perfectly \_\_\_\_\_ magnetic. 1 ½
- b) **Choose correct alternative.**
- i) For most probable distribution the thermodynamic probability is \_\_\_\_\_.  
a) minimum      b) maximum      c) zero      d) None of these
- ii) SI unit of magnetic field strength (H) is  
a) Henry/m      b) Ampere/m      c) Weber/m<sup>2</sup>      d) Weber
- iii) Type I superconductors exist in  
a) two states      b) three states      c) four states      d) five states 3
- c) **Answer in one sentence.**
- i) Define phase space.
- ii) Define Fermi energy.
- iii) What is superconductor?
- Q. 2 EITHER** 2
- a) Explain macrostate. 3
- b) Assuming M-B distribution law, derive the expression for M-B energy distribution law. 3
- c) Deduce an expression for Maxwell-Boltzmann distribution law of molecular speed. 3
- Q.3 OR** 5
- p) Derive M-B distribution law.. 3
- q) Using Maxwell's speed distribution equation, obtain an expression for average speed. 3
- Q. 4 EITHER** 4
- a) Define density of states. Show that density of states is proportional to square root of energy. 1
- b) Define forbidden energy gap. 1
- c) Explain Bloch theorem. 3
- Q.5 OR** 5
- p) Derive an expression for diamagnetic susceptibility on the basis of Langevin's theory. 3
- q) Define i) gyromagnetic ratio of electron ii) magnetization iii) magnetic field strength. 3
- Q. 6 EITHER** 3
- a) State and explain Meissner effect. 4
- b) Explain type I and Type II superconductors. 1
- c) State SI unit of conductivity. 1
- Q.7 OR** 3
- p) Explain brief history of nanoparticles. 3
- q) Explain zero dimensional, one dimensional, two dimensional and three dimensional nanomaterials. 3
- r) State the applications of nanomaterials. 2

**Shri Shivaji College of Arts, Commerce and Science, Akola**  
**Unit Test (2023-2024)**  
**B. Sc. III (Semester VI)**  
**Paper XI (Linear Algebra)**

**Time: 2 Hrs]**

**[ Max. Marks: 30**

**Qu. 1)** Choose the correct alternatives. (Each carry 01 mark)

- i) Every set of orthogonal vectors is :  
 a) Linearly Independent    b) Linearly Dependent    c) L.I and L.D.    d) None of these
- ii)  $\{T(u) | u \in U\} = \dots\dots\dots$   
 a)  $R(T)$     b)  $R(u)$     c)  $\text{Ker}(T)$     d) None of these
- iii) If  $\|v\| = 1$  then  $v$  is called .....  
 a) Normalised    b) Orthonormal    c) Scalar inner product    d) Standard inner product
- iv) In an inner product space  $V$ , the inequality  $|(u, v)| \leq \|u\| \cdot \|v\|$ , for all  $u, v \in V$  is known as  
 a) Triangular inequality    b) Cauchy-Schwarz inequality  
 c) Bessel's inequality    d) None of these
- v) If  $U, V$  be the finite dimensional vector spaces and  $T: U \rightarrow V$  be a linear, one-one and onto map then .....  
 a)  $\dim U = \dim V$     b)  $U = V$     c)  $\dim U \neq \dim V$     d)  $U \neq V$
- vi) If  $T: U \rightarrow V$  be a linear map then  $R(T)$  is a subspace of :  
 a)  $U$     b)  $V$     c)  $U \cap V$     d) None of these

**UNIT II**

- Qu. 2) a)** Let  $T: V_3 \rightarrow V_3$  be a linear map defined by  
 $T(x_1, x_2, x_3) = (x_1 + x_2, x_2 + x_3, x_3 - 2x_1)$   
 Find range, kernel, rank, nullity and verify rank-nullity theorem. **05**
- b)** Let  $T: U \rightarrow V$  be a linear map. Then prove that  
 i)  $N(T)$  is a subspace of  $U$ .  
 ii)  $T$  is one-one iff  $N(T)$  is a zero subspace of  $U$ . **04**
- c)** If  $T: V_2 \rightarrow V_2$  is a linear transformation defined by  $T(2, 1) = (3, 4)$   
 &  $T(-3, 4) = (0, 5)$ . Then Express  $(0, 1)$  as linear combination of  $(2, 1)$  &  
 $(-3, 4)$ . Hence find image of  $(0, 1)$  under the linear map  $T$ . **03**

**OR**

- Qu. 3) p)** Find the matrix of the linear map  $T: V_2 \rightarrow V_3$  defined by **04**  
 $T(x, y) = (-x + 2y, y, -3x + 3y)$   
 related to the bases  $B_1 = \{(1, 2), (-2, 1)\}$  and  $B_2 = \{(-1, 0, 2), (1, 2, 3), (1, 1, 1)\}$ .
- q)** State and prove Rank- Nullity theorem. **05**
- r)** Let  $T$  be linear map defined by  $T(x_1, x_2, x_3) = (3x_1, x_1 - x_2, 2x_1 + x_2 + x_3)$   
 Then show that  $(T^2 - I)(T - 3I) = 0$ . **03**

**UNIT IV**

- Qu. 4) a)** State and prove Cauchy-Schwarz inequality. **04**
- b)** In an IPS  $V$ , prove the result  
 i)  $\|u + v\|^2 + \|u - v\|^2 = 2\{\|u\|^2 + \|v\|^2\}$   
 ii)  $\|u + v\|^2 + \|u - v\|^2 = 4 \text{ Real}(u \circ v)$  **04**
- c)** If  $\{x_1, x_2, x_3, \dots, x_n\}$  is an orthogonal set, then prove that :  
 $\|x_1 + x_2 + x_3 + \dots + x_n\|^2 = \|x_1\|^2 + \|x_2\|^2 + \dots + \|x_n\|^2$  **04**

**OR**

- Qu. 5) p)** Using Gram-Schmidt orthonormalise the set of vectors **04**  
 $\{(1, 0, 1, 0), (1, 1, 3, 0), (0, 2, 0, 1)\}$  in  $V_4$ .
- q)** Define Inner product space and Prove that in an inner product space  $V$ ,  
 i)  $\|\alpha u\| = |\alpha| \|u\|$     ii)  $\|u + v\| \leq \|u\| + \|v\|$  **04**
- r)** Let  $V$  be a set of all continuous complex valued functions on the  $[0, 1]$ .  
 If  $f(t), g(t) \in V$ , define  $(f(t), g(t)) = \int_0^1 f(t) \overline{g(t)} dt$   
 Show that this defines an inner product on  $V$ . **04**

Shri Shivaji College of Arts, Commerce and Science, Akola  
Unit Test (2023-2024)  
B. Sc. III (Semester VI)  
Paper XII (Graph Theory)

Time: 2.00 Hour ]

[Max. Marks: 30

Qu. 1) Choose the correct alternatives. (Each carry 01 mark).

- i) If no vertex appears more than once in an edge sequence then it is called a .....  
a) circuit                      b) tree                      c) walk                      d) path
- ii) A graph  $G = (V, E)$  is called a null graph if .....  
a)  $V = \emptyset$                       b)  $E = \emptyset$                       c)  $V \neq \emptyset$                       d)  $E \neq \emptyset$
- iii) A vertex having minimum eccentricity in a graph  $G$  is called .....  
a) a radius                      b) a diameter                      c) a circumference                      d) a centre
- iv) A simple graph in which if every two distinct vertices are adjacent then it is said to be  
a) connected graph                      b) regular graph                      c) null graph                      d) complete graph
- v) An edge  $\{x, x\} = \{x\}$  having same end vertices is called as a .....  
a) centre                      b) radius                      c) loop                      d) diameter
- vi) In any tree with one or more vertices, there are at least .....  
a) one pendant vertex                      b) one isolated vertex  
c) two pendant vertices                      d) two isolated vertices.

Unit I

- Q. 2 (a) Define (i) Euler graph. (ii) Regular graph. (iii) Degree of vertex. (iv) Hamiltonian path 4  
(b) Prove that there are even number of odd degree vertices. 4  
(c) Draw graphs of the following chemical compounds 4  
(i)  $CH_4$       (ii)  $C_2H_6$       (iii)  $C_6H_6$       (iv)  $N_2O_3$

OR

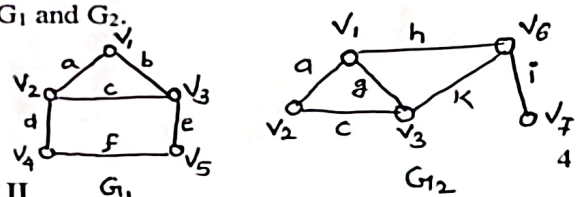
- Q. 3 (p) Define a graph and show that the maximum number of edges in a simple graph 4  
with  $n$  vertices are  $\frac{1}{2}n(n-1)$ .  
(q) Prove that a connected graph  $G$  is an Euler graph iff it can be decomposed into circuits. 4  
(r) Define union and ring sum of two graphs  $G_1$  and  $G_2$ .

Graph are shown below.

Find i)  $G_1 \cup G_2$

ii)  $G_1 \cap G_2$

iii)  $G_1 \oplus G_2$

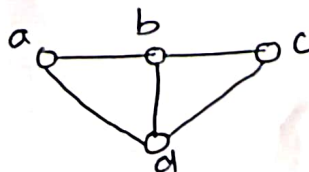


Unit II

- Q. 4 (a) If  $G$  is a tree with  $n$  vertices then  $G$  is connected and has  $n-1$  edge. 4  
(b) Define (i) binary tree. (ii) Rooted tree. (iii) centre of tree. (iv) Spanning tree. 4  
(c) Show that there are  $\frac{n+1}{2}$  number of pendent vertices in a binary tree with  $n$  vertices. 4

OR

- Q. 5 (p) prove that every tree has either one or two centers. 4  
(q) Prove that a graph  $T$  is a tree iff there is one and only one path between 4  
every pair of vertices in  $T$ .  
(r) Find out all possible spanning trees of following graph. 4



Shri Shivaji College of Arts, Commerce and Science, Akola  
 Unit Test (2023-2024)  
 B. Sc. II (Semester III)  
 DSC-VII (Element of Algebra)

Time: 2 Hrs]

[ Max. Marks: 30

Qu.1) Choose the correct alternatives. (1 mark each)

- 1) The identity permutation is always an ....
 

a) odd permutation	b) even permutation
c) even and odd permutation	d) not even and odd permutation
- 2) If  $N$  is a normal subgroup of a finite group of  $G$ , then  $o(G/N)$  is equal to .....
 

a) $o(G).o(N)$	b) $o(G) + o(N)$	c) $o(G)/o(N)$	d) $o(G) - o(N)$
----------------	------------------	----------------	------------------
- 3) Every infinite cyclic group has .....
 

a) one generator	b) two generators	c) infinite generators	d) no generator
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- 4) The order of the identity element  $e$  of any group  $G$  is ....
 

a) 0	b) 1	c) 2	d) 3
------	------	------	------
- 5) The product of disjoint cycles is....
 

a) associative	b) transitive	c) commutative	d) non commutative
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- 6) The identity element of the quotient group  $G/H$  is....
 

a) $G$	b) $H$	c) $G/H$	d) $G - H$
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UNIT I

Qu. 2)

- a) Define group. Let  $G = \{1, -1, i, -i\}$ , i. e. the set of fourth roots of unity. Show that  $G$  is group w. r. t. multiplication of complex numbers. 6

OR

- b) Define subgroup. Show that if a nonempty subset  $H$  of group  $G$  is subgroup  
 $a, b \in H \Rightarrow ab^{-1} \in H$  6
- c) Show that the intersection of any two subgroups of a group  $G$  is a subgroup of  $G$ . 4

OR

- d) There exist an unique identity element in group 4
- e) Find whether the following permutations are even or odd  
 (i)  $f = \begin{pmatrix} 1 & 2 & 3 & 4 & 5 \\ 3 & 1 & 5 & 2 & 4 \end{pmatrix}$  and (ii)  $g = \begin{pmatrix} 1 & 2 & 3 & 4 & 5 & 6 \\ 3 & 6 & 4 & 1 & 5 & 2 \end{pmatrix}$  2

UNIT II

Qu. 3)

- a) Let  $G = \{1, -1, i, -i\}$  and  $N = \{1, -1\}$ . Show that  $N$  is a normal subgroup of the multiplicative group  $G$ . Find the quotient group  $G/N$  and find its identity 6

OR

- b) If  $G$  is a finite group and  $H$  is a subgroup of  $G$ , then show that  $o(H)$  is a divisor of  $o(G)$  6
- c) Show that if  $G$  is abelian, then the quotient group  $G/N$  is also abelian. Is its converse true? 4

OR

- d) Show that  $N$  is a normal subgroup of  $G$  iff  $gNg^{-1} = N$  4
- e) Define Normal Subgroup 2

Shri Shivaji College of Arts, Commerce and Science, Akola

Unit Test (2023-2024)

B. Sc. I (Semester II)

DSC-IV (Vector Analysis & Geometry)

Time: 2 Hrs]

[ Max. Marks: 30

Qu. 1) Choose the correct alternatives. (Each carry 01 mark)

- i) The cross product of any two non zero vector is a .....
  - a) Scalar                      b) vector                      c) both scalar and vector                      d) None of these
- ii)  $[i - j, j, i]$  is equal to .....
  - a) 1                              b) 0                              c)  $i$                               d)  $j$
- iii) The necessary and sufficient condition for  $\vec{f}(t)$  to have constant magnitude is .....
  - a)  $\vec{f} \times \frac{d\vec{f}}{dt} = 0$                       b)  $\vec{f} \cdot \frac{d\vec{f}}{dt} = 0$                       c)  $\frac{d\vec{f}}{dt} = 0$                       d)  $\frac{d}{dt}(\vec{f} \cdot \vec{f})$
- iv) If  $\vec{r} = t i + \sin t j + (t^2 - 1)k$ , then  $\dot{\vec{r}}$  at  $t = 0$  is .....
  - a) (0, 0, 1)                      b) (0, 1, 0)                      c) (1, 1, 0)                      d) (1, 0, 1)
- v) Scalar triple product containing two repeated vectors is .....
  - a) Less than zero                      b) equal to zero                      c) not equal to zero                      d) greater than zero
- vi) The plane which passes through  $p(\vec{r})$  and contains binormal and tangent is said to be .....
  - a) Osculating plane                      b) Normal plane                      c) Rectifying plane                      d) None of These

UNIT I

Qu. 2) a) Prove that  $[\vec{a} \times \vec{b} \ \vec{b} \times \vec{c} \ \vec{c} \times \vec{a}] = [\vec{a} \ \vec{b} \ \vec{c}]^2$  6

OR

b) Show that  $\vec{a} \times (\vec{b} \times \vec{c}), \vec{b} \times (\vec{c} \times \vec{a}), \vec{c} \times (\vec{a} \times \vec{b})$  are coplaner 6

c) If  $\vec{f} = 2t^2 i - t j + t k$  and  $\vec{g} = 7i + t^2 j - t k$  find  $\frac{d}{dt}(\vec{f} \times \vec{g})$  4

OR

d) If  $\vec{a} = t i - 3j + 2tk, \vec{b} = i - 2j + 2k, \vec{c} = 3i + tj - k$  then evaluate  $\int_1^2 \vec{a} \cdot (\vec{b} \times \vec{c}) dt$  4

e) Evaluate  $\vec{a} \times (\vec{b} \times \vec{c})$  where  $\vec{a} = i + j - 2k, \vec{b} = j - k, \vec{c} = i - k$  2

UNIT II

Qu. 3) a) For the curve  $x = 3t, y = 3t^2, z = 2t^3$  at the point  $t=1$ , find the equations for Osculating plane, normal plane, rectifying plane. 6

OR

b) Show that the Serret-Frenet Formulae at a point can be written in the form  $\vec{t}' = d \times \vec{t}, \vec{n}' = d \times \vec{n}, \vec{b}' = d \times \vec{b}$  where  $\vec{d} = \tau \vec{t} + \kappa \vec{b}$  6

c) Show that necessary and Sufficient condition that a curve be a straight line is  $\kappa=0$  4

OR

d) For the cuve  $x = a(3t - t^3), y = 3at^2, z = a(3t + t^3)$ , Show that the curvature and torsion are equal. 4

e) State and Prove Serret-Frenet formulae. 2

**SHRI SHIVAJI COLLEGE OF ARTS, COMM. & SCIENCE AKOLA**  
**DEPARTMENT OF ELECTRONICS**

**B. Sc. -II, Semester -III**

**Subject :- Electronic Devices & Circuits (3S)**

**UNIT TEST (Winter -2023)**

Time :- 2 Hrs.

Max. Marks :- 30

**NOTE :- 1) All the questions are compulsory.**  
**2) Draw the neat diagrams wherever necessary.**

- Q. 1) Choose the correct answer. 10**
- i) R-C coupled amplifiers give good response for ----- frequency.  
i) High      ii) Low      iii) Mid      iv) None
  - ii) The unit of admittance is ----- .  
i) Ohm      ii) Volt      iii) Ampere      iv) Mhe
  - iii) Efficiency of class-A power amplifier is ----- %.  
i) 100      ii) 78.5      iii) 50      iv) 25
  - iv) Crossover distortion is observed in ----- amplifier.  
i) Class-A      ii) Class-B      iii) Class-C      iv) Class-AB
  - iv) In small signal multistage amplifiers ----- coupling is used.  
i) R-C      ii) Direct      iii) Transformer      iv) L-C
  - v) Input impedance of any amplifier should be ----- as possible.  
i) Infinity      ii) Maximum      iii) Zero      iv) Minimum
  - vi) Bandwidth of an ideal operational amplifier is -----.  
i) Infinity      ii) Hundred      iii) Zero      iv) One
  - vii) Op-Amp IC 741 is ----- pin IC.  
i) One      ii) Two      iii) Three      iv) Eight
  - viii) Gain of Inverting Op-Amp is ----- .  
i)  $-R_f/R_i$       ii)  $R_f$       iii)  $R_i$       iv)  $1+R_f/R_i$
  - ix) Regenerative comparator is also called as ----- .  
i) Free running oscillator      ii) Flip-Flop      iii) Counter      iv) Schmitt Trigger
  - x) The differential gain of differential amplifier is .....  
i) Very high      ii) Very low      iii) Depends on input voltage      iv) About 100
- Q. 2) EITHER 7**
- a) Explain the working of two stage R-C coupled amplifier. 7
  - b) Draw all four h-parameters using black box model. 3
- OR**
- p) Derive an expression for efficiency of class-A power amplifier. 7
  - q) Explain the working of class-B push-pull power amplifiers. 3
- Q.3) ELITHER 7**
- a) Draw and explain block diagram of operational amplifier 7
  - b) Explain working of OP-AMP as an inverting amplifier 3
- OR**
- p) Draw and explain working of regenerative comparator. 7
  - q) Explain working of OP-AMP as subtractor. 3

**Shri Shivaji College of Arts, Commerce & Science, Akola**  
**Class: B.Sc. I, Sem. I (CBCS)**  
**Subject: Compulsory English**  
**Unit Test – 1 (2023-24)**

Time: 2 hrs

Max. Marks: 30

I.(A) Choose the correct answer from the given options

(3)

(i) What were SudhaMurty's reasons for attending TELCO's interview?

- a) A free trip to Pune during which she could buy sarees for her friends
- b) Gaining experience of job interviews and having her resume screened
- c) The prestige associated with a company owned by the Tata
- d) The inducement of being the first female engineer to work with TELCO

(ii) What did Laura's father expect from Hughie?

- a) That Hughie start earning his living
- b) that Hughie have ten thousand pounds of his own
- c) That Hughie continues to be a tea-merchant
- d) That Hughie marry Laura immediately

(iii) Kalam felt that he had a very \_\_\_\_\_ childhood.

- a) secure
- b) active
- c) insecure
- d) sad

(B) Answer Any Two of the following questions in about 150 words each.

(8)

- (1) Draw a character sketch of SudhaMurty, as seen from the facets of her personality she reveals in this essay.
- (2) Comment on Trevor's attitude to Art and to life as found in "The Model Millionaire".
- (3) What impression you get from the character of bus conductor in "All About a Dog".
- (4) Comment on the message of Dr. Abdul Kalam as reflected in "The Power of Prayer".

2. A. Choose the correct answer from the given options:

(3)

(i) Which of the following binaries represents the initial contrast in the poem?

- a) Heights vs. depths
- b) war vs. peace
- c) bliss vs. angst
- d) solitude vs. company

(ii) What does the poet imagine doing when passing through woods?

- a) watch squirrels
- b) watch sheep or cows
- c) watch streams of water
- d) watch the skies at night

(iii) What according to the poet is the most vital thing in life which one should master?

- a) being rich                      b) being proud of one's achievement  
c) mental balance                      d) being emotional

(B). Answer **Any two** of the following questions in about 100 words each. (20 marks)

( 8 )

- (1) Describe the lasting impact the sight of the daffodils has on the speaker.
- (2) Elaborate the theme of poem 'Leisure'.
- (3) Summarise the poem "Stay Calm" in your own words.
- (4) Write the summary of poem "The Mountain and the Squirrel".

3. Write **Any Two** of the following questions:

( 4 )

(i) Vista Books wants to hire a B.Sc. graduate as a consultant for their Science textbook series. Draft a CV applying for this job.

(ii) Prepare corresponding cover letter for the position of "Researcher at a science journal." The details of the company you are applying for are up to you. Assume any qualifications or experience that is appropriate. Include other details you see fit.

iii) Write a narrative essay in about 150 words on your recent visit to Mumbai University, as a college student on educational tour

iv) Expand any one of the given ideas in about 200 words

- 1) Honesty is the best policy                      2) Pen is mightier than sword

4. Answer **Any two** of the following questions:

( 4 )

i) Write a newspaper report on Women Empowerment Programme organized in your college.

ii) Write a report on the road accident you witnessed.

iii) Explain a few skills and techniques used in non-verbal communication.

iv) How do facial expressions and eye contact play an important role in body language?

- Q.1 Choose correct alternative.**
- Radius of gyration is depends on \_\_\_\_\_.  
a) Mass and size of body    b) Mass distribution about axis of rotation  
c) size of body    d) mass of body
  - The SI unit of moment of inertia is \_\_\_\_\_.  
a)  $\text{Nm}^2/\text{kg}^2$     b)  $\text{kg.m}^2$     c)  $\text{kg / m}^2$     d)  $\text{m}^2 / \text{kg}$
  - The M.I of a rotating wheel having radius of gyration 0.4 m and mass 4 kg is:  
a)  $6.4 \text{ kg m}^2$     b)  $0.64 \text{ kg m}^2$     c)  $0.32 \text{ kg m}^2$     d)  $64 \text{ kg m}^2$
  - The moment of inertia of body does not depends on  
a) Mass and size of body    b) position of axis of rotation    c) angular acceleration of body    d) distribution of mass
  - The length of second's pendulum is aproximately equal to  
a) 142 cm    b) 121 cm    c) 100 cm    d) 50 cm
  - In compound pendulum the center of suspension and center of oscillation are  
a) Interchangeable    b) Not interchangeable    c) At equal distance for C.G.    d) None of above
  - At resonance, the amplitude of oscillation is \_\_\_\_\_.  
a) Minimum    b) Maximum    c) Zero    d) Varying with time
  - What is constant in S.H.M.?  
a) Restoring force    b) Kinetic energy    c) Potential Energy    d) Periodic time
  - Hook's law defines  
a) stress    b) strain    c) Modulus of elasticity    d) Elastic limit
  - The \_\_\_\_ is the property of the body due to which it regains its original shape and size.  
a) Plasticity    b) Rigidity    c) Elasticity    d) None of these
  - The dimensional formula for stress is the same as that for  
a) work    b) power    c) pressure    d) force
  - The possible value of Poisson's ratio is  
a) 1    b) 0.9    c) 0.8    d) 0.4
- Q.2A Answer the following question (Any one)**
- Give the physical significance of moment of inertia 2
  - Define Radius of gyration and state its SI unit and dimension. 2
- Q.2B Answer the following questions (Any two)**
- Obtain an expression for moment of inertia of a solid sphere about its diameter as axis of rotation. 3
  - State perpendicular axes theorem. Obtain an expression for M.I. of solid uniform rod about an axis passing through its center and perpendicular to its length. 3
  - Obtain an expression for M.I. of Flywheel. 3
  - State and prove the principle of conservation of angular momentum. 3
- Q.3A Answer the following question (Any one)**
- Show that the oscillation of mass and spring system is linear S.H.M. 2
  - Define: i) center of suspension    ii) center of oscillation 2
- Q.3B Answer the following questions (Any two)**
- How Kater's reversible pendulum is used to determine the acceleration due to gravity at a given place? 3
  - Define: i) Free oscillations, ii) Damped Oscillations and iii) Forced oscillations 3
  - Derive an expression for time period of compound pendulum. 3
  - Obtain an expression for displacement, acceleration and velocity of simple harmonic oscillator. 3
- Q.4A Answer the following question (Any one)**
- State an explain Hook's law. 2
  - What is internal bending moment and external bending moment? 2
- Q.4B Answer the following questions (Any two)**
- Define: i) Angle of twist    ii) Plane of bending    iii) Neutral axis 3
  - Describe an experiment to determine modulus of rigidity of wire by using Torsional pendulum. 3
  - Derive an expression for a depression of a beam fixed at one end and loaded at other end. 3
  - Describe an experiment to determine modulus of rigidity of wire by using Torsional pendulum. 3

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**SHRI SHIVAJI COLLEGE OF ARTS, COMMERCE & SCIENCE,  
AKOLA**

**DEPARTMENT OF GEO INFORMATICS**

**Unit Test M.Sc.-I (Semester-IV) Summer-2024**

**Paper-I (4GNF-3C: ( Geoinformatics Application in Agriculture)**

**Max. Marks-30**

**Date:10/04/2024 Time: 11.00 to 1.00 pm**

1. A Fill in the blanks: 03Marks

a) \_\_\_\_\_ is commonly used in yield parameter studies to assess crop health.

b) \_\_\_\_\_ GIS layer containing soil information is most relevant for yield parameter studies.

c) \_\_\_\_\_ technique uses spectral reflectance patterns to identify soil types in remote sensing data.

Define: 03Marks

a) Alkaline soils.

b) Spectral properties of crops.

c) Farm mappings.

Q2. a) Describe in detail about Agriculture Ecosystem. 05Marks

b) Vegetation indices. 03Marks

OR

c) Explain in detail about the crops case studies 05Marks

d) Yield parameter. 03Marks

Q3. a) Write in detail about the soil classification and soil survey methods. 05Marks

b) Soil conservation. 03Marks

OR

c) Explain in detail about the land evaluation. 05Marks

d) Mapping of problem soils. 03 Marks

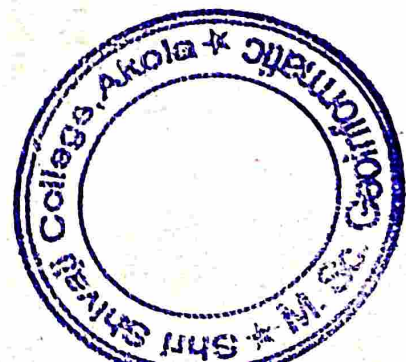
Q4. a) Describe in detail about the field scale application of RS and GIS 05Marks

b) Crop biomass and yield production estimation. 03Marks

OR

c) Write in detail about the agro-ecological zoning. 05Marks

d) Crop disease. 03Marks



SHRI SHIVAJI COLLEGE OF ARTS, COMMERCE &  
SCIENCE, AKOLA

DEPARTMENT OF GEO INFORMATICS

Unit Test M.Sc.-II<sup>st</sup> (Semester-III<sup>st</sup>) Winter-2023  
Paper-I (3 GNF 1C Research Methodology)

Max. Marks-30

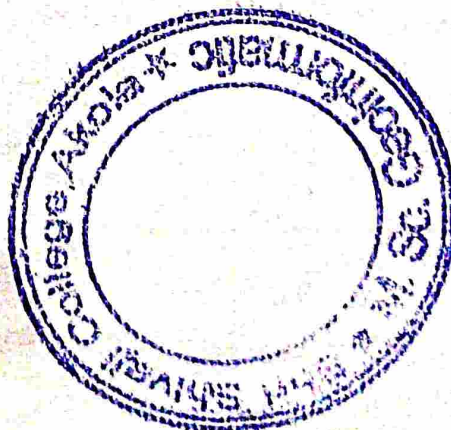
Time: 12.00 to 02.00pm

18/10/23.

1. A Fill in the blanks: 6 Mark
- \_\_\_\_\_ is the first step in starting the research process.
  - The process of collecting and analyzing information is known as \_\_\_\_\_.
  - Cluster sampling is also known as \_\_\_\_\_ sampling.
- B. Define:
- Research problem.
  - Graph.
  - Synopsis.
2. a) Explain in detail about the criteria of good research. 5Mark
- b) Research problem. 3Mark
- OR
- c) Discuss in detail about the quantitative research and qualitative research. 5Mark
- d) Review of literature. 3Mark
3. a) Discuss in detail about data gathering and analysis in research. 5 Mark
- b) Primary data and secondary data. 3Mark
- OR
- c) Describe in detail about tools and techniques of data collection. 5Mark
- d) Histogram. 3Mark
4. a) Explain in detail about various sampling techniques. 5Mark
- b) Write a short note research article. 3 Mark
- OR
- c) Describe in detail about sampling error and how to reduce them. 5Mark
- d) Write a short note on review. 3Mark



1. a) Explain in detail about types of spatial models.  
OR 07 Marks  
b) Describe in detail about the descriptive and process models.  
c) Conceptual models.  
OR 03 Marks  
d) Modeling of spatial problem.
2. a) Explain in detail about the composition of raster dataset coordinate space.  
OR 07 Marks  
b) Explain in detail about representing feature in raster data set.  
c) Resolution.  
OR 03 Marks  
d) Assigning attributes.
3. a) Discuss in detail about the understanding of surface analysis.  
OR 07 Marks  
b) Explain in detail about the operators of local and focal function.  
c) Watershed analysis.  
OR 03 Marks  
d) Mapping distance.



SHRI SHIVAJI COLLEGE OF ARTS, COMMERCE &  
SCIENCE, AKOLA

DEPARTMENT OF GEO INFORMATICS

Unit Test M.Sc.-I (Semester-I) Winter-2023

Paper-I (1 GNF 1C Research Methodology)

Max. Marks-30

Time: 12.00 to 02.00 pm

18/10/23

1. Fill in the blanks: 6 Mark

- \_\_\_\_\_ is the first step in starting the research process.
- The data collected from the journal is called \_\_\_\_\_.
- Lottery method is an example of \_\_\_\_\_.

Define:

- Research problem
- Primary data
- Population

2. a) Explain in detail about the criteria of good research. 5Mark

b) ~~Quantitative~~ research. Qualitative 3Mark

OR

c) Discuss in detail about the sources of research problem. 5Mark

d) Quantitative research. 3Mark

3. a) Discuss in detail about the tools and techniques of data collection. 5Mark

b) Histogram. 3Mark

OR

c) Explain in detail about the data gathering and analysis in research. 5Mark

d) Secondary data. 3Mark

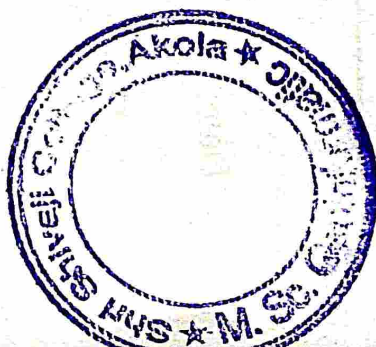
4. a) Define hypotheses and explain the type of hypotheses. 5Mark

b) Probability sampling. 3Mark

OR

c) Explain in detail about sampling errors and how to reduce them. 5Mark

d) Non-probability sampling. 3Mark



SHRI SHIVAJI COLLEGE OF ARTS, COMMERCE & SCIENCE, AKOLA  
M.Sc I Semester-II Examination  
DSC IV – QUANTUM MECHANICS-II  
Terminal Examination 2023-24

Time: 3Hrs

Max Marks:70

**Q 1) Select Correct Alternatives.**

[10 M]

- 1) Due to perturbation, the Hamiltonian (H) can have two parts one is perturbation effect and other is said to be \_\_\_\_\_  
 a) Unperturbed system    b) Perturbed system    c) Undisturbed system    d) None of these
- 2) If there are two or more eigen functions corresponding to one energy level then system is called \_\_\_\_\_  
 a) Non degenerate system     b) Degenerate system    c) stationary system    d) None
- 3) A secular equation in which all the elements are zero except along the \_\_\_\_\_  
 a) Principal diagonal    b) Column    c) Row    d) Both row and column
- 4) In case of Harmonic perturbation the transition probability oscillates sinusoidally as a function of \_\_\_\_\_  
 a) Time    b) Space    c) Independent of time    d) None
- 5) The emission take place in the presence of the electromagnetic radiation is referred as \_\_\_\_\_  
 a) Stimulated emission    b) Induced emission    c) Simply absorption    d) Reduced emission
- 6) The time dependent part of the eigen function \_\_\_\_\_ when we consider the physically relevant quantity the position probability density.  
 a) Appear    b) Change    c) Disappears    d) Not change
- 7) The ratio of number of particles scattered per unit solid angles to the number of incident particles is called as \_\_\_\_\_  
 a) Total cross-section     b) Differential scattering cross section  
c) Simple cross section    d) None of these
- 8) In the Born approximation phase shifts is for attractive potential leads to \_\_\_\_\_  
 a) Positive phase shift     b) Negative phase shift    c) Zero phase shift    d) Both a and b
- 9) Electrons have half integral spin and they obey ---  
 a) B-E statistics    b) M-B statistics     c) F-D statistics    d) both b and c
- 10) QED stands for \_\_\_\_\_  
 a) Quantum electrodynamics    b) Quantum chromo dynamics  
c) Quantum electrostatics    d) None

**Q2.A) Solve any one short question out of two.**

[04]

- i) Explain first order Zeeman effect using perturbation theory.  
ii) Show that the hydrogen atom in the ground state does not exhibit first order stark effect.

**Q2.B) Solve any one long question out of two.**

[06]

- i) Show that shift in energy of perturbed degenerate levels are given by secular determinant.  
ii) Discuss time independent perturbation theory for the non-degenerate case.

**Q3.A) Solve any one short question out of two.**

[04]

- i) Show that free electron cannot absorb photons.

SHRI SHIVAJI COLLEGE OF ARTS, COMMERCE & SCIENCE, AKOLA  
M.Sc I Semester-II Examination  
DSC VI – ATOMIC AND MOLECULAR PHYSICS  
Terminal Examination 2023-24

Time: 3Hrs

Max Marks:70

Q 1) Select Correct Alternatives.

[10 M]

- 1) The maximum number of electrons in a sub-shell with orbital quantum number  $l$  is –  
a)  $(2l+1)$       b)  $(2l-1)$       c)  $2(2l+1)$       d)  $2(2l-1)$
- 2) In a Stern-Gerlach experiment the atomic beam whose angular momentum state is to be determined, must travel through-  
a) Homogeneous radio frequency magnetic field      b) Homogeneous static magnetic field  
c) Inhomogeneous static magnetic field      d) Inhomogeneous radio frequency magnetic field
- 3) Pauli's Exclusion principles states that-  
a) Two electrons can have all the quantum numbers same  
b) No two electron can have all the quantum numbers same  
c) Particles with integer and half integer spin cannot exist in the same state  
d) None of the above
- 4) The normal Zeeman Effect is-  
a) Observed only in a terms with an even number of electrons  
b) Observed only in atoms with an odd number of electrons  
c) A confirmation of space quantization  
d) Not a confirmation of space quantization
- 5) For the two electrons system if  $l_1 = 2, l_2 = 1$ , the values of J according to L-S coupling will be-  
a) 4, 3, 2, 1, 0      b) 4, 3, 2, 1      c) 3, 2, 1      d) 4, 3, 2
- 6) The splitting of a spectral line in a presence of an electric field is called-  
a) Stark effect      b) Zeeman effect      c) Paschen-Back effect      d) Raman effect
- 7) At ordinary temperature the molecules remain in their-  
a) Lowest vibrational level      b) Highest vibrational level  
c) Can remain in any vibrational level      d) Does not show any type of vibration
- 8) All vibrations producing a change in the electric dipole moment of molecule yield-  
a) Raman spectra      b) infrared spectra      c) ultraviolet spectra      d) X-ray spectra
- 9) For infrared spectrum of diatomic molecule is known as-  
a) Rotational spectrum      b) Vibrational spectrum  
c) Rotational vibrational spectrum      d) Electronic bands spectrum
- 10) The Rydberg constant for Hydrogen atom is-  
a)  $1.0961 \times 10^{-7} \text{ m}^{-1}$       b)  $1.0961 \times 10^6 \text{ m}^{-1}$       c)  $1.0961 \times 10^7 \text{ m}^{-1}$       d)  $1.0961 \times 10^{-6} \text{ m}^{-1}$

Q2. A) Solve any one question out of two.

[04]

- a) Explain l-s coupling in case of a single valence electron atom.
- b) Explain significance of following:- i) Principle quantum number ii) Orbital quantum number  
iii) Magnetic orbital quantum number      iv) Magnetic spin quantum number

**SHRI SHIVAJI COLLEGE OF ARTS, COMMERCE & SCIENCE, AKOLA**  
**M.Sc. I. Semester-II Examination**  
**DSC-II (i) - LASER & LASER APPLICATIONS**  
**Terminal Examination 2023-24**

Max Marks -70

**Time: Three Hours**

[10]

**Q.1) Choose correct alternatives: -**

1. The main components of any laser system are  
a) Active medium    b) Resonator cavity    c) Pumping source    d) all of these
2. In Population inversion number of atoms is more  
a) Excited state    b) Ground state    c) Lower energy state    d) None of these
3. The rate of spontaneous emission is proportional to  
a) Number of atoms in excited state    b) Number of atoms in lower energy state  
c) Number of atoms in all energy state    d) none of these
4. The rate of stimulated emission depends on  
a) Intensity of incident radiation    b) Number of atoms in excited state  
c) Number of atoms in lower energy state    d) both a and b
5. Laser action cannot take place in:  
(a) Two level system    (b) Three level system    (c) Four level system    (d) All
6. Laser action is most efficient in:  
(a) Two level system    (b) Three level system    (c) Four level system    (d) All
7. The laser action takes place between a pair of reflectors. For a better action of a laser which one of the following is correct?  
(a) These two reflector are equally reflecting  
(b) These two reflector are partially reflecting  
(c) One is fully reflecting & other is partially reflecting  
(d) One is hardly reflecting & other is partially reflecting.
8. A laser beam is monochromatic. It means that it has  
a) Single frequency    b) Narrow width    c) Wide width    d) Several colours
9. What is the necessary and sufficient condition for a laser to start oscillating?  
(a) Population inversion should in large    (b) Losses should to zero  
(c) Threshold condition should be satisfied    (d) Pumping should be strong
10. Which pumping method is used in He-Ne laser?  
a) Optical Pumping    b) Electrical Excitation    c) Chemical Pumping    d) Direct conversion

**Q.2.A) Solve any one short question out of two.**

[04]

- i) Describe spontaneous emission of radiation. Write the properties of spontaneous emission.
- ii) Describe different stable mirror resonators.

**Q.2.B) Solve any one long question out of two.**

[06]

- i) Explain Einstein's coefficients for spontaneous emission and simulated emission with the help of two level atoms and how they are related to each other.
- ii) What are the modes? Give different types of laser cavity modes.

**Q.3.A) Solve any one short question out of two.**

[04]

- i) Discuss the threshold condition for three level laser system.
- ii) Discuss the properties of Gaussian beam

Time: 3Hrs

Q 1) Select Correct Alternatives.

- 1) The radius of  ${}^{64}_{23}\text{Cu}$  nucleus is measured to be  $4.8 \times 10^{-13}$  cm then radius of  ${}^{137}_{52}\text{Te}$  nucleus is ----  
a)  $2.86 \times 10^{-13}$  cm      b)  $5.2 \times 10^{-13}$  cm      c)  $3.6 \times 10^{-13}$  cm      d)  $8.6 \times 10^{-13}$  cm  
2) According to single particle shell model, parity of ground state  ${}^{17}_8\text{O}$  is ----  
a) 0      b) 1      c) -1      d) None

SHRI SHIVAJI COLLEGE OF ARTS, COMMERCE & SCIENCE, AKOLA  
M.Sc II Semester-IV Examination  
4 PHY 1 – Op-Amp Theory and its Applications  
Terminal Examination 2023-24

Max Marks: 80  
[20M]

Time: 3Hrs

Q 1) Select Correct Alternatives.

- 1) The gain of inverting op-amp is....  
a) 0      b) Infinite      c) R      d) 100

- 2)  this diagram indicates ..  
a) Voltage follower      b) Op-adder      c) Subtractor      d) None

- 3) In op-amp pin 2 terminal of IC is  
a) Inverting      b) Non inverting      c) Ground      d) Virtual ground

- 4) An op-amp as a voltage follower has a voltage gain of ...  
a) 1      b) infinity      c) 0      d) Both a and b

- 5) In practical opamp internal input impedance is..  
a) 0      b) 1      c) Infinite      d) None

- 6) Instrumentation amp has .....voltage followers  
a) 1      b) 2      c) 3      d) 4

- 7) Inst. Amp has one....  
a) Bridge ckt      b) adder      c) Subtractor      d) None

- 8) CMRR stands for –  
a) Common Mode Rejection Rate      b) Common Mode Rejection Ratio  
c) Common Mean Rejection Rate      d) None

- 9) In which amplifier the output voltage is equal to the negative sum of all the inputs?  
a) Averaging amplifier      b) Summing amplifier      c) Scaling amplifier      d) All

- 10) An inverting amplifier with gain 1 have different input voltage: 1.2v, 3.2v and 4.2v. Find the output voltage?  
a) 4.2v      b) 8.6v      c) -4.2v      d) -8.6v

- 11) In which type of amplifier, the input voltage is amplified by a scaling factor  
a) Summing amplifier      b) Averaging amplifier      c) Weighted amplifier      d) Differential amplifier

- 12) A Differential Amplifier amplifies  
a) Input signal with higher voltage      b) Input voltage with smaller voltage  
c) Sum of the input voltage      d) None of the Mentioned

- 13) A differential amplifier is capable of amplifying  
a) DC input signal only      b) AC input signal only  
c) AC & DC input signal      d) None of the Mentioned

- 14) What will be the phase shift of feedback circuit in RC phase shift oscillator?  
a)  $360^\circ$  phase shift      b)  $180^\circ$  phase shift      c)  $90^\circ$  phase shift      d)  $60^\circ$  phase shift

- 15) How many RC stages are used in the RC phase shift oscillator?  
a) Six      b) Two      c) Four      d) Three

- 16) Which type of op-amp is avoided for high frequencies?  
a) LM318      b) Op-amp 741      c) LF 351      d) None

- 17) Determine the frequency of oscillation ( $f_o$ ) in phase shift oscillator?  
a)  $f_o = \sqrt{6}/\omega RC$       b)  $f_o = 0.56/\omega RC$       c)  $f_o = 0.065/\omega RC$       d)  $f_o = 6/\omega RC$



SHRI SHIVAJI EDUCATION SOCIETY, AMRAVATI'S

## SHRI SHIVAJI COLLEGE OF ARTS, COMMERCE AND SCIENCE, AKOLA (MS)

Affiliated with Sant Gadge Baba Amravati University, Amravati (MS)

NAAC Reaccredited with A++ grade with CGPA 3.58 in Fourth cycle

UGC Status- College with Potential for Excellence (Phase II Completed)

DST- FIST (Level "00") Support;

Lead College Status by S. G. B. Amravati University, Amravati (MS)

Website: [www.shivajiakola.ac.in](http://www.shivajiakola.ac.in)

### Internal Assessment Mark Sheets

2023-2024

Criterion 1 – Curricular Aspects.

1.1.2

*The institution adheres to the academic calendar  
including for the conduct of CIE*

## Record of Internal Assessment (Winter - 2023)

Name of the College: Shri Shivaji College, Akola

Subject: Physics

Name of the Teacher: Dr. S. M. Palhade / Dr. M. R. Belkhedkar /

Dr. V. G. Thakare / Dr. P. J. Thakare / Dr. J. V. Bhale

Class: B.Sc.I SEM-I

Paper (With title): IS: PHYSICS

Designation: Prof. / Asso. / Asst. Professor

Sr. No.	Roll No.	Name of Students	Marks obtained in Unit Test Out of 30 09/10/2023	Assignment Marks Awarded	Marks Obtain in SEM based MCQ Test in out of 10 / 2023	Marks Awarded in Unit Test/SEM MCQ Test out of 10	Marks Awarded in SEM Activities /Assignment out of 10	Total Marks Awarded out of 20
1		Abhay Vijay Bhise	AA	N.S.	AA	00	AA	00
2		Abhishek Balkrishna Tayde	AA	N.S.	AA	00	AA	00
3		Abhishek Darshan Rathod	AA	N.S.	AA	00	AA	00
4		Aditi Anil Damodar	18	08	08	10	10	20
5		Aditya N. Solanke	18	08	AA	10	AA	18
6		Aishwarya Ganesh Dhage	11	08	AA	10	AA	18
7		Aishwarya Suhas Gawai	24	08	06	10	10	20
8		Aniket Dnyaneshwar Waghode	03	08	10	10	10	20
9		Anita Balkrusha Nakat	18	08	07	10	10	20
10		Anjali Narayankant Mishra	25	08	07	10	10	20
11		Ankit Gopal Belsare	11	N.S.	AA	-	AA	00
12		Ansh Satish Bharti	04	08	AA	00	AA	08
13		Anu Mangesh Hendajkar	05	08	05	08	10	18
14		Anugrah Sanjay Warude	AA	N.S.	AA	-	AA	00
15		Anurag Sanjay Bhagat	03	08	08	10	10	20
16		Arjun Pramod Kanojiya	02	N.S.	AA	-	AA	00
17		Arpita Nagorao Hivrale	12	08	09	10	10	20
18		Aryan Rajesh Janerkar	18	08	07	10	10	20
19		Bhimabai Prabhu Awchar	19	08	06	10	10	20
20		Bhumika Motiram Kolhe	12	08	08	10	10	20

Damodar

Anish

Ajay

A.B. Nakat

Aniket

Ansh

Anu Mangesh

Arpita

Aryan

Bhimabai

Bhumika

22	Dhanashree Rajesh Malge	04	08	04	04	04	10	14	<i>Bhargava</i>
23	Dhanashri Prakash Sonawane	11	08	04	04	10	10	20	<i>Dorwans</i>
24	Diksha Nilkanth Sarode	11	08	07	07	10	10	20	<i>Dorwans</i>
25	Dipali Babanrao Deshmukh	11	08	06	06	10	10	20	<i>Deshmukh</i>
26	Fatema Mehwash Shaikh Shahabuddin	18	08	09	09	10	10	20	<i>Fatema</i>
27	Mahesh Gajanan Deshmukh	27	08	07	07	10	10	20	<i>Deshmukh</i>
28	Ganesh Bandu Sore	AA	N.S.	AA	AA	AA	AA	00	
29	Ganesh S. Tale	05	08	AA	AA	AA	AA	08	
30	Gauri Vinod Lajurkar	29	08	06	06	10	10	20	<i>U.V. Rajurkar</i>
31	Gauri Vinod Nakat	19	08	05	05	08	10	18	<i>Gnarkab</i>
32	Hariom Vijay Tupwade	11	08	08	08	10	10	20	<i>Parium</i>
33	Harsh Rajesh Yadav	AA	N.S.	AA	AA	AA	AA	00	
34	Harshal Santosh Girhe	AA	N.S.	AA	AA	AA	AA	00	
35	Ishwari Shiram Salame	11	08	05	05	08	10	18	<i>Ashtak</i>
36	Janhvi Chandrakant Khade	AA	N.S.	AA	AA	-	AA	00	
37	Janhvi Vinod Hurpade	AA	N.S.	AA	AA	-	AA	00	
38	Javeriya Razi Shaikh Sadique	11	08	07	07	10	10	20	<i>P.Y.</i>
39	Jayashri Vijay Unhone	24	08	05	05	10	10	20	<i>Chor</i>
40	Jayesh Vinod Rane	19	08	08	08	10	10	20	<i>Chor</i>
41	Karan Sanjay Dhurate	13	08	AA	AA	05	AA	13	<i>Chor</i>
42	Kashish Rajesh Burdele	11	08	AA	AA	-	AA	11	<i>Chor</i>
43	Krushna Gajanan Dakhore	11	N.S.	AA	AA	05	AA	10	<i>Chor</i>
44	Krushnavali Ananta Nanote	18	08	06	06	08	AA	10	<i>Chor</i>
45	Lalit Pradip Kolte	11	08	04	04	05	AA	11	<i>Chor</i>
46	Maaz ahmad Shaikh	18	08	08	08	10	10	15	<i>Chor</i>
47	Maheda Anjum Md Mubashshiruddin	AA	NS	AA	AA	10	10	20	<i>Chor</i>
48	Mahima Govind Wade	14	08	06	06	08	AA	00	<i>Chor</i>
49	Manisha Satyashil Sardar	08	08	10	10	10	10	20	<i>Chor</i>

Sl. No.	Name	Age	Gender	Religion	Marital Status	Education	Occupation	Income	Assets	Liabilities	Net Worth	Signature
51	Mohd Faizan Abdul Aziz	11	AA	N.S.	AA	AA	05	AA	AA	10.05	10.05	Q.1. M. A. Rizk
52	Mohd. Muqarrab Raja Atique Ahmed	14	AA	08	AA	AA	05	AA	AA	08.13	08.13	M. A. Rizk
53	Mohsin Hakim Munniwale	15	08	08	08	10	10	10	10	20	20	M. A. Rizk
54	Monali Tulsiram Kolhe	11	08	08	08	10	10	10	10	20	20	M. A. Rizk
55	Mukesh Jaysingh Chavhan	AA	AA	N.S.	AA	AA	AA	AA	AA	00	00	M. A. Rizk
56	Neha Prakash Tale	05	03	08	03	03	03	10	10	13	13	M. A. Rizk
57	Om Padmakar Shegokar	07	07	08	07	10	10	10	10	20	20	M. A. Rizk
58	Om Sunil Ugale	04	AA	NS	AA	AA	AA	AA	AA	08.00	08.00	M. A. Rizk
59	Padman Santosh Bhojane	AA	AA	NS	AA	AA	AA	AA	AA	00	00	M. A. Rizk
60	Parikshit G. Khetkhe	11	AA	08	AA	05	05	AA	AA	13	13	M. A. Rizk
61	Payal Manoj Bhojar	11	09	08	09	10	10	10	10	20	20	M. A. Rizk
62	Prafull Laxman Samarth	04	03	08	03	03	03	10	10	13	13	M. A. Rizk
63	Pragati Santosh Rane	AA	AA	N.S.	AA	AA	AA	AA	AA	00	00	M. A. Rizk
64	Pranali Sudhakar Sonekar	16	06	08	06	08	08	10	10	18	18	M. A. Rizk
65	Pranav Shantaram Patil	16	09	08	09	10	10	10	10	20	20	M. A. Rizk
66	Prathmesh Shivshankar Sontakke	AA	AA	NS	AA	AA	AA	AA	AA	00	00	M. A. Rizk
67	Pratibha Dilip Borkar	11	AA	08	AA	05	05	AA	AA	13	13	M. A. Rizk
68	Pratik Jagan Khandare	07	03	08	03	10	10	10	10	20	20	M. A. Rizk
69	Pratik santosh Wankhade	AA	AA	08	AA	-	-	AA	AA	08	08	M. A. Rizk
70	Pratiksha Santosh Ingale	29	09	08	09	10	10	10	10	20	20	M. A. Rizk
71	Premkrushna Murlidhar Kukade	AA	AA	N.S.	AA	-	-	AA	AA	00	00	M. A. Rizk
72	Punam Vijay Pagrut	AA	AA	N.S.	AA	AA	AA	AA	AA	00	00	M. A. Rizk
73	Ramza Sulem Mohd Rafaquet Khan	27	07	08	07	10	10	10	10	20	20	M. A. Rizk
74	Rani Umakant Doifode	17	10	08	10	10	10	10	10	20	20	M. A. Rizk
75	Riyaz Iukman Tadavi	07	07	08	07	10	10	10	10	20	20	M. A. Rizk
76	Rohan Nagarao Sawake	08	1	08	1	04	04	10	10	14	14	M. A. Rizk
77	Rohit Sanjay Nage	02	09	08	09	10	10	10	10	20	20	M. A. Rizk
78	Roshan Pundlik Jayade	22	05	08	05	08	08	10	10	18	18	M. A. Rizk

80	Roshan Sunil Chavhan	11	08	05	08	10	18	<i>R. S. W.</i>
81	Rutuja Anilrao Dahake	07	08	07	10	10	20	<i>Reehab</i>
82	Sakshi Deepak Lokhande	AA	N.S.	AA	AA	AA	00	<i>Sakshi</i>
83	Sakshi Manohar Suradkar	AA	N.S.	AA	AA	AA	00	<i>Sakshi</i>
84	Sakshi Rameshwar Ghate	04	N.S.	03	03	10	13	<i>Sakshi</i>
85	Sakshi Sudhakar Sabale	03	08	09	10	10	20	<i>Sakshi</i>
86	Samiksha Gopal Waghmare	08	08	10	10	10	20	<i>Sakshi</i>
87	Saurabh Prakash Gaikwad	AA	N.S.	AA	-	AA	00	<i>Saurabh</i>
88	Sayali Madan Fuke	AA	N.S.	AA	AA	AA	00	<i>Sayali</i>
89	Sejal Nitin Khobragade	AA	08	AA	AA	AA	00	<i>Sejal</i>
90	Shajjal Manohar Gawai	03	08	03	03	10	13	<i>Shajjal</i>
91	Shaikh Danyal Omar Sk. Abdul R.	15	08	07	10	10	20	<i>Shaikh</i>
92	Shivani Vitthal Tale	18	08	08	10	10	20	<i>Shivani</i>
93	Shravan Motiram Sawale	04	08	AA	00	AA	08	<i>Shravan</i>
94	Siddhartha Ramdhan Sadanshiv	AA	NS	AA	AA	AA	00	<i>Siddhartha</i>
95	Soham Ashok Anasane	AA	N.S.	09	10	10	20	<i>Soham</i>
96	Soham Subhash Amale	11	08	05	08	10	18	<i>Soham</i>
97	Sohel Khan Shabbir Khan	11	08	07	10	10	20	<i>Sohel</i>
98	Sonal Sanjay Janokar	03	08	AA	AA	AA	08	<i>Sonal</i>
99	Sopan Gopal Shirikare	AA	N.S.	AA	AA	AA	00	<i>Sopan</i>
100	Suhani Sudhakar Bhagat	11	08	05	08	10	18	<i>Suhani</i>
101	Swati Ramdas Metange	AA	NS	AA	AA	AA	08	<i>Swati</i>
102	Tanisha mangesh Raut	02	08	AA	AA	AA	13	<i>Tanisha</i>
103	Tanvi Ravindra Wanare	02	08	AA	00	AA	13	<i>Tanvi</i>
104	Uday Shrikrushna Lawange	01	08	09	10	10	20	<i>Uday</i>
105	Ushna Zohar Syed Sabir Ali	28	08	05	10	10	20	<i>Ushna</i>
106	Vaishnavi Gejjanan Shelar	02	08	05	08	10	18	<i>Vaishnavi</i>
107	Vaishnavi. Dilip Chavhan	29	08	09	10	10	20	<i>Vaishnavi</i>

109	Vedant Manoj Sonone	04	08	06	08	10	18	Vijay	
110	Vijay Sanjay Jalokar	AA	N.S.	AA	AA	AA	00		
111	Viki Gokulsingh Sonone	01	08	06	08	10	18	D. Sarode	
112	Vivek Nagorao Samaik	01	08	05	08	10	18	D. Sarode	
113	Vivek Ramkrushna Sarise	06	08	07	10	10	20	D. Sarode	
114	Yash Ananta Bholalkar	24	08	AA	10	AA	18	D. Sarode	
115	Yash Bhaskar Vairagad	18	08	07	10	10	20	D. Sarode	
116	Yogesh Devanand Date	12	08	05	08	10	18	D. Sarode	
117	Aditya G. Kogde	11	08	07	10	10	20	D. Sarode	
118	Aditya G. Pande	AA	N.S.	AA	AA	AA	00	D. Sarode	
119	Anjali R. Patil	03	08	10	10	10	20	V. A. Newkar	
120	Kartik R. Gawande	AA	N.S.	08	10	05	15	V. A. Newkar	
121	Vishwaraj A. Nawkar	03	08	07	10	10	20		
122	Ritesh D. Suryawan	AA	N.S.	AA	AA	AA	00		
123	Purva A. Thakare	11	08	08	10	10	20	A. Thakare	
124	Jae S. Vinchurkar	14	08	06	08	10	18	A. Thakare	
125	Taniya K Lohiya	11	08	06	08	10	18	A. Thakare	
126	Nandini A. Bhad	11	08	09	10	10	20	A. Thakare	
127	Neha G. Galfade	02	08	07	10	10	20	A. Thakare	
128	Sanika G. Bute	03	08	AA	-	AA	13 08	S. G. Bute	
129	Vruddhi Dijiip Rathod	24	08	05	10	10	20	S. G. Bute	
130	Tanvi Chandrakant Khade	05	08	10	10	10	20	S. G. Bute	
131	Soham D. Vitkare	12	08	02	-	10	18	S. G. Bute	
132	Manisha S. Sardar	Name Repeated							
133	Ashwin S. Pimple	18	08	09	10	10	20	A. Thakare	
134	Jawariya Muskan	18	08	07	10	10	20	M. J. P.	
135	Deep Nayasa	03	08	AA	AA	AA	08	M. J. P.	
136	Vijay S. Mohite	03	08	06	08	10	18	M. J. P.	

## Sant Gadge Baba Amravati University, Amravati

### Record of Internal Assessment (summer - 2024)

Name of the College: Shri Shivaji College, Akola

Class: B.Sc.I SEM-II

Subject: Physics

Paper (With title): 2S: PHYSICS

Name of the Teacher: Dr. M.R.Belkhedkar/ Dr. V. G. Thakare/Dr. P. J. Thakare/Dr. J. V. Bhale

I No.	Name of Students	Marks obtained in Unit Test Out of 30 18/03/2024	Marks Obtain in SEM based MCQ Test in out of 10 18/03/2024	Marks Awarded in Unit Test/SEM MCQ Test out of 10	Marks Awarded in SEM Activities /Assignment out of 10	Total Marks Awarded out of 20	
	Abhay Vijay Bhise	AA	AA	00	AA	00	
	Abhishek Balkrishna Tayde	00	04	10	10	20	
	Abhishek Darshan Rathod	AA	AA	00	AA	00	
	Aditi Anil Damodar	15	06	10	10	20	Donachet
	Aditya N. Solanke	AA	AA	00	AA	00	
	Aishwarya Ganesh Dhage	AA	AA	00	AA	00	
	Aishwarya Suhas Gawai	29	06	10	10	20	Agarwal
	Aniket Dnyaneshwar Waghode	AA	AA 05	00 10	AA 05	00 15	AG
	Anita Balkrusha Nakat	19	08	10	10	20	Arenkhal
	Anjali Narayankant Mishra	22	07	10	10	20	Anst.
	Ankit Gopal Belsare	AA	AA 08	00 10	AA 05	00 15	Agarwal
	Ansh Satish Bharti	04	05	10	10	20	Agarwal
	Anu Mangesh Hendajkar	09	06	10	10	20	Agarwal
	Anugrah Sanjay Warude	AA	AA	00	AA	00	
	Anurag Sanjay Bhagat	06	02	05	10	15	Agarwal
	Arjun Pramod Kanojiya	AA	AA	00	AA	00	
	Arpita Nagorao Hivrale	AA	07	10	10	20	
	Aryan Rajesh Janorkar	AA	10	10	10	20	Agarwal
	Bhimabai Prabhu Awchar	15	08	10	10	20	Agarwal
	Bhumika Motiram Kolhe	09	10	10	10	20	Agarwal
	Damini machindra Arakharao	05	06	10	10	20	Agarwal
	Dhanashree Rajesh Malge	01	07	10	10	20	Malge
	Dhanashri Prakash Sonawane	16	02	08	10	18	Sonawane
	Diksha Nilkanth Sarode	02	02	05	10	15 18	D. N. Sarode
15.	Dipali Babanrao	03	01	05	10	15 18	Bhambhani

Deshmukh						
Fatema Mehwash Shaikh Shahabuddin	21	09	10	10	20	Fatema
Gajanan Shankarrao Deshmukh	12	09	10	10	20	Deshmukh
Ganesh Bandu Sore	AA	AA	00	AA	00	
Ganesh S. Tale	02	10	10	10	20	Tale
Gauri Vinod Lajurkar	28	09	10	10	20	G.V. Lajurkar
Gauri Vinod Nakat	21	09	10	10	20	Nakat
Hariom Vijay Tupwade	AA	AA 09	00 10	AA 02	00 12	Hariom
Harsh Rajesh Yadav	AA	AA	00	AA	00	
Harshal Santosh Girhe	AA	AA	00	AA	00	
Ishwari Shriram Salame	07	07	10	10	20	Ishwari
Janhvi Chandrakant Khade	AA	AA	00	AA	00	
Janhvi Vinod Hurpade	AA	AA	00	AA	00	
Javeriya Razi Shaikh Sadique	AA	AA	00	AA	00	
Jayashri Vijay Unhone	17	09	10	10	20	Jayashri
Jayesh Vinod Rane	16	09	10	10	20	Jayesh
Karan Sanjay Dhurate	00	08	10	10	20	Karan
Kashish Rajesh Bundele	15	08	10	10	20	Kashish
Krushna Gajanan Dakhore	AA	AA	00	AA	00	
Krushnavali Ananta Nanote	16	08	10	10	20	Krushnavali
Lalit Pradip Kolte	22	08	10	10	20	Lalit
Maaz ahmad Shaikh	07	07	10	10	20	Maaz
Maheda Anjum Md Muba Shshiruddin	AA	AA	00	AA	00	
Mahima Govind Wade	11	08	10	10	20	Mahima
Manisha Satyashil Sardar	10	09	10	10	20	Manisha
Mohammed Aakif	02	07	10	10	20	Mohammed
Mudassar Ahmed Ayaz		07				Mudassar
Mohd Faizan Abdul Aziz	06	06	10	AA	10	Mohd
Mohd. Muqarrib Raja Atique Ahmed	01	08	10	10	20	Mohd
Mohsin Hakim Munniwale	03	08	10	10	20	Mohsin
Monali Tulsiram Kolhe	02	06	10	10	20	Monali
Mukesh Jaysingh Chavhan	AA	AA	00	AA	00	
Neha Prakash Tale	12	09	10	10	20	Neha
Om Padmakar Shegokar	06	07	10	10	20	Om
Om Sunil Ugale	06	10	10	10	20	Om
Padman Santosh Bhojane	AA	AA	00	AA	00	

Parikshit G. Khetkhede	04	09	10	AA	10	
Payal Manoj Bhojar	AA	AA 05	00 10	AA 10	00 20	<u>Wohar</u>
Prafull Laxman Samarth	01	06	10	10	20	<u>P. L. Samarth</u>
Pragati Santosh Rane	AA	AA	00	AA	00	
Pranali Sudhakar Sonekar	19	08	10	10	20	<u>P. S. Sonekar</u>
Pranav Shantaram Patil	16	09	10	10	20	<u>Patil</u>
Prathmesh Shivshankar Sontakke	AA	AA	00	AA	00	
Pratibha Dilip Borkar	AA	AA	00	AA	00	
Pratik Jagan Khandare	04	07	10	10	20	<u>Pratik</u>
Pratik santosh Wankhade	AA	AA	00	AA	00	
Pratiksha Santosh Ingle	19	10	10	10	20	<u>Ingle</u>
Premkrushna Murlidhar Kukade	AA	AA	00	AA	00	
Punam Vijay Pagrut	AA	AA	00	AA	00	
Ramza Sulem Mohd Rafaquet Khan	28	07	10	10	20	<u>Ramza</u>
Rani Umakant Doifode	12	07	10	10	20	<u>Rani</u>
Riyaz lukman tadavi	09	08	10	10	20	<u>Riyaz</u>
Rohan Nagorao Sawake	03	03	05	10	15	<u>Rohan</u>
Rohit Sanjay Nage	03	09	10	10	20	<u>Rohit</u>
Roshan Pundlik Tayade	13	07	10	10	20	<u>R. P. Tayade</u>
Roshan Shivshankar Trikal	09	07	10	AA	10	<u>Roshan</u>
Roshan Sunil Chavhan	08	08	10	10	20	<u>Roshan</u>
Rutuja Anilrao Dahake	04	08	10	10	20	<u>Rutuja</u>
Sakshi Depak Lokhande	AA	AA 05	00 10	AA 02	00 12	<u>Sakshi</u>
Sakshi Manohar Suradkar	AA	AA	00	AA	00	
Sakshi Rameshwar Ghate	14	06	10	10	20	<u>Sakshi</u>
Sakshi Sudhakar Sabale	AA	10	10	10	20	<u>Sakshi</u>
Samiksha Gopal Waghmare	07	08	10	10	20	<u>Samiksha</u>
Saurabh Prakash Gaikwad	AA	AA	00	AA	00	
Sayali Madan Fuke	AA	AA	00	AA	00	
Sejal Nitin Khobragade	AA	07	10	10	20	
Shaijal Manohar Gawai	02	02	05	10	15	<u>Shaijal</u>
Shaikh Danyal Omar	06		10	10	20	<u>Shaikh</u>
Shaikh Abdul Razique		05				
Shivani Vitthal Tale	18	08	10	10	20	<u>Shivani</u>
Shravan Motiram Sawale	03	08	10	10	20	<u>Shravan</u>
Siddhartha Ramdhan Sadanshiv	AA	AA	00	AA	00	

Soham Ashok Anasane	11	09	10	10	20
Soham Subhash Amale	08	06	10	AA	10
Sohel Khan Shabbir Khan	15	09	10	10	20
Sonal Sanjay Janokar	AA	AA	00	AA	00
Sopan Gopal Shirkare	AA	AA	00	AA	00
Suhani Sudhakar Bhagat	14	06	10	10	20
Swati Ramdas Metange	02	06	10	00	10
Tanisha mangesh Raut	11	04	10	10	20
Tanvi Ravindra Wanare	13	03	08	10	18
Uday Shrikrushna Lawange	03	05	10	10	20
Ushna Zohad Syed Sabir Ali	19	07	10	10	20
Vaishnavi Gajanan Shelar	15	02	08	10	18
Vaishnavi. Dilip Chavhan	25	08	10	10	20
Vedant M. Chincholkar	AA	10	10	10	20
Vedant Manoj Sonone	09	09	10	10	20
Vijay Sanjay Jalokar	AA	AA	00	AA	00
Viki Gokulsingh Sonone	09	09	10	10	20
Vivek Nagorao Sarnaik	16	01	08	10	18
Vivek Ramkrushna Sarise	13	08	10	10	20
Yash Ananta Bholalkar	08	10	10	10	20
Yash Bhaskar Vairagad	13	10	10	10	20
Yogesh Devanand Date	10	09	10	10	20
Aditya G. Kogde	AA	AA	00	AA	00
Aditya G. Pande	AA	AA	00	AA	00
Anjali R. Patil	22	08	10	AA	10
Kartik R. Gawande	AA	AA	00	AA	00
Vishwaraj A. Nawkar	10	03	05	10	15
Ritesh D. Suryawan	AA	AA	00	AA	00
Purva A. Thakare	17	08	10	10	20
Jaee S. Vinchurkar	19	09	10	10	20
Taniya K Lohiya	12	08	10	10	20
Nandini A. Bhad	17	07	10	10	20
Neha G. Galfade	AA	AA	00	AA	00
Sanika G. Bute	07	02	05	AA <sup>05</sup>	05 10
Vruddhi Dilip Rathod	21	02	08	10	18
Tanvi Chandrakant Khade	17	06	10	10	20
Soham D. Vitkare	12	10	10	10	20
Manisha S. Sardar	-	-	-	-	-
Ashwin S. Pimple	12	10	10	AA	10

[Handwritten signatures and notes in blue ink, including names like 'Soham', 'Sohel', 'Sonal', 'Sohan', 'Suhani', 'Swati', 'Tanisha', 'Tanvi', 'Uday', 'Ushna', 'Vaishnavi', 'Vedant', 'Vijay', 'Viki', 'Vivek', 'Yash', 'Yogesh', 'Aditya', 'Anjali', 'Kartik', 'Vishwaraj', 'Ritesh', 'Purva', 'Jaee', 'Taniya', 'Nandini', 'Neha', 'Sanika', 'Vruddhi', 'Tanvi', 'Soham', 'Manisha', 'Ashwin']

Jaweriya Muskan	14	06	10	AA	10
Deep Nayasa	00	05	10	AA	10
Vijay S. Mohite	AA	AA	10	AA	10
Rahul Khandare	AA	AA	10	AA	10
Prakash Khandare	AA	AA	10	AA	10

Handwritten initials and signature in blue ink.

Name and Signature of Teacher/s:

Handwritten signature in blue ink.

**Sant Gadge Baba Amravati University, Amravati**  
**Record of Internal Assessment (Winter - 2023)**

Name of the College: Shri Shivaji College, Akola

Subject: Physics

Name of the Teacher: Dr.S.M.Palhade/Dr. M. R. Belkhedkar/

Dr.J.V. Bhale/ Dr. P. J. Thakare/ Dr. V.G.Thakare

Class: B.Sc.II SEM-III

Paper (With title):3S: PHYSICS

Designation:Prof. / Asso. / Asst. Professor

Sr. No.	Roll No.	Name of Students	Marks obtained in Unit Test Out of 30 09/10/2023	Assignment Marks Awarded	Marks Obtain in SEM based MCQ Test in out of 10 06 /10 /2023	Marks Awarded in Unit Test/SEM MCQ Test out of 10	Marks Awarded in SEM Activities /Assignment out of 10	Total Marks Awarded out of 20
1		ABHISHEK PRADIP DHORE	AA	N.S.	AA	AA	AA	00
2		ABHISHEK VIVEK INGALE	11	Submitted	09	10	10	20
3		ACHAL MANOHAR GAWAI	06	Submitted	03	03	10	13
4		ACHAL MUKUNDRAO TIWARE	06	Submitted	08	10	10	20
5		ADESH SANTOSH LAKHE	05	Submitted	08	10	10	20
6		ADITYA AJAY WAGHMARE	07	Submitted	08	10	10	20
7		ADITYA BALKRUSHNA DAMODAR	03	Submitted	07	10	10	20
8		ADITYA MAROTTI THAKARE	AA	N.S	AA	AA	AA	00
9		AFSHA PARVEEN MOHD JAMIL	23	Submitted	09	10	10	20
10		ANAND RAMDAS TELGOTE	AA	N.S	08	10	10	20
11		ANURAG GAJANAN GAWANDE	05	Submitted	08	10	10	20
12		APURVA DINESH SHIRALE	04	Submitted	08	10	10	18
13		BHAGYASHRI D. WERULKAR	07	Submitted	06	08	10	18
14		BHAGYASHRI V. WANKHADE	03	N.S.	AA	AA	AA	00
15		BHAVESH YUVAJ LANGE	05	Submitted	09	10	10	20
16		DNYANVARDHAN D. MANWAR	AA	N.S.	07	10	10	20
17		ESHWAR BHAGWAN KAKAD	06	Submitted	09	10	10	20
18		FAHIQUE KHAN FAHEEM KHAN	04	N.S	07	10	10	20
19		GAYATRI P. DONGARE	11	Submitted	09	10	10	20

*(Handwritten signatures and marks in the right margin of the table)*

20		HIARIOM GAJANAN KEDAR	04	Submitted	07	10	10	10	20	<i>Prabhat</i>
21		HUZAIFA MARIYA MAZHARUL HAQUE	25	Submitted	07	10	10	10	20	<i>Moina</i>
22		IQRA ANAM IQBAL KHAN	15	Submitted	06	08	10	10	18	<i>qazim</i>
23		KOMAL DIWAKAR THOKAL	11	Submitted	08	10	10	10	20	<i>Dhruv</i>
24		MAHESH VILAS INGLE	AA	N.S	AA	AA	AA	AA	00	
25		MAYUR SANTOSH TALE	07	Submitted	07	10	10	10	20	<i>Prabhat</i>
26		MAYUR VIJAY WAGH	04	Submitted	07	10	10	10	20	<i>Prabhat</i>
27		MOHD AHFAZ MOHD ATHAR	03	Submitted	03	03	10	10	13	<i>Prabhat</i>
28		MUKHADDAS MOHD MUNAF QURESHI	04	Submitted	10	10	10	10	20	<i>Prabhat</i>
29		NIKITA SURESH THAKRE	26	Submitted	10	10	10	10	20	<i>Prabhat</i>
30		OM KISHOR LODAM	04	Submitted	08	10	10	10	20	<i>Prabhat</i>
31		OM RAVIKANT UTALE	03	N.S	04	04	10	10	14	<i>Prabhat</i>
32		POOJA SHRIKRUSHNA GAYAKI	14	Submitted	07	10	10	10	20	<i>Prabhat</i>
33		POONAM SANJAY DESHMUKH	05	N.S	07	10	10	10	20	<i>Prabhat</i>
34		PRAJWAL SATISH SIRSAT	03	N.S	01	01	10	10	11	<i>Prabhat</i>
35		PRASAD N. LOKHANDE	06	Submitted	AA	AA	AA	AA	00	<i>Prabhat</i>
36		PRIYA GANESH TIDKE	13	Submitted	09	10	10	10	20	<i>Prabhat</i>
37		PRIYANKA S. BRAMHNKAR	20	Submitted	07	10	10	10	20	<i>Prabhat</i>
38		PUJA MADHAV ANASANE		N.S	08	10	10	10	20	<i>Prabhat</i>
39		RAVI RAJENDRA SAWALE	03	Submitted	07	10	10	10	20	<i>Prabhat</i>
40		RISHIKESH JANRAO PARKHE	08	Submitted	07	10	10	10	20	<i>Prabhat</i>
41		ROSHAN SANJAY NAKASKAR	04	N.S	03	03	10	10	13	<i>Prabhat</i>
42		ROSHANI SUNIL KHANDARE	15	Submitted	04	04	10	10	14	<i>Prabhat</i>
43		RUSHIKESH ANIL DOBALE	05	Submitted	08	10	10	10	20	<i>Prabhat</i>
44		RUSHIKESH SHANKAR BAGADE	07	Submitted	05	08	10	10	18	<i>Prabhat</i>
45		RUTIK PRAVIN GAWANDE	AA	N.S	06	08	10	10	18	<i>Prabhat</i>
46		SALONI GANESH GAWARE	11	Submitted	07	10	10	10	20	<i>Prabhat</i>
47		SAMIR KHAN YAWAR KHAN	AA	N.S	AA	AA	AA	AA	00	<i>Prabhat</i>
48		SAMMYAK PRAKASHI SIIRSAT	AA	Submitted	10	10	10	10	20	<i>Prabhat</i>



**Sant Gadge Baba Amravati University, Amravati**  
**Record of Internal Assessment (Winter - 2023)**

Name of the College: Shri Shivaji College, Akola  
 Subject: Physics

Class: B.Sc.III SEM-V

Name of the Teacher: Dr. S.M.Palhade / Dr.M.R.Belkedar /  
 Dr. P. J. Thakare/ Dr. V. G.Thakre/ Dr. J.V. Bhale

Paper (With title):5S: PHYSICS

Designation: Prof. / Asso. / Asst. Professor

Sr. No.	Roll No.	Name of Students	Marks obtained in Unit		Max. Marks out of 30	Marks Awarded out of 10	Assignment Marks Awarded out of 4	Seminar Marks Awarded out of 6	Total Marks Awarded out of 20	Sign
			I - Unit Test 09/10/2023	II - Unit Test						
1		Adeeba Azhar Momin	27		27	10	04	06	20	<i>[Signature]</i>
2		Adibalsmat Mohammed ShujaRizvi	27		27	10	04	06	20	<i>[Signature]</i>
3		Aditya Keshavrao Dane	11		11	05	04	06	15	<i>[Signature]</i>
4		Aditya Mahadeo Rakhonde	AA		AA	00	NS	NS	00	
5		Aditya Sudhir Sadanshiv	AA		AA	00	04	06	10	<i>[Signature]</i>
6		AdsaAdeemaMirza Shakeel Baig	24		24	10	04	06	20	<i>[Signature]</i>
7		Aeisha Aqsa Mohd. Nazim Shaikh	18		18	07	04	06	17	<i>[Signature]</i>
8		Akshay Sanjay Mahalle	00		00	00	04	06	10	<i>[Signature]</i>
9		Akshay Shivdas Kale	11		11	05	04	06	15	<i>[Signature]</i>
10		AlfiyaKhatib Mohd Najeebuddin	24		24	10	04	06	20	<i>[Signature]</i>
11		Aniket Vishnu Tayade	11		11	05	04	06	15	<i>[Signature]</i>
12		Anjali Arun Pandhare	05	11	11	05	04	06	15	<i>[Signature]</i>
13		Ankita DevidasMhaisane	24		24	10	04	06	20	<i>[Signature]</i>
14		Ankita Shankar Satav	AA	11	11	05	NS	NS	05	<i>[Signature]</i>
15		AnkushDipakYadgire	00	13	13	05	04	06	15	<i>[Signature]</i>
16		Arati Raju Borkar	24		24	10	04	06	20	<i>[Signature]</i>
17		Ather Wahid Khan	24		24	10	04	06	20	<i>[Signature]</i>
18		Bazilal-arhatFiroz Khan	26		26	10	04	06	20	<i>[Signature]</i>
19		Bushra Amin Mohd Azferul Amin Khan	26		26	10	04	06	20	<i>[Signature]</i>





