



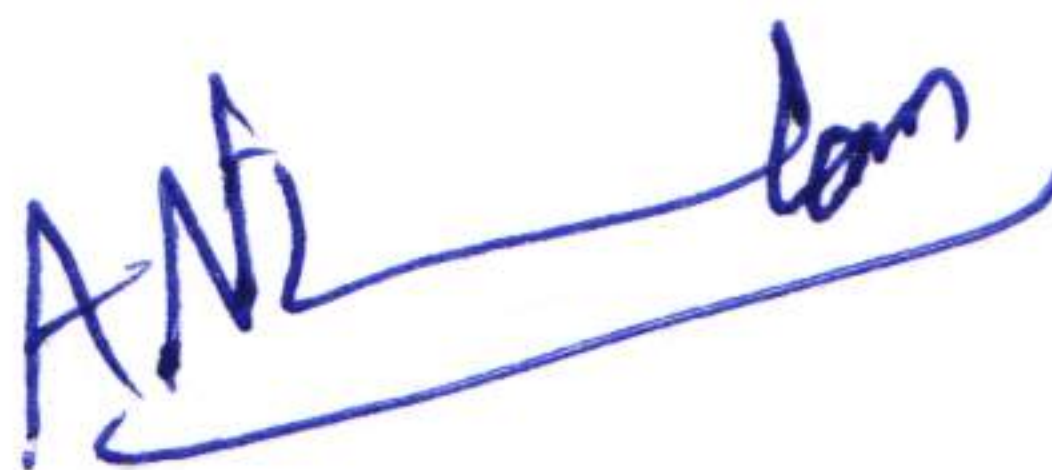
MARATHA VIDYA PRASARAK SAMAJ'S
ARTS, COMMERCE & SCIENCE COLLEGE,
DINDORI

Tal. Dindori, Dist. Nashik-422202 (M.S.) INDIA

Internal Quality Assurance Cell (IQAC)

Academic Year: 2021-22

Sr. No.	Name	Designation
1.	Dr. K. N. Gaikwad	Chairperson
2.	Mr. P. K. Panpatil	Teacher representative
3.	Mr. A. A. Nikam	Teacher representative
4.	Dr. M. P. Meshram	Teacher representative
5.	Mr. R. R. Zoman	Teacher representative
6.	Mr. J. S. Moon	Teacher representative
7.	Mr. M. Y. Shaha	Teacher representative
8.	Dr. K. D. Kaldate	Teacher representative
9.	Shri. R. K. Jadhav	Senior administrative representative
10.	Shri. D. R. Patil	Management representative
11.	Shri. N. V. Deshmukh	Alumni representative
12.	Dr. Gauri Pingal	Community representative
13.	Shri. Rajendra Deshmukh	Industrial expert
14.	Shri D. R. Patade	External Academic expert
15.	Miss. Shreya Aware	Student representative
16.	Mr. A. A. Nikam	IQAC Coordinator



Coordinator

IQAC

Co-Ordinator
Internal Quality Assurance Cell (IQAC)
MVP Samaj's Arts, Comm. & Science College
Dindori (Nashik)





Principal

Principal

Arts Commerce & Science College
Dindori Tal Dindori Dist Nashik



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Tal. Dindori, Dist. Nashik-422202 (M.S.) INDIA

Internal Quality Assurance Cell (IQAC)

Academic Year: 2021-22

Internal Quality Assurance Cell (IQAC)

Minutes of the Meetings

Minutes of the Meeting of 2021-22 held on 06 July 2021

Venue: IQAC Room

Date:06/07/2021

Time: 11:30 to 2:00pm

Agenda of the Meeting:

1. To review and confirm the minutes of the last meeting.
2. To review Admission process
3. Formation and implementation of academic calendar and academic committees.
4. Framing of time table
5. To prepare AQAR for academic year 2020-21
6. Framing and role of purchase Committee.
7. Organization of Parent and Alumni association meeting.
8. To enhance skill-oriented activities
9. To review the ATR and the result analysis
10. Any other issue

IQAC Committee Academic Year:2021-2022

Sr. No.	Name	Designation
1.	Dr. K. N. Gaikwad	Chairperson
2.	Mr. P. K. Panpatil	Teacher representative
3.	Mr. A. A. Nikam	Teacher representative
4.	Dr. M. P. Meshram	Teacher representative
5.	Mr. R. R. Zoman	Teacher representative
6.	Mr. J. S. Moon	Teacher representative
7.	Mr. M. Y. Shaha	Teacher representative
8.	Dr. K. D. Kaldate	Teacher representative
9.	Shri. R. K. Jadhav	Senior administrative representative



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Internal Quality Assurance Cell (IQAC)

Academic Year: 2021-22

10.	Shri. D. R. Patil	Management representative
11.	Shri. N. V. Deshmukh	Alumni representative
12.	Dr. Gauri Pingal	Community representative
13.	Shri. Rajendra Deshmukh	Industrial expert
14.	Shri D. R. Patade	External Academic expert
15.	Miss. Shreya Aware	Student representative
16.	Mr. A. A. Nikam	IQAC Coordinator

The meeting of IQAC began at 11:30 am in the presence of all members of IQAC Committee, IQAC Coordinator welcomed and briefed the committee members about the agenda. IQAC members, after discussion made the following resolutions:

Agenda Item 1: To review and confirm the minutes of the last meeting

Resolution: The Co-ordinator read the minutes of the earlier meeting and the minutes were reviewed and passed by the members.

Agenda Item 2: To review Admission process

Resolution: The issues related with online admission process were discussed in the meeting. It was then unanimously resolved to conduct online admissions for all classes. The task was assigned to the admission committee for further action. The IQAC has taken feedback from assigned admission committee. IQAC gave instruction to admission committee to increase admission strength for science stream by visiting nearby Jr. colleges, Ashram Shala etc.

Proposed by: Principal

Seconded by: Co-ordinator

Agenda Item 3: Formation and implementation of academic calendar and academic committees

Resolution: The college academic calendar followed by Affiliating University guideline and design for effective curriculum. Co-ordinator informed about the responsibilities and formation of various committee and responsibilities to convener and faculty. The following



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Academic Year: 2021-22

responsibilities such as online examination process, planning regarding design website and different highlighting tabs, uploading data, discussion on difficulties encountered to criterion convener, alumni association, language labs and garden beautification.

Proposed by: Principal

Seconded by: Co-ordinator

Agenda Item 4 : Framing of Time table

Resolution : Chairperson and IQAC coordinator gave suggestion to time-table committee regarding preparation of time table and focus on use of ICT Tools and device in teaching and learning process.

Proposed by: Principal

Seconded by: Co-ordinator

Agenda Item 5: To prepare AQAR for academic year 2020-21

Resolution: Co-ordinator inform IQAC about new guidelines given by NAAC about AQAR for academic year 2020-21. In meeting difficulties as per criterion are discussed and solution has been finalized. Also Co-ordinator focus pre submitted AQAR report suggestion given by the NAAC committee and focused to cover given suggestion to be implemented in AQAR 2020-21 for quality enhancement.

Agenda Item 6: Framing and role of purchase Committee.

Resolution: Principal gives guideline and instruction regarding tentative budget to purchase perishable and nonperishable laboratory, equipment, chemical, ICT device, Stationary etc. to purchase Committee

Agenda Item 7: Organization of Parent and Alumni association meeting.

There was a detailed discussion in the IQAC meeting regarding the organization of a parent and Alumni association meeting and their feedback.

Proposed by: Principal

Seconded by: Mr. R. R. Zoman

Agenda Item 8: To enhance skill-oriented activities



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Academic Year: 2021-22

Resolution: The IQAC proposed to initiate and enhance value added certificate program and skill-oriented co-curricular, extracurricular program and activities.

Proposed by: Dr. D.K. Londhe

Seconded by: Mr. R. R. Zoman

Agenda Item 9: To review the ATR and the result analysis

Resolution: The review of ATR and the result analysis was taken. The issues were discussed and suggestions were made accordingly

Agenda Item 10: Any other issue

Principal gives instruction regarding safety measures to avoid corona and appealed to all faculty regarding to develop awareness among students, staff and in society with the help of social media in lockdown.

Proposed by: Principal

Seconded by: Co-ordinator

The meeting concluded with the vote of thanks by the IQAC coordinator



ANZ
lans
Coordinator

IQAC
Co-Ordinator

Internal Quality Assurance Cell (IQAC)
MVP Samaj's Arts, Comm. & Science College
Dindori (Nashik)

R. R. Zoman
Principal

Arts Commerce & Science College
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Internal Quality Assurance Cell (IQAC)

Academic Year: 2021-22

Internal Quality Assurance Cell (IQAC)

Minutes of the Meeting

Minutes of the Meeting of 2021-22 held on 09 September 2021

Venue: IQAC Room

Date:09/09/2021

Time: 11:30 to 1:00pm

Agenda of the Meeting:

1. To review and confirm the minutes of the last meeting.
2. Preparation of schedule of term end & Semester Exams.
3. Preparation of AQAR for academic year 2021-22
4. Plan to organize Parent and Alumni association meeting.
5. To create collaboration, MoU and Linkages with various organization.
6. Any other issues.

IQAC Committee Academic Year:2021-2021

Sr. No.	Name	Designation
1.	Dr. K. N. Gaikwad	Chairperson
2.	Mr. P. K. Panpatil	Teacher representative
3.	Mr. A. A. Nikam	Teacher representative
4.	Dr. M. P. Meshram	Teacher representative
5.	Mr. R. R. Zoman	Teacher representative
6.	Mr. J. S. Moon	Teacher representative
7.	Mr. M. Y. Shaha	Teacher representative
8.	Dr. K. D. Kaldate	Teacher representative
9.	Shri. R. K. Jadhav	Senior administrative representative
10.	Shri. D. R. Patil	Management representative
11.	Shri. N. V. Deshmukh	Alumni representative
12.	Dr. Gauri Pingal	Community representative
13.	Shri. Rajendra Deshmukh	Industrial expert



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Internal Quality Assurance Cell (IQAC)

Academic Year: 2021-22

14.	Shri D. R. Patade	External Academic expert
15.	Miss. Shreya Aware	Student representative
16.	Mr. A. A. Nikam	IQAC Coordinator

Leave of Absence was granted to the following members: Shri. Dattatray Ramchandra Patil
Shri. Management representative

The meeting of IQAC began at 11:30 am in the presence of all members of IQAC Committee;
IQAC Coordinator welcomed and briefed the committee members about the agenda IQAC
members after discussion made the following resolutions:

Agenda Item 1: To review and confirm the minutes of the last meeting

Resolution: The Co-ordinator read the minutes of the earlier meeting and the minutes were
reviewed and passed by the members.

Agenda Item 2: Preparation of schedule of term end & Semester Exams

Resolution: Chairman of exam committee (CEO) and time table committee was instructed
to prepare and schedule of the exams by taking precautions that there will not be overlapping
of time tables of term end & semester exam as well and it will be conducted by online mode

Agenda Item 3: To discussion and preparation AQAR of 2020-21

Resolution: The IQAC Co-ordinator gave suggestion and needful correction of the
AQAR of 2020-21 after finalize correction suggest that put AQAR in the meeting of college
Development committee

Proposed by: Principal

Seconded by: Co-ordinator

Agenda Item 4: To discussion on establishment of student Council.

Resolution: Principal gave instruction and suggestion to all faculty to prepare student
Council for the year 2021-22 as per the guidelines of University

Proposed by: Principal



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Academic Year: 2021-22

Seconded by: Co-ordinator

Agenda Item 5: Plan to organize online Parent and Alumni association meeting.

Resolution: Principal gave instruction to organize online Parent and Alumni association meeting to communicate with parents and their student progress, online teaching-learning, online exam, pandemic COVID 19 lockdown, student difficulties encountered in online teaching and learning process etc. and motivational activities through alumni association.

Agenda Item 6: To create collaboration and MoU

Resolution: The Co-ordinator suggest to make Collaboration and MoU with government and non-government organization to share and exchange, knowledge based technique, skill for student personality development, and their empowerment.

Proposed by: Principal

Seconded by: Co-ordinator

Agenda Item 7: Any other issues.

Resolution: As there was no other matter to discuss.

The meeting concluded with the vote of thanks by the IQAC coordinator Mr. A. A. Nikam



A. A. Nikam
Coordinator

IQAC
Co-Ordinator

S. S. Gawde
Principal

Principal

Arts Commerce & Science College

Internal Quality Assurance Cell (IQAC) Tal Dindori Dist Nashik
MVP Samaj's Arts, Comm. & Science College
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Internal Quality Assurance Cell (IQAC)

Academic Year: 2021-22

Minutes of the Meetings

Minutes of the Meeting of 2021-22 held on 11 January 2022

Venue: IQAC Room

Date: 11/01/2022

Time: 11:00 to 1:30pm

Agenda of the Meeting:

- 1 To review and confirm the minutes of the last meeting
- 2 To organize training program for teaching and non-teaching staff.
- 3 To review on college domain for G -suit
- 4 To review on to gathering private/non-government scholarship funds for economically weaker section student
- 5 Initiative to purchase N-List
- 6 To discussion and preparation to organize e-webinar, e-seminar and online poster presentation
- 7 Planning for preparation of SSR for re-accreditation from NAAC
- 8 Any other issue

IQAC Committee Academic Year:2021-2022

Sr. No.	Name	Designation
1.	Dr. K. N. Gaikwad	Chairperson
2.	Mr. P. K. Panpatil	Teacher representative
3.	Mr. A. A. Nikam	Teacher representative
4.	Dr. M. P. Meshram	Teacher representative
5.	Mr. R. R. Zoman	Teacher representative
6.	Mr. J. S. Moon	Teacher representative
7.	Mr. M. Y. Shaha	Teacher representative
8.	Dr. K. D. Kaldate	Teacher representative
9.	Shri. R. K. Jadhav	Senior administrative representative
10.	Shri. D. R. Patil	Management representative



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Internal Quality Assurance Cell (IQAC)

Academic Year: 2021-22

11.	Shri. N. V. Deshmukh	Alumni representative
12.	Dr. Gauri Pingal	Community representative
13.	Shri. Rajendra Deshmukh	Industrial expert
14.	Shri D. R. Patade	External Academic expert
15.	Miss. Shreya Aware	Student representative
16.	Mr. A. A. Nikam	IQAC Coordinator

Leave of Absence was granted to the following members: Shri. Rajendra Deshmukh Patil Industrial expert.

The meeting of IQAC began at 11:00 am in the presence of all members of IQAC Committee; IQAC Coordinator welcomed and briefed the committee members about the agenda IQAC members after discussion made the following resolutions:

Agenda 1: To review and confirm minutes of last meeting.

Resolution: The IQAC Co-ordinator read the minutes of earlier meeting held on 9th Sep.2021. Members approved the minutes after reviewing it.

Agenda 2: Plan to organize training program for teaching and non-teaching staff

Resolution: The chairperson instructed to concerned faculties to organize skill based informative training program to enhance their administrative and recent applied technical knowledge

Proposed by: Principal

Seconded by: Co-ordinator

Agenda 3: To review on college domain for G -suit

The IQAC take initiative to purchase and start college domain for G-suite for easy access to integrated Docs, Drive, Calendar, Meet, Gmail services and more.

Benefits of G-Suite for Education • Data Protection Capabilities. • Email Delivery Audit. •



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Academic Year: 2021-22

Spam and malware. • Easy Collaboration and Sharing. • Capability to Store and Manage Large Amounts of Data and Make It Accessible Anywhere. • Easy implementation and deployment • It help to collect college data from all faculty programs, store safety, with large free memory.

Proposed by: Principal

Seconded by: Mr. A. A. Nikam

Agenda 4: To review on to gathering private/non-government scholarship funds for economically weaker section student.

Resolution: - Chairperson gave instruction to faculty to acquire private scholarship funds from Youth dreamers, Delhi and other organization to get private scholarship fund for economically weaker section students.

Proposed by: Principal

Seconded by: Co-ordinator

Agenda 5: Initiative to purchase N-List

Resolution: - The Co-ordinator suggest to purchase and start N-List to easy access the research publication, e-journals, e-reference books, e-mazine, e-books to faculty and student to update and learn recent trends and knowledge.

Proposed by: Principal

Seconded by: Mr. J. S. Moon

Agenda 6: Plan to organize e-webinar, e-seminar and online poster presentation.

Resolution: - The IQAC Co-ordinator gave instruction to organize e- webinar, e-seminar and online poster presentation for quality enhancement and upgradation of student knowledge and their empowerment

Proposed by: Principal



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Internal Quality Assurance Cell (IQAC)

Academic Year: 2021-22

Seconded by: Co-ordinator

Agenda 7: Planning for preparation of SSR for re-accreditation from NAAC

Resolution:- The IQAC Co-ordinator gave guideline to criterion convener and assign committee members for completion of SSR work and to solve difficulties encountered in each criterion, college website, feedback from various stakeholders, SSS, UGC Care listed web of science and scopes etc.

Proposed by: Principal

Seconded by: Co-ordinator

Agenda Item 7: Any other issues

Principal gave instruction to all faculty regarding to create awareness among students to follow all safety measures to prevent spread of pandemic Corona, through during online lectures and social media tools use by faculty and teachers like whats app group and google classroom and NSS committee

Vote of thanks was proposed by Co-ordinator



ANL
Coordinator

**IQAC
Co-Ordinator**

G. J. Jeyan
Principal

**Arts Commerce & Science College
Dindori Tal Dindori Dist Nashik**

**Internal Quality Assurance Cell (IQAC)
MVP Samaj's Arts, Comm. & Science College
Dindori (Nashik)**



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Internal Quality Assurance Cell (IQAC)

Academic Year: 2021-22

Internal Quality Assurance Cell (IQAC)

Minutes of the Meetings

Minutes of the Meeting of 2021-22 held on 01 March 2022

Venue: IQAC Room

Date:01/03/2022

Time: 11:00 to 1:30 pm

Agenda of the Meeting:

- 1 To review and confirm the minutes of the last meeting.
- 2 Review of Feedback analysis, SSS.
- 3 Planning for preparation of SSR for re-accreditation from NAAC.
- 4 Submission of AQAR 2021-22
- 5 Any other issue.

IQAC Committee Academic Year:2021-2022

Sr. No.	Name	Designation
1.	Dr. K. N. Gaikwad	Chairperson
2.	Mr. P. K. Panpatil	Teacher representative
3.	Mr. A. A. Nikam	Teacher representative
4.	Dr. M. P. Meshram	Teacher representative
5.	Mr. R. R. Zoman	Teacher representative
6.	Mr. J. S. Moon	Teacher representative
7.	Mr. M. Y. Shaha	Teacher representative
8.	Dr. K. D. Kaldate	Teacher representative
9.	Shri. R. K. Jadhav	Senior administrative representative
10.	Shri. D. R. Patil	Management representative
11.	Shri. N. V. Deshmukh	Alumni representative
12.	Dr. Gauri Pingal	Community representative
13.	Shri. Rajendra Deshmukh	Industrial expert
14.	Shri D. R. Patade	External Academic expert



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Internal Quality Assurance Cell (IQAC)

Academic Year: 2021-22

15.	Miss. Shreya Aware	Student representative
16.	Mr. A. A. Nikam	IQAC Coordinator

Leave of Absence was granted to the following members: Shreya Aware Student representative: Industrial expert.

The meeting of IQAC began at 11:00 am in the presence of all members of IQAC Committee; IQAC Coordinator welcomed and briefed the committee members about the agenda.

IQAC members after discussion made the following resolutions

Agenda 1: To review and confirm the minutes of the last meeting

Resolution: The IQAC Co-ordinator read the minutes of earlier meeting held on 11th January 2022. Members approved the minutes after reviewing it.

Agenda 2: Review of Feedback analysis, SSS

Resolution: The Discussion on feedback analysis from different stakeholders, analysis form, merits of questionnaires and analysis, discussion on student satisfactory survey guideline given by NAAC also suggested to create more awareness regarding SSS with informative boards and pamphlets highlight in college premises.

Agenda 3: Planning for preparation of SSR for re-accreditation from NAAC cycle 2.

Resolution: In the view of IQAC coordinator instructed to all committee members regarding preparation of information as per the new guidelines of NAAC and collection of data as per criterion I to VII manual and their supportive documents as per standard operating procedure for data validation and verification

Agenda 4: Preparation and Submission of AQAR 2020-21

Resolution Th AQAR of 2020-21 of the college was presented in the meeting. After thorough discussion some changes were suggested by coordinator and then the AQAR was put in the meeting of college Development committee. Further it was suggested to submit it to the NAAC in online mode on its portal.



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Internal Quality Assurance Cell (IQAC)

Academic Year: 2021-22

Agenda Item 5: Any other issues

Dr. Vedashree Thigale gave instruction to all faculty regarding to create awareness among students to follow all safety measures to prevent spread of pandemic Corona, through during online lectures and social media tools use by faculty and teachers like whats app group and google classroom and NSS committee.

The meeting concluded with the vote of thanks by the IQAC coordinator

IQAC Committee Academic Year:2021-2022

Sr. No.	Name	Designation
1.	Dr. K. N. Gaikwad	Chairperson
2.	Mr. P. K. Panpatil	Teacher representative
3.	Mr. A. A. Nikam	Teacher representative
4.	Dr. M. P. Meshram	Teacher representative
5.	Mr. R. R. Zoman	Teacher representative
6.	Mr. J. S. Moon	Teacher representative
7.	Mr. M. Y. Shaha	Teacher representative
8.	Dr. K. D. Kaldate	Teacher representative
9.	Shri. R. K. Jadhav	Senior administrative representative
10.	Shri. D. R. Patil	Management representative
11.	Shri. N. V. Deshmukh	Alumni representative
12.	Dr. Gauri Pingal	Community representative
13.	Shri. Rajendra Deshmukh	Industrial expert
14.	Shri D. R. Patade	External Academic expert
15.	Miss. Shreya Aware	Student representative
16.	Mr. A. A. Nikam	IQAC Coordinator

Leave of Absence was granted to the following members: Shri. Rajendra Deshmukh Patil



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Internal Quality Assurance Cell (IQAC)

Academic Year: 2021-22

Industrial expert.

The meeting of IQAC began at 11:00 am in the presence of all members of IQAC Committee; IQAC Coordinator welcomed and briefed the committee members about the agenda IQAC members after discussion made the following resolutions:



ANI
Coordinator

IQAC

Co-Ordinator

Internal Quality Assurance Cell (IQAC)
MVP Samaj's Arts, Comm. & Science College
Dindori (Nashik)

R. J. Jaiswal
Principal

Principal

Arts Commerce & Science College
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Academic Year: 2021-22

Action Taken Report based on 2021-2022 IQAC Meeting

Sr.No	Decision taken in the Meeting	Action Taken
1	Formation and implementation of academic calendar and academic committees for academic year 2021-22	Successfully framed academic calendar and academic committees for academic year 2021-22
2	Preparation and submission of AQAR 2020-21	Successfully submitted AQAR 2020-21
3	Preparation of SSR for reaccreditation from NAAC cycle 2	The IQAC Co-ordinator gave guideline to criterion convener and assign committee members for completion of SSR work
4	Initiative to purchase N-List	Successfully started N-List to easy access the research publication, e-journals, e-reference books, e-mazing, e-books to faculty and student to update and learn recent trends and knowledge
5	To review on gathering private/non-government scholarship funds for economically weaker section student.	Gathering private scholarship funds from Youth dreamers, Delhi and other organization
6	To review on college domain for G - suit	Started college domain for G-suite to collect college data from all faculty programs, store safety, with large free memory also for easy access to integrated docs, drive, calendar, meet,



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Academic Year: 2021-22

		Gmail services and more.
7	To create collaboration	Collaborated with institute for design of electrical instrument , Mumbai
8	To enhance skill-oriented activities	Successfully conduct value added certificate program and skill-oriented co-curricular, extracurricular program and activities.
9	Use of ICT tool in online teaching and their difficulty encountered	ICT tools and devices used by faculty in online teaching during lockdown and suggestion given to faculty and students through online meeting e.g Network, availability of device to student etc.
10	Preparation and instruction re regarding Online exam during lockdown	Instruction given to faculty to inform students regarding changing pattern rules, schedule, and regulation of online exam given affiliated Savitri Bhai Phule pune university, pune and focus on attention and attendance of the student.

ANL Lam
Coordinator

IQAC

Co-Ordinator

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Dindori (Nashik)



G. J. Jaiswal
Principal

Principal

Arts Commerce & Science College
Dindori Tal Dindori Dist Nashik



MARATHA VIDYA PRASARAK SAMAJ'S



ARTS, COMMERCE & SCIENCE COLLEGE, DINDORI

Gat No.836, Umrale Road, Near Govt. ITI, Dindori Shivar, Tal. Dindori, Dist. Nashik-422202 (M.S.) INDIA
Phone No.: (02557) 222333, E-mail: srcollege.dindori@mvp.edu.in, Website : mvpsrcollegedindori.ac.in
Affiliated to Savitribai Phule Pune University, Pune Id. No. PU/NS/ASC/069/2001

ACADEMIC CALANDER : YEAR 2021-22

Sr. No.	Period	Particulars	Remarks
Term - I			
1	First & Second week of June	<ul style="list-style-type: none"> Admission to F.Y./S.Y./T.Y.B.A./B.Com/B.Sc. 	Depends on the declaration of Results by HSC Board Savitribai Phule Pune University, Pune
2	15 th June	<ul style="list-style-type: none"> Re-opening of the College 	Decided by Savitribai Phule Pune University, Pune
3	Third & Fourth week of June	<ul style="list-style-type: none"> Preparation of Theory Time Tables for Commencement of F.Y. & S.Y.B.A./B.Com./B.Sc. classes beings. Departmental meetings for syllabus and workload allotments. International Yoga Day 	Decided by College
	21 nd June		Decided by College
4	First week of July	<ul style="list-style-type: none"> Preparation of practical time table and its commencement for F.Y./ S.Y. B.Sc. 	Decided by College
		<ul style="list-style-type: none"> Preparation of practical for commerce faculty. 	Decided by College
		<ul style="list-style-type: none"> Formation of Academic Committees of teachers for curricular, Co-curricular and Extension activities 	Decided by College
5	Second week of July	<ul style="list-style-type: none"> Commencement of T.Y.B.A./ B.Com./B.Sc. classes. 	Depends on the declaration of results by the Savitribai Phule Pune University, Pune
6	Third week of July	<ul style="list-style-type: none"> Preparation of Practical time table and its commencement for T.Y.B.Sc. 	Decided by the College.
	23 rd July	<ul style="list-style-type: none"> Lokmanya Tilak Jayanti 	
7	Fourth week of July	<ul style="list-style-type: none"> Admissions to M.A./M.Com. classes begins. 	Depends on the declaration of Results by the Savitribai Phule Pune University, Pune
8	First & Second week of August	<ul style="list-style-type: none"> Preparation and commencement of Time Table for M.A./M.Com. 	Decided by College
9	Third & Fourth week of August	<ul style="list-style-type: none"> Constitution of Student Council and Election of its Secretary. Inauguration of Various Associations. Sadbhavna Din 	Date is decided by the Savitribai Phule Pune University, Pune Dates are decided by the College.
	20 th August		
10	First week of September	<ul style="list-style-type: none"> 05th September (Teacher's Day) 	Lectures organized by students.
11	Third & Fourth week of September	<ul style="list-style-type: none"> Internal Examination for F.Y./S.Y./T.Y.B.Sc. 	Dates decided by the College.
12	First & Second week of October	<ul style="list-style-type: none"> Term end examination for F.Y./S.Y./T.Y.B.A./ B.Com. 	Dates decided by the College
13	First & Second week of October	<ul style="list-style-type: none"> University Examination for F.Y./S.Y./T.Y.B.A./B.Com./B.Sc. Dr. A. P. J. Abdul Kalam Jayanti / 	Dates decided by the Savitribai Phule Pune University, Pune

	15 th October	Reading Inspiring day (Vachanprernadin)	
Term - II			
14	Third & Fourth week of October	• Conduct of all PG Internal Exam	Dates decided by the College
15	19 th November	• National Integration Day	
16	Third & Fourth week of November	• M.A./M.Com. Term-End Examination	Dates decided by the Savitribai Phule Pune University, Pune
17	In the Month of November	• Diwali Vacation	Dates decided by the Savitribai Phule Pune University, Pune
18	Third & Fourth week of November	• Commencement of Second Term	Dates decided by the Savitribai Phule Pune University, Pune
19	Fourth week of November	• Starting of Teaching of U.G. Classes.	Dates decided by the College
20	First & Second week of December	• Arranging Lectures of various Associations	Dates decided by the College
21	First & Second week of December	• Starting of Teaching of P.G. Classes.	Dates decided by the College
22	Second & Third week of December	• Organization of N.S.S. Camp	Dates decided by the Savitribai Phule Pune University, Pune
23	Third & Fourth week of December	• Inter Class Tournaments	Decided by the College
24	First & Second week of January 03 rd January	• Conduct of Tutorial, Seminar etc. • Savitribai Phule Jayanti	Decided by the College
25	Third week of January	• Competitions for various Cultural and Sports Activities.	Decided by the College
26	Fourth week of January	• Annual Social gathering and Prize Distribution	Decided by the College
27	First & Second week of February 19 th February	• Organization of Science Exhibition by students • Shatrapati Shivaji Maharaj Jayanti	Decided by the College
28	Third & Fourth week of February	• Conduct of Internal Exams. (F.Y./S.Y./T.Y.B.A., B.Com., B.Sc.)	Decided by the College
29	Fourth week of February	• Conduct of Practical Exams and Project Via-Voce for S.Y. , T.Y B.A./ B.Con./B.Sc. • Environmental Awareness Theory and Project examination for S.Y.B.A./ B.Con./B.Sc.	Decided by the Savitribai Phule Pune University, Pune Decided by the College
30	First week of March	• Conduct of F.Y.B.Sc. Annual Practical Examination.	Dates decided by the College
31	Second & Third week of March	• Conduct of S.Y.B.Sc. Annual Practical Examination.	Dates decided by the Savitribai Phule Pune University, Pune
32	Fourth week of March 23 rd March	• Commencement of University Annual Theory Examination for F.Y.B.Sc./B.Com. /B.A. • Shahid Din- Shahid Bhagatsing, Rajguru and Sukhdeo	Decided by the Savitribai Phule Pune University, Pune
33	First & Second week of April	• Conduct of University Annual Practical Examination for T.Y.B.Sc. • Conduct of Practical Examination	Dates decided by the Savitribai Phule Pune University, Pune



	14 th April	for B.Com. • Dr. Babsaheb Ambedkar Jayanti	
34	Third & Fourth week of April	• Conduct of University Theory Exam for S.Y. and T.Y. Classes	Decided by the Savitribai Phule Pune University, Pune
35	By the End of April	• Conclusion of Academic Year	Decided by the Savitribai Phule Pune University, Pune
36	First May	• Maharashtra State Foundation Day and Flag Hosting	
37	First & Second week of May	• Conduct of University Theory Exam for P.G. Classes	Decided by the Savitribai Phule Pune University, Pune




Principal
for PRINCIPAL
 MVP Samaj's Arts, Commerce & Science College
 Dindori (Nashik)



MVP Samaj's
ARTS COMMERCE & SCIENCE COLLEGE DINDORI,
Master Time Table of Commerce Dept.
YEAR-2021-22

Time:	Class	Mon	Tues	Wed	Thurs	Fri	Sat
8.00to8.50	F.Y.B.Com-A	Business Maths & stats(RAI)	Business Maths & stats(RAI)	Business Maths & stats(RAI)	Fin. A/c (BTT)	Fin. A/c (BTT)	Fin. A/c (BTT)
	S.Y.B.Com	B.M (BTT)	B.M (BTT)	B.M (BTT)	Eco (SWZ)	Eco (SWZ)	Eco (SWZ)
	T.Y.B.Com	Int.Eco (SWZ)	Int.Eco (SWZ)	Int.Eco (SWZ)	Adv.A/c (RAI)	Adv.A/c (RAI)	Adv.A/c (RAI)

8.50to9.40	F.Y.B.Com - A	Eng (SBG)	Eng (SBG)	Eng (SBG)	Eco (SWZ)	Eco (SWZ)	Eco (SWZ)
	S.Y.B.Com	Corp.A/c (S.JOSHI)	Corp.A/c (S.JOSHI)	Corp.A/c (S.JOSHI)	C.LAW (RAI)	C.LAW (RAI)	C.LAW (RAI)
	T.Y.B.Com	Bank/MarkII (BTT/SJOSHI)	Bank/MarkII ((BTT/SJOSHI)	Bank/MarkII ((BTT/SJOSHI)	Audit&Tax (SJOSHI)	Audit&Tax (SJOSHI)	Audit&Tax (SJOSHI)

9.40 to10.30	F.Y.B.Com -A	Bank& Fin (SJOSHI)	Bank& Fin (SJOSHI)	Bank& Fin (KBM)	Marketing	Marketing	Marketing
	S.Y.B.Com	Bank/Mark (RAI/BTT)	Bank/Mark (RAI/BTT)	Bank/Mar (RAI/BTT)	B.C (BTT)	B.C (BTT)	B.C (BTT)
	T.Y.B.Com	M.Law	M.Law	M.Law	Bank/Mark-III (BTTI)	Bank/Mark-III((BTT)	Bank/Mark-III(BTT)

Recess Time: 10.30 To 10.40



10.40 to 11.30	F.Y.B.Com -A	Marthi (BGK)	Marthi (BGK)	Marthi (BGK)	BUSINESS Eco (SDW)	BUSINESS Math&stat. (SVS)	FINANCIAL A/c(BTT)
	S.Y.B.Com	BUSINESS MANAGEMENT (BTT)	BUSINESS COMMUNICATION (SVS)	Bank/Mark I (SVS/BTT)	Corp.A/c (KBM)	C.LAW (SDW)	Bus.Eco (SWZ)
	T.Y.B.Com	Bank/Mark III (BTT)	M. LAW (SDW)	Audit & Tax (sjoshi)	Bank/MarkII (BTT/sjoshi)	INTERNATIONAL ECO(SWZ)	ADVANCED A/C (SVS)
11.30 to 12.20	F.Y.B.Com -A	COMP.Eng (SJG)	Bank&Fin (sjoshi)	Marthi (BGK)	Phy.Edu.	Mark& SALES	Phy. Edu
	S.Y.B.COM	EVS (RAI)	EVS (RAI)	EVS (RAI)			

B. Thakare

H.O.D.
Head of Dept.
Department of Commerce
(Prof. B. T. Thakare)
Arts, Comm. & Sci. College, Dindori,
Tal. Dindori, Dist. Nashik

K. S. K.

Principal
Arts, Comm. & Sci. College, Dindori
Tal. Dindori, Dist. Nashik
(Dr. S. K. Kusthare)



MVP Samaj'
ARTS COMMERCE & SCIENCE COLLEGE, DINDORI.

Master Time Table of Commerce Dept (PG)
Academic Year : 2021-22

M.com-I & II year (sem-I and III)

Time	Class	Mon	Tues	Wed	Thurs	Fri	Sat
11.00 to 12.00	M.Com-I (Sem.I)	Strat.Mngt	Strat.Mngt	Strat.Mngt	Mngt.A/C	Mngt.A/C	Mngt.A/C
	M.Com-II (Sem.III)	Bank-V	Bank-V	Bank-V	Res.Meth.	Res.Meth.	Res.Meth.
12.00 to 1.00	M.Com-I (Sem.I)	Bank-I	Bank-I	Bank-I	Bank-II	Bank-II	Bank-II
	M.Com-II (Sem.III)	Bus.Fin.	Bus.Fin.	Bus.Fin.	Bank-VI	Bank-VI	Bank-VI
1.00 to 2.00	M.Com-I (Sem.I)	Bank-II	Mngt.A/C	--	Strat.Mngt.	Bank-I	--
	M.Com-II (Sem.III)	Bank-VI	Res.Meth.	Bank-V	--	--	Bus.Fin.

B. Thakare

H.O.D.
Department of Commerce
Arts, Comm. & Sci. College, Dindori,
Tal. Dindori, Dist. Nashik
(Prof. Smt. Thakare B.T)

S.K. Kushare

Principal
Arts, Comm. & Sci. College, Dindori
Tal. Dindori, Dist. Nashik
(Dr. S.K.Kushare)

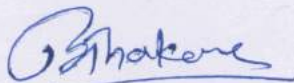


MVP Samaj'
ARTS COMMERCE & SCIENCE COLLEGE, DINDORI.

Master Time Table of Commerce Dept (PG)
Academic Year : 2021-22

M.com-I & II year (sem-II and IV)

Time	Class	Mon	Tues	Wed	Thurs	Fri	Sat
11.00 to 12.00	M.Com-I (Sem.II)	Fin.Analy sis	Fin.Analysi s	Fin.Analysis	Industrial Eco	Industrial Eco	Industrial Eco
	M.Com-II (Sem.IV)	Industrial Eco Environm ent	Industrial Eco Environmen t	Industrial Eco Environment	Capital Market	Capital Market	Capital Market
12.00 to 1.00	M.Com-I (Sem.II)	Banking law	Banking law	Banking law	Monetary Policy	Monetary Policy	Monetary Policy
	M.Com-II (Sem.IV)	Recent adv & banking	Recent adv & banking	Recent adv & banking	Project work	Project work	Project work
1.00 to 2.00	M.Com-I (Sem.II)	Fin.Analy sis	Industrial Eco	--	Banking law	Monetary Policy	--
	M.Com-II (Sem.IV)	Industrial Eco Environm ent	Recent adv & banking	Project work	--	--	Capital Market



H.O.D.
Department of Commerce
Arts, Comm. & Sci. College, Dindori,
Tal. Dindori, Dist. Nashik
(Prof. Smt. Thakare B.T)



Principal
Arts, Comm. & Sci. College, Dindori
Tal. Dindori, Dist. Nashik
(Dr. S.K.Kushare)

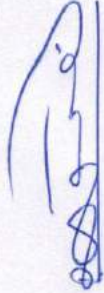
MVP'S

Arts, Commerce and Science College, Dindori

Time - Table (Theory) (F.Y./S.Y./T.Y. B. Sc.) (2020-21)

Time	Class	Mon	Tue	Wed	Thurs	Fri	Sat
10.10 To 11.00	S.Y	Marathi/(DNS) English(SBG)	Marathi/(DNS) English(SBG)	Marathi/(DNS) English(SBG)	EVS(PJG)	EVS(PJG)	EVS(PJG)
11:00 To 11:50	F.Y	Chem (DSS)	Chem (DSS)	Chem(DSS)	Chem(SMP)	Chem(SMP)	Chem(SMP)
	S.Y	Phy(MYS) Zoo(PSK)	Phy(MYS) Zoo(PSK)	Math(PRD) Bot(DKL)	Phy(MYS) Bot(RDS)	Math(PRD) Bot(RDS)	Math(PRD) Bot(RDS)
	T.Y	Chem (RRZ) Phy (AAN) Bot (SSD) Zoo(RJP)	Chem(RRZ) Phy(AAN) Bot (SRJ) Zoo(RJP)	Chem (SMP) Phy (AAN) Bot (SSD) Zoo(RJP)	Chem (PKP) Phy (PJG) Bot (DKL) Zoo(KDK)	Chem (PKP) Phy (PJG) Bot (SRJ) Zoo(KDK)	Chem (PKP) Phy (PJG) Bot (SRJ) Zoo(KDK)
11:50 To 12:40	F.Y	Phy (MMB) Geo (SMA)	Phy (MMB) Geo (SMA)	Phy (MMB) Geo (SMA)	Phy (MYS) Geo (SMA)	Phy (MYS) Geo (SMA)	Phy (MYS) Geo (SMA)
	S.Y	Math (SSK) Bot (DKL)	Math (SSK) Bot (DKL)	Phy (MMB) Zoo (PSK)	Math (SSK) Zoo (RJP)	Phy (MYS) Zoo (RJP)	Math (SSK) Zoo (RJP)
	T.Y	Chem(SMP) Phy (MYS) Bot (SRJ) Zoo (ASD)	Chem(SMP) Phy (MYS) Bot (SRJ) Zoo (ASD)	Chem(RRZ) Phy (MYS) Bot (SRJ) Zoo (ASD)	Chem(MPM) Phy (PJG) Bot (SRJ) Zoo (PSK)	Chem(RRZ) Phy (PJG) Bot (SRJ) Zoo(PSK)	Chem(RRZ) Phy (PJG) Bot (SRJ) Zoo (PSK)
12:40 To 01:30	F.Y	Math (SSK) Zoo(KDK)	Math (SSK) Zoo(KDK)	Math (SSK) Zoo(KDK)	Bot (DKL) Ele (PJG)	Bot (DKL) Ele (PJG)	Bot (DKL) Ele (PJG)
	S.Y	Chem(RRZ) Ele (PJG)	Chem(RRZ) Ele (PJG)	Chem (SMP) Ele (PJG)	Chem (SMP) Ele (AAN)	Chem (PKP) Ele (AAN)	Chem (PKP) Ele (AAN)
	T.Y	Chem (PKP) Phy (PJG) Bot (RDS) Zoo (PSK)	Chem (PKP) Phy (PJG) Bot (RDS) Zoo (PSK)	Chem (PKP) Phy (PJG) Bot(DKL) Zoo (PSK)	Chem(RRZ) Phy (MIMB) Bot (SRJ) Zoo (RJP)	Chem (SMP) Phy (MIMB) Bot (SRJ) Zoo (RJP)	Chem (MPM) Phy (MIMB) Bot(RDS) Zoo(RJP)
01:30 To 01:40							
	F.Y	Bot (SSD) Ele (AAN)	Bot (SSD) Ele (AAN)	Bot (SSD) Ele (AAN)	Math (PRD) Zoo (ASD)	Math(PRD) Zoo (ASD)	Math (PRD) Zoo (ASD)
	S.Y	Phy (MMB) Bot (DKL)	Math (SSK) Bot(RDS)	Phy (MYS) Zoo (RJP)	Phy (MIMB) Zoo (PSK)	Chem(RRZ) Ele (AAN)	Chem(RRZ) Ele (PJG)
	T.Y	Chem (MPM) Phy (MYS) Bot(RDS) Zoo (RJP)	Chem (PKP) Phy (MYS) Bot (DKL) Zoo (RJP)	Chem (PKP) Phy (MYS) Bot (DKL) Zoo (ASD)	Chem (MPM) Phy (PJG) Bot(RDS) Zoo(KDK)	Chem (MPM) Phy (PJG) Bot(RDS) Zoo (PSK)	Chem (MPM) Phy (PJG) Bot (DKL) Zoo (PSK)
2.40 on words practical's	F.Y	Phy(MMB) Ele(PJG) Bot(SSD)	Phy(MYS) Ele(AAN) Bot(SSD)	Phy(MYS) Chem(RRZ) Bot (SRJ)	CHEM(MPM) Zoo (KDK/DHD)	Phy(PJG) Chem(PKP) Zoo(KDK/DHD)	Chem(SPM) Zoo (KDK/DHD)

	S.Y	Chem(RRZ) Zoo(RJP/PSK)	Chem(RRZ) Zoo (RJP/PSK)	Chem(SMP) Ele(AAN) Zoo (RJP/PSK)	Chem(SMP) Phy(MYS) Bot(DKL)	Ele(AAN) Bot(RDS)	Phy(PJG) Bot(SRJ)
	T.Y	Chem(SMP) Zoo (KDK/DHK) Phy(MMB)	Chem(SMP) Phy(PJG)	Chem(PKP) Zoo (RJP/PSK) Phy(MYS)	Chem(PKP) Bot(SSD/DKL)	Chem(MPM) Zoo (KDK/DHK) Bot(DKL/SRJ)	Chem(MPM) Bot(SRJ/RDS)



(Prof. P.K. Panpatil)
Chairman
Timetable Committee



(Prof. V. S. Bhat)
MVP Samaj's Arts, Commerce & Sciences College
Dindori (Nashik)

Department of CHEMISTRY
Teaching Plan (Course wise)
Academic Year : 2021-2022
Semester: I

Name of Teacher: Page S. M.

Class: T. Y. B.Sc.

Title of the Paper: PHYSICAL CHEMISTRY -I

Paper: CH-501

Lectures allotted:36

Year	Topic	No. of Lectures
Academic year 2021-22 Online/offline teaching as per rules and regulation of Govt. of Maharashtra and SPPU, Pune	Admission + Introduction of syllabus	
	Quantum Chemistry: Introduction, de Broglie hypothesis, The Heisenberg's uncertainty principle, quantisation of energy, Operators, Schrodinger wave equation, well behaved function, Particle in a one-, two and three-dimensional box (no derivation), Physical interpretation of the ψ and ψ^2 , sketching of wave function and probability densities for 1D box, degeneracy, applications to conjugated systems, zero-point energy and quantum tunnelling, Numerical, . Investigation of Molecular structure [16 L] Introduction: Molar refraction and molecular structure, Dipole moment and molecular structure, electromagnetic spectrum, energy of molecules, Types of molecular spectra.	12
	Microwave Spectroscopy: Introduction, Classification of molecules on the basis of moment of Inertia, Rotational spectra of rigid diatomic molecules, relative intensities of spectral lines, effect of isotopic substitution on the rotational spectra, Determination of bond length and moment of inertia from rotational spectra, Problems Infrared Spectroscopy: Introduction, Simple Harmonic oscillator, Modes of vibration, force constant, Vibrational spectrum of a diatomic molecule: Vibrational Energy expression, Allowed vibrational energies, zero-point energy, Selection rule, Vibrational energy level diagram with transitions, spectrum depiction, Vibration-rotation Spectra: Born-Oppenheimer approximation, Energy expression for vibrational rotor, Selection rules, Vibrational-rotational energy level diagram with transitions, Nature of vibrational spectra, P, Q and R branches of lines of the IR spectra, Problems	12
	Raman Spectroscopy: Introduction, Classical and Quantum theory of Raman effect, Rayleigh, Stokes and anti-stokes lines, Pure rotational Raman spectra of linear diatomic molecules. Photochemistry Introduction, Difference between thermal and photochemical processes, Laws of photochemistry: i) Grothus - Draper law ii) Stark-Einstein law, Quantum yield, Reasons for high and low quantum yield., Factors affecting Quantum yield, Experimental method for the determination of quantum yield, types of photochemical reactions - photosynthesis, photolysis, photocatalysis, photosensitization, Jablonski diagram depicting various processes occurring in the excited state: Qualitative description of fluorescence and phosphorescence, Chemiluminescence, Problems	12
	Online MCQ practice questions.	
	Online internal examination	


Signature of Teacher


Department of Chemistry
Head,
ARTS, COMMERCE & SCIENCE COLLEGE
Dindori, Tal. Dindori, Dist. Nashik.

Department of CHEMISTRY
Teaching Plan (Course wise)
Academic Year : 2021-2022
Semester: II

Name of Teacher: Page S.M.

Class: T.Y. B.Sc.

Title of the Paper: Physical Chemistry - II

Paper: CH- 601

Lectures allotted:36

Year	Topic	No. of Lectures
Academic year 2021-22 Online/offline teaching as per rules and regulation of Govt. of Maharashtra and SPPU, Pune	Electrochemical cells, reversible and irreversible cells with examples, The e.m.f. of electrochemical cell and its measurement, The Weston standard cell, Reference electrodes: The primary reference electrode and Secondary reference electrodes, The Nernst equation for E.M.F. of a cell. Types of reversible electrodes, the sign convention for electrode potentials, Thermodynamics of reversible cells and reversible electrodes, E.M.F. and equilibrium constant of cell reaction, Electrochemical series, Types of concentration cells, liquid junction potential, salt bridge, Applications of emf measurements: 1. Determination of pH of a solution by using hydrogen electrode, quinhydrone electrode and glass electrodes	12
	2. Potentiometric titrations: i) Acid-base titrations, (ii) Redox titrations. (iii) Precipitation titration, Batteries: Primary and Secondary batteries, applications for Secondary Batteries, Fuel Cells: Types of fuel cells, advantages, disadvantages of fuels cells, comparison of battery Vs fuel cell. Types of Solids: Isotropy and Anisotropy, Laws of crystallography: Law of constancy of interfacial angles, Law of rational indices, Law of crystal symmetry, Weiss indices and Miller indices, Crystal Structure: Parameters of the Unit Cells, Cubic Unit Cells: Three Types of Cubic Unit Cells, Calculation of Mass of the Unit Cell, Methods of Crystal structure analysis:	12
	Laue method and Bragg's method: Derivation of Bragg's equation, Determination of crystal structure of NaCl by Bragg's method, X ray analysis of NaCl crystal system, Calculation of d and λ for a crystal system, Numerical. Radioactivity, Types of Radiations, Properties of Radiations, Detection and Measurement of Radioactivity: Cloud chamber, Ionization Chamber, Geiger-Muller Counter, Scintillation Counter and Film Badges, Nuclear structure, Classification of nuclides, Types of Radioactive Decay, The Group Displacement Law, Kinetics of Radioactive Decay, Half-life, average life, Energy released in nuclear reaction, Mass Defect, Nuclear Binding Energy, Some applications of radio-isotopes as tracers: Chemical investigation – Esterification, Friedel-Craft reaction, Structural determination – Phosphorus pentachloride, Age determination – use of tritium and C14 dating, Problems	12
	Revision	
	Exams	
	Exam/Vacation	

Signature of Teacher

Department Head, Chemistry
ARTS, COMMERCE & SCIENCE COLLEGE
Dindori, Tal. Dindori, Dist. Nashik.

Department of CHEMISTRY
Teaching Plan (Course wise)
Academic Year : 2021-2022
Semester: I

Name of Teacher: Page S. M.

Class: T.Y. B.Sc.

Title of the Paper: Physical Chemistry Practical

Paper:CH-503

Lectures allotted:73

Year	Topic	No. of Lectures
Academic year 2021-22 Online/offline teaching as per rules and regulation of Govt. of Maharashtra and SPPU, Pune	Admission + Introduction of syllabus	
	1. To determine the molecular refractivity of the given liquids A, B, C and D. 2. To determine the specific refractivity's of the given liquids A and B and their mixture and hence determine the percentage composition their mixture C. 3. To titrate Cu^{2+} ions with EDTA photometrically. 4. Analysis of the given vibration-rotation spectrum of $\text{HCl}(\text{g})$	24.3
	5. To determine the indicator constant of methyl red indicator 6. To determine the order of reaction for the oxidation of alcohol by potassium dichromate and potassium permanganate in acidic medium calorimetrically. 7. Titration of a mixture of weak acid and strong acid with strong alkali. 8. To determine the velocity constant of hydrolysis of ethyl acetate by NaOH solution by conduct metric method.	24.3
	9. To determine the normality of citric acid in given fruit by titrating it against standard NaOH solution by conductometric method. 10. To determine λ_{∞} of strong electrolyte (NaCl or KCl) and to verify Onsager equation. 11. Determine the radius of glycerol molecule from viscosity measurement 12. To estimate of Fe^{3+} ions by thiocyanate method.	24.3
	Revision	
	Exam/Vacation	


Signature of Teacher


Department of Chemistry
ARTS, COMMERCE & SCIENCE COLLEGE
Dindori, Tal. Dindori, Dist. Nashik.

Department of CHEMISTRY
Teaching Plan (Course wise)
Academic Year : 2021-2022
Semester: I

Name of Teacher: Gorade L. C.

Class: T.Y. B.Sc.

Title of the Paper: Physical Chemistry Practical

Paper: CH-503

Lectures allotted: 73

Year	Topic	No. of Lectures
Academic year 2021-22 Online/offline teaching as per rules and regulation of Govt. of Maharashtra and SPPU, Pune	Admission + Introduction of syllabus	
	1. To determine the molecular refractivity of the given liquids A, B, C and D. 2. To determine the specific refractivity's of the given liquids A and B and their mixture and hence determine the percentage composition their mixture C. 3. To titrate Cu^{2+} ions with EDTA photometrically. 4. Analysis of the given vibration-rotation spectrum of $\text{HCl}(\text{g})$	24.3
	5. To determine the indicator constant of methyl red indicator 6. To determine the order of reaction for the oxidation of alcohol by potassium dichromate and potassium permanganate in acidic medium calorimetrically. 7. Titration of a mixture of weak acid and strong acid with strong alkali. 8. To determine the velocity constant of hydrolysis of ethyl acetate by NaOH solution by conduct metric method.	24.3
	9. To determine the normality of citric acid in given fruit by titrating it against standard NaOH solution by conductometric method. 10. To determine λ_{∞} of strong electrolyte (NaCl or KCl) and to verify Onsager equation. 11. Determine the radius of glycerol molecule from viscosity measurement 12. To estimate of Fe^{3+} ions by thiocyanate method.	24.3
	Revision	
	Exam/Vacation	



Signature of Teacher



Department Head, Chemistry
ARTS, COMMERCE & SCIENCE COLLEGE
Dindori, Tal. Dindori, Dist. Nashik.

Department of CHEMISTRY

Teaching Plan (Course wise)

Academic Year : 2021-2022

Semester II

Name of Teacher: Page S. M.+ Gorade L.C.

Class: T.Y. B.Sc.

Title of the Paper: Physical Chemistry Practical

Paper:CH-603

Lectures allotted:73

Year	Topic	No. of Lectures
Academic year 2021-22 Online/offline teaching as per rules and regulation of Govt. of Maharashtra and SPPU, Pune	1. To determine the PKa value of given monobasic weak acid by potentiometric titration. 2. To determine the formal redox potential of Fe ²⁺ / Fe ³⁺ system potentiometrically. 3. To determine the amount of NaCl in the given solution by potentiometric titration against silver nitrate.	24.3
	4. To prepare standard 0.2 M Na ₂ HPO ₄ and 0.1 M Citric acid solution, hence prepare four different buffer solutions using them. Determine the pH value of these and unknown solution 5. To determine the solubility product and solubility of AgCl potentiometrically using chemical cell. 6. To determine the degree of hydrolysis of aniline hydrochloride. 7. Determination of Pka of given weak acid by pH metry titration with strong base	24.3
	8. pH metric titration of strong acid against strong base by pH measurement and hence determine the concentration and strength of strong acid. 9. To determine the molecular weight of solute by depression in freezing point method	24.3
	10. . Determine the molecular weight of given electrolyte and non-electrolyte by Landsberger's method and to study the abnormal molecular weight of electrolyte	
	Journal certification / Exam	
Exam/Vacation		



Signature of Teacher


Department of Chemistry
ARTS, COMMERCE & SCIENCE COLLEGE
Dindori, Tal. Dindori, Dist. Nashik.

Department of CHEMISTRY

Teaching Plan (Course wise)

Academic Year : 2021-2022

Semester- I

Name of Teacher: Dr. M. P. Meshram

Class: T.Y. B.Sc.

Title of the Paper: Inorganic chemistry

Paper: CH- 504

Lectures allotted:36

Year	Topic	No. of Lectures
	Admission + Introduction of syllabus	
Academic year 2021-22 Online/offline teaching as per rules and regulation of Govt. of Maharashtra and SPPU, Pune	Electro-neutrality principle, multiple bonding ($d\pi-p\pi$ and $d\pi-d\pi$), Nephelauxetic effect and Nephelauxetic series (Recapulation from VBT and CFT), Need and introduction of MOT, Assumptions, MO treatment to octahedral complexes with sigma bonding, Formation of MO's from metal orbitals and Composite Ligand Orbitals (CLO), MO correlation diagram for octahedral complexes with sigma bonding, effect of π bonding on MO correlation diagram, Charge transfer spectra, Advantages of MOT over VBT and CFT. Basic concepts of stability and lability, stability constants, Factors affecting lability, chelate effect. Classification of inorganic reactions, ligand substitution reactions: Intimate and stoichiometric mechanism of ligand substitution	12
	square planar complexes: Trans effect and Trans effect series, applications of trans effect, stereochemistry of substitution. Position in periodic table, electronic configuration, trends in properties w.r.t.(a) size of atoms and ions (b) reactivity (c) catalytic activity (d) oxidation state (e) complex formation ability (f) colour (g) magnetic properties (h) non-stoichiometry (i) density, melting & boiling points. Introduction of f-block elements- on the basis of electronic configurations, occurrence and reactivity, f-block elements as Lanthanide and Actinide series I. Lanthanides: Position in periodic table, Name and electronic configuration of lanthanides, Oxidation States, atomic and ionic radii, Lanthanide contraction, its causes and consequences on chemistry of Lanthanides and post lanthanide elements, Occurrence and separation: Bulk separation, Individual separation by modern methods viz., Ion exchange and solvent extraction method, applications of lanthanides. [12
	Actinides: Position in periodic table, names and their electronic configurations, IUPAC nomenclature system for super heavy elements, Oxidation States, Occurrence and general methods of preparation of transuranic elements viz., Neutron Bombardment, Accelerated projectile bombardment and Heavy ion bombardment. Nuclear Fuels- Nuclear fission and fusion fuels, comparison between Lanthanides and Actinides.	12
	Revision	
	Exam/ Vacation	

Signature of Teacher

Department Head, Chemistry
ARTS, COMMERCE & SCIENCE COLLEGE
Dindori, Tal. Dindori, Dist. Nashik.

Department of CHEMISTRY
Teaching Plan (Course wise)
Academic Year : 2021-2022
Semester: II

Name of Teacher: Dr. M. P. Meshram

Class: T.Y. B.Sc.

Title of the Paper: Inorganic chemistry -II

Paper: CH-604

Lectures allotted:36

Year	Topic	No. of Lectures
Academic year 2021-22 Online/offline teaching as per rules and regulation of Govt. of Maharashtra and SPPU, Pune	Definition of Organometallic compounds and Organometallic chemistry, CO as a π -acid donor ligand, binary metal carbonyls, classification of metal carbonyls, synthesis of metal carbonyls; (a) Direct reaction (b) Reductive carbonylation (c) Photolysis and thermolysis. Hepticity, Molecular and electronic structures of binary metal carbonyls, Electron count in complexes (18 electron rule). Applications of organometallic compounds in industrial catalysis (list of examples). Chemistry of ferrocene; Introduction, synthesis and physical properties of ferrocene. Reactions of ferrocene such as Friedel-Craft Acylation, Friedel-Craft Alkylation, Mannich reaction, Nitration and Halogenation. Introduction to Catalysis, basic principles, activity and selectivity in catalysis, Types of catalysis, homogeneous vs. heterogeneous catalysis, importance of catalysis in the synthesis of high value chemicals. Homogeneous catalysis: catalytic cycles for following reactions: a) Hydrogenation of olefins using Wilkinson complex, b) Hydroformylation of olefins using Cobalt and Rhodium complexes, c) Carbonylation reaction: methanol to acetic acid process i.e. Monsanto processes and d) C-C coupling reactions: Heck reaction	12
	Heterogeneous catalysis: History of the development of industrial heterogeneous catalysis. Classification of heterogeneous catalysts, supported metal catalyst, Role of support, Promoters and Poisons. Catalytic processes viz., a) Hydrogenation of olefins using Raney Nickel catalyst, b) Zeolites in catalysis: Catalytic cracking, c) Biodiesel synthesis using Heteropolyacids (HPAs) d) Automotive Exhaust catalysts: The catalytic converters. Introduction, Role of metals in bioinorganic chemistry, Classification as enzymatic and nonenzymatic metals, enzymatic redox metals such as Cu (SOD) and enzymatic non-redox metals such as Zn (Hydrolase). Role of metal ions in non-enzymatic processes-Na, K, Ca, Mg (one example of each and brief discussion). Role of metals in enzymatic processes-Transition metalsCatalase, peroxidase and nitrogenase (Redox active). II. Metalloproteins-Iron proteinsIntroduction of Fe-S proteins, Electron transfer proteins (Fe-S, Fe ₂ S ₂ , Fe ₃ S ₄ , Fe ₄ S ₄). Transport protein (transferrin) and Storage protein (ferritin) III. Bioinorganic Chemistry of Fe: Hemoglobin and myoglobin, its structure and functions and IV. Bioinorganic Chemistry of Co: Vitamin-B12, its structure and function.	12
	Introduction, Types of inorganic polymers, comparison with organic polymers, synthesis, structural aspects and applications of silicates, silicones, siloxanes, borazines, and phosphazenes. Inorganic solids, Preparation of inorganic solids: Conventional heat and beat methods, Coprecipitation method, Sol-gel method and Hydro-thermal method. Introduction to Solid electrolytes, inorganic liquid crystals and their examples. Ionic liquids, synthesis and application of imidazolium and phosphonium based ionic liquids	12
	Revision	
Exam		
Exam/ Vacation		

Signature of Teacher

Department Head, Chemistry
ARTS, COMMERCE & SCIENCE COLLEGE
Dindori, Tal. Dindori, Dist. Nashik.

Department of CHEMISTRY
Teaching Plan (Course wise)
Academic Year : 2021-2022
Semester: I

Name of Teacher : : Dr. M. P. Meshram

Class: T.Y. B.Sc.

Title of the Paper: Inorganic chemistry Practical

Paper: CH- 506

Lectures allotted:73

Year	Topic	No. of Lectures
Academic year 2021-22 Online/offline teaching as per rules and regulation of Govt. of Maharashtra and SPPU, Pune	Admission + Introduction of syllabus	
	Gravimetric estimations 1.Gravimetric estimation of Fe as Fe ₂ O ₃ 2. . Gravimetric estimation of Ba as BaSO ₄ using homogeneous precipitation method 3. Gravimetric estimation of Nickel as Ni – DMG. 4. Preparation of hexamminenickel(II) chloride, [Ni (NH ₃) ₆]Cl ₂ .	24.3
	1. Preparation of Potassium dioxalatocuprate(II), [Cu(C ₂ O ₄) ₂] 2- 2. Preparation of Potassium trioxalatoferrate(III), K ₃ [Fe(C ₂ O ₄) ₃]. 3. Preparation of Manganese (III) acetylacetonate, [Mn(acac) ₃]. 4. Inorganic Qualitative analysis Mix No.1	24.3
	1. Inorganic Qualitative analysis Mix No.2 2. Inorganic Qualitative analysis Mix No.3 3. Inorganic Qualitative analysis Mix No.4 4. Inorganic Qualitative analysis Mix No.5	24.3
	Revision/Exam	
	Exam/Vacation	


Signature of Teacher


Department Head, Chemistry
ARTS, COMMERCE & SCIENCE COLLEGE
Dindori, Tal. Dindori, Dist. Nashik.

Department of CHEMISTRY
Teaching Plan (Course wise)
Academic Year : 2021-2022
Semester: II

Name of Teacher: Meshram M. P.


Class: T.Y. B.Sc.

Title of the Paper: Inorganic chemistry Practical

Paper:CH-606

Lectures allotted: 73

Year	Topic	No. of Lectures
Academic year 2021-22 Online/offline teaching as per rules and regulation of Govt. of Maharashtra and SPPU, Pune	Admission + Introduction of syllabus	
	1. Analysis of Phosphate (PO_4^{3-}) from Fertilizer. 2. Strength of medicinal H_2O_2 . 3. Analysis of Cu from Cu-Fungicide. 4. Estimation of Na by flame photometry by calibration curve method	24.3
	1. Estimation of Na by flame photometry by regression method. 2. Estimation of K by flame photometry by calibration curve method. 3. Purification of water using cation/anion exchange resin and analysis by qualitative analysis /conductometry. 4. Synthesis of Silver nanoparticles.	24.3
	1. Synthesis of amine complexes of Ni(II) and its ligand exchange reaction (bidentate ligands like acac, DMG, Glycine) by substitution method. 2. Fenton reaction: Degradation of H_2O_2 using Fe catalyst. 3. Synthesis of ZnO nanoparticles.	24.3
	Exam	
	Exam/Vacation	


Signature of Teacher


Department of Chemistry
ARTS, COMMERCE & SCIENCE COLLEGE
Dindori, Tal. Dindori, Dist. Nashik.

Department of CHEMISTRY
Teaching Plan (Course wise)
Academic Year : 2021-2022
Semester: II

Name of Teacher: L. S. Avhad

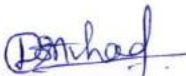
Class: T.Y. B.Sc.


Title of the Paper: Inorganic chemistry Practical

Paper:CH-606

Lectures allotted: 73

Year	Topic	No. of Lectures
Academic year 2021-22 Online/offline teaching as per rules and regulation of Govt. of Maharashtra and SPPU, Pune	Admission + Introduction of syllabus	
	5. Analysis of Phosphate (PO_4^{3-}) from Fertilizer. 6. Strength of medicinal H_2O_2 . 7. Analysis of Cu from Cu-Fungicide. 8. Estimation of Na by flame photometry by calibration curve metho	24.3
	1. Estimation of Na by flame photometry by regression method. 2. Estimation of K by flame photometry by calibration curve method. 3. Purification of water using cation/anion exchange resin and analysis by qualitative analysis /conductometry. 4. Synthesis of Silver nanoparticles.	24.3
	1. Synthesis of amine complexes of Ni(II) and its ligand exchange reaction (bidentate ligands like acac, DMG, Glycine) by substitution method. 2. Fenton reaction: Degradation of H_2O_2 using Fe catalyst. 3. Synthesis of ZnO nanoparticles.	24.3
	Exam	
	Exam/Vacation	


Signature of Teacher


Department of Chemistry
ARTS, COMMERCE & SCIENCE COLLEGE
Dindori, Tal. Dindori, Dist. Nashik.

Department of CHEMISTRY
Teaching Plan (Course wise)
Academic Year : 2021-2022
Semester: I

Name of Teacher: Panpatil P.K.


Class: T.Y. B.Sc.

Title of the Paper: Organic chemistry

Paper: CH- 507

Lectures allotted:36

Year	Topic	No. of Lectures
Academic year 2021-22 Online/offline teaching as per rules and regulation of Govt. of Maharashtra and SPPU, Pune	Admission + Introduction of syllabus	
	Polynuclear and Heteronuclear Aromatic Compounds [08 L] Introduction, Classification of aromatic compounds, Properties of the following compounds with reference to electrophilic and nucleophilic substitution: Naphthalene, Anthracene, Furan, Pyrrole, Thiophene, and Pyridine. Definition, Preparation of Ethylacetoacetate and Synthetic uses of ethylacetoacetate Preparation of Diethyl malonate and Synthetic uses of diethyl malonate, (preparation of non-heteromolecules having upto 6 carbon.	12
	Rearrangement Reactions Introduction, Types of rearrangement, Types of reactive intermediate involved in different rearrangements, Rearrangement – Beckmann, Baeyer-Villiger, Favorskii, Curtius, Lossen, Schmidt and Pinacol-Pinacolone with mechanism. Electrocyclic Rearrangements- Claisen, Cope and Mc-Lafferty rearrangements with mechanism.	12
	Introduction; Types of eliminations-1,1; 1,2 elimination, Mechanism with evidences of E1 and E2, E1cB reactions, stereochemistry of E1 and E2 elimination, Orientations and reactivity in E1 and E2 elimination- Hoffmann and Saytzeff's orientation, Factors affecting the reactivity- effect of structure, attacking base and leaving groups	12
	Revision	
Exam/Vacation		


Signature of Teacher


Department Head,
ARTS, COMMERCE & SCIENCE COLLEGE
Dindori, Tal. Dindori, Dist. Nashik.

Department of CHEMISTRY
Teaching Plan (Course wise)
Academic Year : 2021-2022

Semester: II

Name of Teacher: Panpatil P. K.


Class: T.Y. B.Sc.

Title of the Paper: Organic Chemistry

Paper: CH- 607

Lectures allotted:36

Year	Topic	No. of Lectures
Academic year 2021-22 Online/offline teaching as per rules and regulation of Govt. of Maharashtra and SPPU, Pune	Introduction, meaning of spectroscopy, Types of spectroscopy, nature of electromagnetic radiation and regions of electromagnetic spectrum, Terms used in spectroscopy; wavelength, amplitude, frequency, wavenumber, energy and their relations and conversions. Introduction, Electromagnetic radiations, electronic transitions, λ_{max} & ϵ_{max} , chromophore, auxochrome, bathochromic and hypsochromic shifts, Application of visible, ultraviolet spectroscopy in organic molecules. Application of electronic spectroscopy and Woodward rules for calculating λ_{max} of conjugated dienes and α, β - unsaturated compounds. Introduction, Infrared radiation and types of molecular vibrations, functional group and fingerprint region. Infra-red spectroscopy in organic molecules,	12
	IR spectra of alkanes, alkenes and simple alcohols (inter and intramolecular hydrogen bonding), aldehydes, ketones, carboxylic acids and their derivatives (effect of substitution on $>C=O$ stretching absorptions). Introduction, Principles, Magnetic and nonmagnetic nuclei, nuclear resonance, chemical shift, shielding, & deshielding effect. Measurement of chemical shift, TMS as reference and its advantages, peak area, integration, spin-spin coupling, coupling constants,	12
	J-value, problems, based on NMR. Ref 1: Page Nos.108-175 and 225-366 Chapter 5: Combined Problems Based on U.V., I.R. and PMR Spectroscopy. : Stereochemistry of Disubstituted Cyclohexane and Decalin [04 L] Recapitulation, Geometrical and optical isomerism of 1,3- dimethyl and 1,4-dimethyl cyclohexane with their stability and energy calculations. Conformations of decalin and their stability.	12
	Examination	
	Exam/	
	Vacation	


Signature of Teacher


Department Head
ARTS, COMMERCE & SCIENCE COLLEGE
Dindori, Tal. Dindori, Dist. Nashik.

Department of CHEMISTRY
Teaching Plan (Course wise)
Academic Year : 2021-2022
Semester: I

Name of Teacher: Panpatil P. K.

Class: T.Y. B.Sc.

Title of the Paper: Organic chemistry Practical

Paper:CH-506

Lectures allotted:73

Year	Topic	No. of Lectures
Academic year 2021-22 Online/offline teaching as per rules and regulation of Govt. of Maharashtra and SPPU, Pune	Admission + Introduction of syllabus	
	1. Separation of Binary Mixtures and Qualitative Analysis Mix. 1 2. Separation of Binary Mixtures and Qualitative Analysis Mix. 2 3. Separation of Binary Mixtures and Qualitative Analysis Mix. 3 4. Separation of Binary Mixtures and Qualitative Analysis Mix. 4	24.3
	1. Separation of Binary Mixtures and Qualitative Analysis Mix. 1 2. Separation of Binary Mixtures and Qualitative Analysis Mix. 1 3. Preparation of 1, 4- dihydropyrimidinone from ethyl acetoacetate, benzaldehyde and urea using oxalic acid as catalyst. 4. Preparation P-chloro benzoic acid and p-chloro benzyl alcohol from p-chloro benzaldehyde.	24.3
	1. Amide derivative of Carboxylic acid 2. . Glucosazone derivative of Glucose 3. . Paracetamol from p-Aminopheno	24.3
	Revision	
	Exam/Vacation	


Signature of Teacher


Department Head Chemistry
ARTS, COMMERCE & SCIENCE COLLEGE
Dindori, Tal. Dindori, Dist. Nashik.

Department of CHEMISTRY
Teaching Plan (Course wise)
Academic Year : 2021-2022
Semester: I

Name of Teacher: L. C. Gorade


Class: T.Y. B.Sc.

Title of the Paper: Organic chemistry Practical

Paper:CH-506

Lectures allotted:73

Year	Topic	No. of Lectures
Academic year 2021-22 Online/offline teaching as per rules and regulation of Govt. of Maharashtra and SPPU, Pune	Admission + Introduction of syllabus	
	5. Separation of Binary Mixtures and Qualitative Analysis Mix. 1 6. Separation of Binary Mixtures and Qualitative Analysis Mix. 2 7. Separation of Binary Mixtures and Qualitative Analysis Mix. 3 8. Separation of Binary Mixtures and Qualitative Analysis Mix. 4	24.3
	5. Separation of Binary Mixtures and Qualitative Analysis Mix. 1 6. Separation of Binary Mixtures and Qualitative Analysis Mix. 1 7. Preparation of 1, 4- dihydropyrimidinone from ethyl acetoacetate, benzaldehyde and urea using oxalic acid as catalyst. 8. Preparation P-chloro benzoic acid and p-chloro benzyl alcohol from p-chloro benzaldehyde.	24.3
	4. Amide derivative of Carboxylic acid 5. . Glucosazone derivative of Glucose 6. . Paracetamol from p-Aminopheno	24.3
	Revision	
	Exam/Vacation	


Signature of Teacher


Department of Chemistry
ARTS, COMMERCE & SCIENCE COLLEGE
Dindori, Tal. Dindori, Dist. Nashik.

Department of CHEMISTRY
Teaching Plan (Course wise)
Academic Year : 2021-2022
Semester: II

Name of Teacher: Panpatil P. K.

Class: T.Y. B.Sc.

Title of the Paper: Organic chemistry Practical

Paper:CH-609

Lectures allotted:73

Year	Topic	No. of Lectures
Academic year 2021-22 Online/offline teaching as per rules and regulation of Govt. of Maharashtra and SPPU, Pune	Admission	
	A) Interpretation of IR and NMR spectra (2 Experiments of each type) 1. Determination of functional group of organic compound from given IR spectra. 2. Determination of structure of organic compound from given NMR spectra. 3. Organic Estimations: 1) Estimation of glucose 2) Estimation of glycine	24.3
	1) Saponification value of oil 2) Organic Extractions- 1. Caffeine from tea leaves 2. Eugenol from cloves 3. Lycopene from tomato peels	24.3
	1. Separation of mixture of aldehyde and carboxylic acid by column chromatography 2. Separation of mixture of O-nitrophenol and P-nitrophenol by column chromatography	24.3
	Exam	
	Exam/Vacation	


Signature of Teacher


Department Head
Department of Chemistry
ARTS, COMMERCE & SCIENCE COLLEGE
Dindori, Tal. Dindori, Dist. Nashik.

Department of CHEMISTRY
Teaching Plan (Course wise)
Academic Year : 2021-2022
Semester: I

Name of Teacher: Zoman R. R.

Class: T.Y. B.Sc.

Title of the Paper: Chemistry of Biomolecules

Paper:CH-508

Lectures allotted:36

Year	Topic	No. of Lectures
Academic year 2021-22 Online/offline teaching as per rules and regulation of Govt. of Maharashtra and SPPU, Pune	Admission + Introduction of syllabus	-
	Unicellular and multicellular organisms, prokaryotes and eukaryotes. List of cell organelles and its functions. Molecules that constitute the organisation of cell and its organelles. types of bonds in biomolecules. Introduction, classification of carbohydrates, their structures and biological significance. Concept of anomers, epimers, reducing and non-reducing sugars, mutarotation, inversion. Reactions of glucose with acid, base, phenyl hydrazine, oxidizing agents, reducing agents and its significance, Glycosidic bonds. Introduction, classification of lipids, their structures and biological significance. Reactions of Lipids-Saponification Hydrolysis, emulsification, oxidation.	12
	Concept of saponification number, acid number, iodine number and their significance. Rancidity. Types of Lipoproteins and their significance. Blood group substances. 4. Amino acids and Proteins, Amino acids: classification of amino acids. Concept of ampholytes, isoelectric pH, zwitter ions, titration curve of glycine. Reactions of amino acid with Ninhydrin, Sanger's, Dansyl chloride,	12
	Proteins: Classification based on function, nutrition and composition. Structural organization of proteins- primary, secondary, tertiary and quaternary structures. Classification of enzymes. Features of active site. ES complex formation, Enzyme specificity, Factors affecting enzyme activity. Basics of Enzyme kinetics. MM and LB equation and Significance of Km. Types of Enzyme inhibitions. Concept of Conjugated enzymes Holoenzyme, Apoenzyme, prosthetic groups. Coenzymes of vitamins. Industrial applications of enzymes. 6. Hormones (6L) Introduction to endocrine glands and their hormones. Biochemical nature of hormones, Mechanism of action of lipophilic and hydrophilic hormones.	12
	Exam.	
	Exam/Vacation	


Signature of Teacher


Department Head Chemistry
ARTS, COMMERCE & SCIENCE COLLEGE
Dindori, Tal. Dindori, Dist. Nashik.

Department of CHEMISTRY
Teaching Plan (Course wise)
Academic Year : 2021-2022
Semester: I

Name of Teacher: R. R. Zoman

Class: T.Y. B.Sc.

Title of the Paper: Analytical Chemistry

Paper:CH-502

Lectures allotted:36

Year	Topic	No. of Lectures
Academic year 2021-22 Online/offline teaching as per rules and regulation of Govt. of Maharashtra and SPPU, Pune	1. Gravimetry : Introduction to gravimetric analysis; Precipitation methods; The colloidal state; Supersaturation and precipitate formation; The purity of the precipitate: Co-precipitation; ; Conditions of precipitation; Precipitation from homogeneous solution; Washing the precipitate; Ignition of the precipitate: quantitative separations based upon precipitation methods: Fractional precipitation; Organic precipitants (8-hydroxyquinoline, DMG, Cupferron, Nitron, and Benzoin-alfa oxime, Anthanilic acid), Gravimetric Calculations—How Much Analyte is there , Applications of Gravimetry: Determination of Al(III) by 8-hydroxyquinoline, Determination of calcium as oxalate; Determination of potassium as potassium tetrphenylborate, Determination of phosphate as ammonium molybdophosphate, Numericals,	12
	2. Inorganic Qualitative Analysis ,Basic principle, common ion effect, solubility, solubility product, preparation of original solution, classification of basic radicals in groups, separation of basic radicals, removal of interfering anions (phosphate and borate), detection of acid radicals.	12
	Parameters of instrumental analysis : Techniques, Methods, Procedures, and Protocols, Selecting an Analytical Method, Accuracy, Precision, Sensitivity, Selectivity, Robustness and Ruggedness, Scale of Operation, equipment, Time, and Cost, Making the Final Choice, Developing the Procedure, Calibration and Standardization, Sampling, Validation,	12
	3. Thermal methods of analysis : General discussion, Thermogravimetry, Experimental factors affecting TG analysis, Instruments for thermogravimetry, Applications: Thermogravimetric analysis of CaC ₂ O ₄ H ₂ O, CuSO ₄ 5H ₂ O, Differential Thermal Analysis: Introduction, instrumentation for DTA and DSC, experimental and instrumental factors, applications: DTA of copper sulphate pentahydrate, Purity of pharmaceutical by DSC.	
	4. UV-Visible spectroscopy :Introduction, Theory of spectrophotometry and colorimetry-Beer's law, Application of Beer's Law, Spectrophotometry: Wavelength selection by prism and diffraction grating, Radiation source, cells, data presentation, single-beam spectrophotometer, Double-beam spectrophotometers, Choice solvent, general procedure for colorimetric estimation, simultaneous analysis, Applications: Estimation of metal ions from aqueous solution: Boron in steel, Chromium in steel with diphenyl carbazide reagent, ammonia in water, Chloride, Primary amine, Determination of phenol, spectrophotometric titration (example Cu(II) with EDTA), Determination of pKa value of indicator, Determination of composition of metal complexes using Job's method of continuous variation and mole ratio method	
	Revision	
	Exams	
Exam/Vacation		


Signature of Teacher


Department Head Chemistry
ARTS, COMMERCE & SCIENCE COLLEGE
Dindori, Tal. Dindori, Dist. Nashik.

MVP Samaj's
Arts, Science & Commerce College, Dindori, Tal. Nashik-422202

Department of CHEMISTRY
Teaching Plan (Course wise)
Academic Year : 2021-2022
Semester: I

Name of Teacher: L. C. Gorade

Class: T.Y. B.Sc.

Paper:CH-510B

Title of the Paper: Polymer Chemistry

Lectures allotted:48

Year	Topic	No. of Lectures
Academic year 2021-22 Online/offline teaching as per rules and regulation of Govt. of Maharashtra and SPPU, Pune	1. Introduction and history of polymeric materials: Brief history, Basic terms- monomer, polymer, polymerisation, degree of polymerisation, functionality. Different schemes of classification of polymers, polymer nomenclature, molecular forces and chemical bonding in polymers, glass transition temperature of polymer.	06
	2. Polymerization Chemistry : Classification of polymerization processes, mechanism of- step growth, radical chain growth, ionic chain (both cationic and anionic) and coordination polymerizations. Polymerization techniques-bulk, solution, suspension, emulsion and interfacial condensation.	12
	3. Molecular weight of Polymers :Average molecular weight of polymer, Number average molecular weight (Mn), Weight average molecular weight (Mw), Number average molecular weight by end group analysis, Viscosity average molecular weight by viscometric method, kIMolecular weight distribution and its significance, polydispersity index	06
	4. Important Polymers: (12 L) Brief introduction to preparation, structure, properties and application of the following polymers: polyethylene, polystyrene, polyvinyl chloride, polyvinyl alcohol, polymethyl methacrylate, polytetrafluoroethylene, polyamides, polyesters, phenol formaldehyde resins	12
	Revision	
Exam.		



Signature of Teacher



Department Head Chemistry
ARTS, COMMERCE & SCIENCE COLLEGE
Dindori, Tal. Dindori, Dist. Nashik.

Department of CHEMISTRY

Teaching Plan (Course wise)

Academic Year : 2021-2022

Semester: I

Name of Teacher: L. C. Gorade

Class: T.Y. B.Sc.

Paper:CH-511A

Title of the Paper: Environment Chemistry

Lectures allotted:36

Year	Topic	No. of Lectures
Academic year 2021-22 Online/offline teaching as per rules and regulation of Govt. of Maharashtra and SPPU, Pune	1: Concepts and Scope of Environmental Chemistry (06L) Introduction, Environmental Pollution and Classification, Units of concentration, Segments of Environment, Biogeochemical cycles of C, N, P, S and O system. 2: Hydrosphere and Water Pollution Water resources, Hydrological Cycle: stages of hydrological cycle and chemical composition of water bodies, Microbially mediated aquatic reactions, Classification of water pollutants Organic and Inorganic pollutants, Sewage and Domestic waste	12
	, Sediments, Detergents, Pesticides, Eutrophication, Sampling and monitoring water quality parameters: pH, D.O. (Winkler Method), COD, TOC, Total hardness, free chlorine. 3. Analytical Techniques in water Analysis :Water quality parameters and standards, domestic water quality parameters, surface water, sampling, preservation, Monitoring techniques and methodology (pH, conductance, DO, ammonia, nitrate and nitrite, Cl, F, CN, Sulfide, sulphate, phosphate,	12
	4. Water pollution and treatment methods :Water pollutants, Eutrophication, Waste water treatment (domestic waste water, aerobic treatment, anaerobic treatment, upflow aerobic sludge bed, industrial waste water treatment, drinking water supplies, Trace elements in water, chemical speciation (Cu, Pb, Hg, As, Se, Cr).	12
	.Revision	
	Exam	
	Exam/vacation	



Signature of Teacher


Department of Chemistry
ARTS, COMMERCE & SCIENCE COLLEGE
Dindori, Tal. Dindori, Dist. Nashik.

Department of CHEMISTRY
Teaching Plan (Course wise)
Academic Year : 2021-2022
Semester: II

Name of Teacher: Gorade .L.C

Class: T.Y. B.Sc.

Paper:CH-610A

Title of the Paper: Chemistry of Soils and Agrochemicals

Lectures allotted:36

Year	Topic	No. of Lectures
Academic year 2021-22 Online/offline teaching as per rules and regulation of Govt. of Maharashtra and SPPU, Pune	1. Soil Chemistry Role of agricultural chemistry Introduction to soil chemistry, definitions of soil, Soil components- Mineral component, organic matter or humus, soil atmosphere, soil water, soil microorganism. Physical properties of soil- Soil texture, soil structure, soil colour, soil temperature, soil density, porosity of soil. Surface soil and sub-soil, Functions of soil. Chemical properties of soil - Soil reactions, importance of soil reaction, factors controlling soil reactions, Buffer action, buffering capacity, importance of buffer reaction in agriculture, ion exchange and importance of ion exchange. 2.1 Introduction to problematic soils. Acid soils- formation of acid soil, effect of soil acidity on plant, reclamation of acidic soil, application of lime in improving the acidity of soil, lime requirements Alkali Soil- formation of alkali soil, reclamation of alkali soil. Classification of alkali soil- saline soil, alkali soil, saline alkali soil, non-saline alkali soil. Soil testing - Introduction, different methods of soil fertility evaluation. 2.6 Objectives of soil testing	12
	3. Laboratory Methods of Soil Analysis :Collection of soil Samples from field. Soil sample preparation for analysis of various parameters. Digestion and Extraction Procedures for soilProject/ Hands on training of Analysis of various parameters of soil and writing project on it. 4. Fertilizers and Manures (Fertilizers Introduction, Classification of nitrogenous fertilizers, reaction of ammonium sulphate, urea as a fertilizer in soil. Nano fertilizers- Nano-Fertilizers for Sustainable Crop Production, Nano urea- preparation, forms and application of nano urea. Phosphatic fertilizers- Classification of phosphatic fertilizers, reactions of superphosphate as a fertilizer in soil. Potassic fertilizers - Classification of potassic fertilizers, reactions of potash fertilizer in soil. Complex fertilizers	
	- Characteristics, advantages and disadvantages, Mixed fertilizers - Characteristics, advantages and disadvantages. Time and mode of applications of fertilizers in the solid and liquid form to plants. Factors affecting efficiency of fertilizers. Manures Introduction, Definition and classification of manures. Effect of bulky organic manures on soil. Farm yard manures (FYM), improved methods of handling FYM- Trench method for FYM, Factors affecting the composition of FYM, losses during the handling and storage of FYM, Gober gas-compost plant - construction and advantages. Biofertilizers - Definition, classification, role & advantages. Vermicompost -Preparation, effect of vermicompost on soil fertility.	12
	5. Protection of Plants Classification of pesticides. Insecticide- Definition, Classification on the basis of mode of action and chemical properties. Inorganic insecticides - plants or animal origin insecticides- nicotine, pyrethrum, rotenone. Synthetic organic insecticides a) Organochlorine insecticides - DDT, BHC, Aldrin and dieldrin. b) Organophosphorus insecticides - Parathion, Malathion, c) Carbamate insecticides - Carbaryl, Baygon. Fungicide - Definition and Classification of fungicides. Inorganic fungicide- Copper fungicides a) Bordeaux mixture, b) Copper oxychloride. Organic fungicides- Dithiocarbamate, Quinone fungicides, Heterocyclic fungicides. Synthetic fungicides.	12
	Revision / Exams	
Exam/Vacation		


Signature of Teacher


Department of Chemistry
ARTS, COMMERCE & SCIENCE COLLEGE
Dindori, Tal. Dindori, Dist. Nashik.

MVP Samaj's
Arts, Science & Commerce College, Dindori, Tal. Nashik-422202

Department of CHEMISTRY
Teaching Plan (Course wise)
Academic Year : 2021-2022
Semester: II

Name of Teacher: Gorade L. C.

Class: T.Y. B.Sc.

Paper:CH-611A

Title of the Paper: Analytical Chemistry-II

Lectures allotted: 36

Year	Topic	No. of Lectures
Academic year 2021-22 Online/offline teaching as per rules and regulation of Govt. of Maharashtra and SPPU, Pune	Solvent extraction - Introduction to solvent extraction, organic phase, Partition the theory of extraction (distribution coefficient, Distribution ratio, solute remaining unextracted, Separation coefficient), Factors favoring solvent extraction, Quantitative treatment to solvent extraction equilibrium, Ion association complexes, synergic extraction, some extraction reagent specifically used for inorganic ions (Acetylacetone, 8-Hydroxyquinoline, Diphenylthiocarbazone, Sodium diethyldithiocarbamate, Ammonium pyrrolidine dithiocarbamate), some practical aspects, Applications: determination of copper as the diethyldithiocarbamate complex, Determination of Fe(III) with 8-hydroxyquinoline, determination of nickel by synergistic extraction. Solid phase	08
	2. Instrumental Methods of Chromatographic Analysis Principles of Chromatographic Separations, classification, Theory of Column Efficiency in Chromatography, (theoretical plate, rate theory of chromatography - the Van Deemter equation, efficiency and particle size in HPLC, retention factor efficiency and resolution,	04
	High Performance Liquid Chromatography Introduction, Types of liquid chromatography (liquid-solid, liquid-liquid, bonded phases), Choice of mode of separation, Equipment for HPLC: mobile phase, sample injection and column design (mobile phase, optimization of mobile phase, gradient elution, solvent delivery and sample injection, sample injection system, the column (effect of column length and column diameter), Choosing the Detector, Ultraviolet detector, Luminescence detector, RI detector, electrochemical detector, Column efficiency, HPLC chromatogram and its characteristics (retention time, peak height, peak area), method of quantitative analysis by HPLC, Example: determination of aspirin, phenacetin and caffeine in a mixture, numerical,	06
	Gas Chromatography Introduction, Apparatus: A supply of carrier gas from a high-pressure cylinder, Sample injection system and derivatization, the column (Packed columns, Open tubular columns), the detector (properties, hot wire detector or TCD, FID, ECD), Quantitative analysis by GC (Area normalization method and internal standard addition method), Elemental analysis, numerical	06
	Atomic Absorption Spectroscopy Introduction, Elementary theory, Instrumentation, flames, the nebulizer-burner system, non-flame techniques, (graphite furnace, cold vapour technique), resonance line sources, monochromator, detectors, interferences, chemical interferences, background correction methods, Atomic absorption spectrophotometers, Experimental preliminaries (calibration curve methods, standard addition method) Preparation of sample (wet ashing, fusion, Dry ashing, microwave dissolution, concentration procedures), Detection limits, Estimation of Ca and Mg in water.	08
	Flame Emission Spectroscopy Introduction, emission spectra, flame emission spectroscopy, flame photometers. Evaluation methods, calibration curve procedure, the standard addition technique, Applications: determination of alkali metals by flame photometry, determination of trace elements in contaminated soil by AAS. Numerical,	04
	Revision / Exams	
Exam/Vacation		


Signature of Teacher


Department Head Chemistry
ARTS, COMMERCE & SCIENCE COLLEGE
Dindori, Tal. Dindori, Dist. Nashik.

MVP's
Arts, Science & Commerce College, Dindori, Tal. Nashik-422202

Department of CHEMISTRY

Teaching Plan (Course wise)

Academic Year : 2021-2022

Semester: II

Name of Teacher: Smt. Avhad L. S.

Class: T.Y. B.Sc.

Paper: CH-602

Title of the Paper: Physical Chemistry Paper-III

Lectures allotted: 36

Year	Topic	No. of Lectures
Academic year 2021-22 Online/offline teaching as per rules and regulation of Govt. of Maharashtra and SPPU, Pune	Introduction, Solution, electrolytes and nonelectrolytes, Meaning of term colligative property, relative lowering of vapour pressure of solvent in solution, elevation of B.P. of solvent in solution, Landsberger's method, freezing point depression, Beckmann's method, Osmosis and Osmotic pressure, Berkeley and Hartley method, application of colligative properties to determine molecular weight of nonelectrolyte, abnormal molecular weight, Relation between Vant Hoff's factor and degree of dissociation of electrolyte by colligative property, Numerical. Some General Considerations, Factors affecting reactions in Solids, Rate Laws for Reactions in Solids, The Parabolic Rate Law, The First-Order Rate Law,	12
	The Contracting Sphere Rate Law, The Contracting Area Rate Law, The Prout-Tompkins Equation, Rate Laws Based on Nucleation, Applying Rate Laws, Results of Some Kinetic Studies, The Deaquation-Anation of $[\text{Co}(\text{NH}_3)_5\text{H}_2\text{O}]\text{Cl}_3$, Two Reacting Solids Cohesive energy in ionic crystals, electronic structure of solids, conductors and insulators, Ionic crystals, semiconductors	12
	cohesive energy in metal Introduction to Polymer Chemistry, Brief History, Polymer definition, Preparation, Classification, Structures, Chemical bonding & Molecular forces in Polymers. Ref. 1: Pages 1-14, Ref. 2: Pp. 1-16 Molecular weights of polymers: Average Molecular weight, Number Average & Weight Average Molecular weight, Molecular weight & degree of polymerisation, Practical significance of polymer molecular weights, b) Molecular weight determination by End Group Analysis & Viscosity method and c) Problems based on Number Average & Weight Average Molecular weight	12
	Revision	
	Exams/ Vacation	


Signature of Teacher


Head

MVP's
Arts, Science & Commerce College, Dindori, Tal. Nashik-422202

Department of CHEMISTRY

Teaching Plan (Course wise)

Academic Year : 2021-2022

Semester: II

Name of Teacher: Smt. Avhad L. S.

Class: T.Y. B.Sc.

Paper: CH-605

Title of the Paper: Inorganic Chemistry Paper-III

Lectures allotted: 36

Year	Topic	No. of Lectures
Academic year 2021-22 Online/offline teaching as per rules and regulation of Govt. of Maharashtra and SPPU, Pune	Acid-Base Models as Organizing Concepts, Arrhenius Concept, Brønsted-Lowry Concept, solvent system concept, Lux Flood concept, Lewis Concept, Frontier Orbitals and Acid-Base Reactions, Hard and soft acids and bases, theory of hard and soft acids bases, Acid and base strength (proton affinity, acidity and basicity of binary hydrogen compounds, inductive effects, steric effect, strength of oxy acids, acidity of cations in aqueous solutions, non-aqueous solvents and acid and base strengths, super acids). Crystalline and amorphous solids, crystal structures simple cubic, body centered cubic and face centered cubic, Properties of ionic solids, packing arrangements of anions in an ionic solids	12
	Voids in crystal structure- tetrahedral and octahedral, Ionic radius, Palings univalent and crystal radii, Conversion of univalent radii to crystal radii, problems based on conversion of radii, Radius ratio effect, Lattice energy, Born-Lande equation, Born Haber cycle and its applications, Schottky and Frenkel defect. Historical Background, Natural and artificial Zeolites, Zeolite Framework Types: Classification, Nomenclature, Database of Zeolite Structures, Channels, Building Units, Natural Tiles, Framework Density, Coordination Sequences Zeolite Structures: Framework Composition, Extra-framework Species, Stacking Faults and Disorder Synthesis of Zeolites: Introduction, Basic Zeolite Synthesis, Mineralizing Agents, Effects of water concentration, Gel preparation and crystallization, Structure Directing Agents (SDA)	12
	Applications 1. Zeolites as Heterogeneous Catalysts: Critical Properties for Catalysis, Catalytic Applications, Zeolites for Fine Chemistry: Acylation and Alkylation Aromatic Hydrocarbons, 2. Zeolites for Adsorption and Separations Synthesis and Stabilization of Nanoparticles by Chemical Reduction, Reactions in Micelles, Emulsions, and Dendrimers. Photochemical and Radiation Chemical Reduction, Cryochemical Synthesis, Physical Methods. Particles of Various Shapes and Films, Properties and Application of Nanoparticles in Science and Technology (in brief), Applications of CNTs Toxic chemicals in the environment, Impact of toxic chemistry on enzymes. Biochemical effect of Arsenic, Cadmium, Lead and Mercury. Biological methylation	12
	Revision	
	Exams/ Vacation	


Signature of Teacher


Department Head Chemistry
ARTS, COMMERCE & SCIENCE COLLEGE
Dindori, Tal. Dindori, Dist. Nashik.

Department of CHEMISTRY
Teaching Plan (Course wise)
Academic Year : 2021-2022
Semester: I

Name of Teacher: Zoman R. R.

Class: S.Y. B.Sc.

Paper:CH-302

Title of the Paper: Organic and Inorganic Chemistry

Lectures allotted:36

Year	Topic	No. of Lectures
Academic year 2021-22 Online/offline teaching as per rules and regulation of Govt. of Maharashtra and SPPU, Pune	Admission + Syllabus introduction	
	Molecular Orbital Theory of Covalent Bonding Introduction to Molecular Orbital Method (MOT) and postulates of MO theory, LCAO approximation, s-s combination of orbitals, s-p combination of orbitals, p-p combination of orbitals, p-d combination of orbitals, d-d combination of orbitals, non-bonding combination of orbitals, Rules for linear combination of atomic orbitals, example of molecular orbital treatment for homonuclear diatomic molecules: Explain following molecules with respect to MO energy level diagram, bond order and magnetism: H_2^+ molecule ion, H_2 molecule, He_2^+ molecule ion, He_2 molecule, Li_2 molecule, Be_2 molecule, B_2 molecule, C_2 molecule, N_2 molecule, O_2 molecule, O_2^- and O_2^{2-} ion, F_2 molecule, Heteronuclear diatomic molecules: NO, CO, HF.	16
	Introduction to Coordination Compounds: Double salt and coordination compound, basic definitions: coordinate bond, ligand, types of ligands, chelate, central metal ion, charge on complex ion, calculation of oxidation state of central metal ion, metal ligand ratio; Werner's work and theory, Effective atomic number, equilibrium constant	04
	Aromatic Hydrocarbons: Introduction and IUPAC nomenclature, preparation (Case benzene): from phenol, by decarboxylation, from acetylene, from benzene sulphonic acid. Reactions (Case benzene): Electrophilic substitution: nitration, halogenation and sulphonation. Friedel-Craft's reaction (alkylation and acylation) (up to 4 carbons on benzene). Side chain oxidation of alkyl benzenes (up to 4 carbons on benzene). Alkyl Halides (up to 5 Carbons): Introduction and IUPAC nomenclature, Types of Nucleophilic Substitution (SN^1 , SN^2 and SNi) reactions. Preparation: from alkenes and alcohols. Reactions: hydrolysis, nitrite & nitro formation, nitrile & isonitrile formation. Williamson's ether synthesis: Elimination vs. substitution. Aryl Halides: Introduction and IUPAC nomenclature, Preparation: (Chloro, bromo and iodo-benzene case): from phenol, Sandmeyer and Gattermann reactions. Reactions (Chlorobenzene): Aromatic nucleophilic substitution (replacement by -OH group) and effect of nitro substituent. Benzyne Mechanism: KNH_2/NH_3 (or $NaNH_2/NH_3$). Reactivity and Relative strength of C-Halogen bond in alkyl, allyl, benzyl, vinyl and aryl halides. Alcohols: Introduction and IUPAC nomenclature, Preparation: Preparation of 1o, 2o and 3o alcohols oxidation of diols. Pinacol-Pinacolone rearrangement. Phenols (Phenol case): Introduction and IUPAC nomenclature, Preparation: Cumene hydroperoxide method, from diazonium salts. Reactions: Electrophilic substitution: Nitration, halogenation and sulphonation. Reimer-Tiemann Reaction, Gattermann Reaction, Houben-Hoesch Condensation, Schotten-Baumann Reaction. Ethers (aliphatic and aromatic): Cleavage of ethers with HI.	16
	Revision	
	Exam/Vacation	


Signature of Teacher


Department Head Chemistry
ARTS, COMMERCE & SCIENCE COLLEGE
Dindori, Tal. Dindori, Dist. Nashik.

Department of CHEMISTRY
Teaching Plan (Course wise)
Academic Year : 2021-2022
Semester - II

Name of Teacher: Zoman R.R.

Class: S.Y. B.Sc.

Paper: CH-402

Title of the Paper: Organic and Inorganic Chemistry

Lectures ::allotted:36

Year	Topic	No. of Lectures
Academic year 2021-22 Online/offline teaching as per rules and regulation of Govt. of Maharashtra and SPPU, Pune	Isomerism in coordination complexes: Introduction, polymerization isomerism, ionization isomerism, hydrates isomerism, linkage isomerism, coordination isomerism, coordination position isomerism, geometric isomerism, optical isomerism. Valence Bond Theory of Coordination Compounds Aspects and assumptions of VBT, applications of VBT on the basis of hybridization to explain the structure and bonding in $[\text{Ag}(\text{NH}_3)_2]^+$, $[\text{Ni}(\text{Cl}_4)]^{2-}$, $[\text{Ni}(\text{CN})_4]^{2-}$, $[\text{Cr}(\text{H}_2\text{O}_6)]^{3+}$, $[\text{Fe}(\text{CN})_6]^{3-}$ (Inner orbital complex) and $[\text{FeF}_6]^{3-}$ (outer orbital complex). Use of observed magnetic moment in deciding the geometry in complexes with C.N.4, limitations of VBT. Crystal Field Theory Shapes of d-orbitals, Crystal field Theory (CFT): Assumptions, Application of CFT to i) Octahedral complexes (splitting of 'd' orbitals in Oh ligand field, effect of weak and strong ligand fields, colour absorbed and spectrochemical series, crystal splitting energy, Crystal field stabilization energy and factors affecting it, tetragonal distortion in Cu(II) complexes) ii) Square planar complexes and iii) Tetrahedral complexes; spin only magnetic moment of Oh and Td complexes.	16
	Aldehydes and Ketones (aliphatic and aromatic) (Formaldehyde, acetaldehyde, acetone and benzaldehyde) introduction and IUPAC nomenclature, Preparation: from acid chlorides and from nitriles. Reactions – Reaction with HCN, ROH, NaHSO ₃ , NH ₂ -G derivatives. Iodoform test, Aldol Condensation, Cannizzaro's reaction, Wittig reaction, Benzoin condensation, Clemenson reduction and Wolff Kishner reduction. Meerwein-Ponndorf Verley reduction. Carboxylic acids and their derivatives Carboxylic acids (aliphatic and aromatic): Introduction and IUPAC nomenclature, Preparation: Acidic and Alkaline hydrolysis of esters. Reactions: Hell-Vohlard - Zelinsky Reaction. Carboxylic acid derivatives (aliphatic): (up to 5 carbons) Preparation: Acid chlorides, Anhydrides, Esters and Amides from acids and their inter conversion. Reaction: Comparative study of nucleophilicity of acyl derivatives. Reformatsky Reaction, Perkin condensation. Amines and Diazonium Salts: [4 L] Amines (Aliphatic and Aromatic): Introduction and IUPAC nomenclature, Preparation from alkyl halides, Gabriel's Phthalimide synthesis, Hofmann Bromamide reaction. Reactions: Hofmann vs. Saytzeff elimination, Electrophilic substitution (Case Aniline): nitration, bromination, sulphonation. Diazonium salts: Preparation from aromatic amines. Stereochemistry of Cyclohexane: Bayer's strain theory, heat of combustion of cycloalkanes, structure of cyclohexane, axial and equatorial H atoms, conformations of cycloalkane, stability of conformations of cyclohexane, methyl and t-butyl monosubstituted cyclohexane, 1,1 and 1,2 dimethyl cyclohexane and their stability.	20
	Exam.	
Exam/Vacation		

Signature of Teacher

Department Head
Chemistry
ARTS, COMMERCE & SCIENCE COLLEGE
Dindori, Tal. Dindori, Dist. Nashik.

Department of CHEMISTRY
Teaching Plan (Course wise)
Academic Year : 2021-2022

Semester - I

Name of Teacher: S. M. Page

Class: S.Y. B.Sc.

Paper: CH-303

Title of the Paper: Chemistry Practical

Lectures allotted:72

Year	Topic	No. of Lectures
Academic year 2021-22 Online/offline teaching as per rules and regulation of Govt. of Maharashtra and SPPU, Pune	Admission + Introduction of syllabus	
	1. To Study the Acid catalysed hydrolysis of an ester (methyl Acetate) and determine the rate constant (k). (first order reaction) 2. To study the kinetics of saponification reaction between sodium hydroxide and ethyl acetate. 3. To compare the relative strength of HCl and H ₂ SO ₄ or HNO ₃ by studying the kinetics of hydrolysis of methyl acetate. 4. Estimation of Fe(III) from given solution by converting it to Fe(II) using Zn metal and then by titrating with standard solution of K ₂ Cr ₂ O ₇ -A Green Approach	24
	5. Separation and Identification of metal ions by Paper Chromatography 6. Separation of Two Components from given binary mixture of organic compounds containing mono-functional group (Ex. - carboxylic acid, phenols, amines, amide, nitro, etc.) and systematic identification of each component qualitatively. 7. Preparation of benzoic acid from ethyl benzoate (Identification and confirmatory Test of -COOH group, M.P and purity by TLC) 8. Determination of acetic acid in commercial vinegar by titrating with standard NaOH. Express your results as average \pm standard deviation.	24
	9. To determine equivalence point of neutralisation of acetic acid by pH-metric titration with NaOH and to find best indicator for the titration. 10. Estimation of Aspirin from a given tablet and find errors in quantitative analysis. (Standardization of acid must be performed with standard Na ₂ CO ₃ solution, prepared from dried anhydrous AR grade Na ₂ CO ₃)	24
	Revision	
	Exam/Vacation	


Signature of Teacher


Department Head Chemistry
ARTS, COMMERCE & SCIENCE COLLEGE
Dindori, Tal. Dindori, Dist. Nashik.

Department of CHEMISTRY
Teaching Plan (Course wise)
Academic Year : 2021-2022

Semester - I

Name of Teacher: R. R. Zoman

Class: S.Y. B.Sc.

Title of the Paper: Chemistry Practical

Paper: CH-303

Lectures allotted:72

Year	Topic	No. of Lectures
Academic year 2021-22 Online/offline teaching as per rules and regulation of Govt. of Maharashtra and SPPU, Pune	Admission + Introduction of syllabus	
	11. To Study the Acid catalysed hydrolysis of an ester (methyl Acetate) and determine the rate constant (k). (first order reaction) 12. To study the kinetics of saponification reaction between sodium hydroxide and ethyl acetate. 13. To compare the relative strength of HCl and H ₂ SO ₄ or HNO ₃ by studying the kinetics of hydrolysis of methyl acetate. 14. Estimation of Fe(III) from given solution by converting it to Fe(II) using Zn metal and then by titrating with standard solution of K ₂ Cr ₂ O ₇ -A Green Approach	24
	15. Separation and Identification of metal ions by Paper Chromatography 16. Separation of Two Components from given binary mixture of organic compounds containing mono-functional group (Ex. - carboxylic acid, phenols, amines, amide, nitro, etc.) and systematic identification of each component qualitatively. 17. Preparation of benzoic acid from ethyl benzoate (Identification and confirmatory Test of -COOH group, M.P and purity by TLC) 18. Determination of acetic acid in commercial vinegar by titrating with standard NaOH. Express your results as average \pm standard deviation.	24
	19. To determine equivalence point of neutralisation of acetic acid by pH-metric titration with NaOH and to find best indicator for the titration. 20. Estimation of Aspirin from a given tablet and find errors in quantitative analysis. (Standardization of acid must be performed with standard Na ₂ CO ₃ solution, prepared from dried anhydrous AR grade Na ₂ CO ₃)	24
	Revision	
	Exam/Vacation	


Signature of Teacher


Department Head
ARTS, COMMERCE & SCIENCE COLLEGE
Dindori, Tal. Dindori, Dist. Nashik.

Department of CHEMISTRY
Teaching Plan (Course wise)
Academic Year : 2021-2022

Semester - II

Name of Teacher: S. M. Page

Class: S.Y. B.Sc.

Paper: CH-403

Title of the Paper: Chemistry Practical

Lectures allotted:72

Year	Topic	No. of Lectures
Academic year 2021-22 Online/offline teaching as per rules and regulation of Govt. of Maharashtra and SPPU, Pune	a) To determine the cell constant of the given cell using 0.01 M KCl solution and determine dissociation constant of a given monobasic weak acid. b) To investigate the conductometric titration of any one of the following a) Strong acid against strong base b) Strong base against weak acid. c) Separation of binary mixture of cations by Column Chromatography by ion exchange resins / cellulose (any one mixture) (Co + Al, Cu + Mg, Zn+Mg). Separation of cations must be confirmed by qualitative test d) To study the variation of mutual solubility temperature with % concentration for the phenol - water system .	24
	a) To study the effect of added electrolyte on the critical solution temperature of phenol- water system and to determine the concentration of the given solution of electrolyte b) To verify the Freundlich and Langmuir adsorption isotherm for adsorption of acetic acid on activated charcoal. c) Synthesis of sodium cobaltinitrite (a laboratory chemical) from Co(II) salt and NaNO ₂ salts. Comment on colour and magnetic properties of the complex. d) Synthesis of potassium Tris(oxalate)aluminium(III) using Al metal powder(Scrap aluminium). Comment on colour and magnetic properties of the complex.	24
	a) Prepare standard solutions of KMnO ₄ / CuSO ₄ , record their absorbance and Verify Beer's Law and determine unknown concentration. b) Prepare solution of Fe(III) and SCN ⁻ of in different molar proportion, record their absorbance and calculate equilibrium constant of [Fe(SCN)] ²⁺ complex	24
	Revision	
	Exam/Vacation	


Signature of Teacher


Head

Department of CHEMISTRY
Teaching Plan (Course wise)
Academic Year : 2021-2022

Semester - II

Name of Teacher: R. R. Zoman

Class: S.Y. B.Sc.

Paper: CH-403

Title of the Paper: Chemistry Practical

Lectures allotted:72

Year	Topic	No. of Lectures
Academic year 2021-22 Online/offline teaching as per rules and regulation of Govt. of Maharashtra and SPPU, Pune	a) To determine the cell constant of the given cell using 0.01 M KCl solution and determine dissociation constant of a given monobasic weak acid. b) To investigate the conductometric titration of any one of the following a) Strong acid against strong base b) Strong base against weak acid. c) Separation of binary mixture of cations by Column Chromatography by ion exchange resins / cellulose (any one mixture) (Co + Al, Cu + Mg, Zn+Mg). Separation of cations must be confirmed by qualitative test e) To study the variation of mutual solubility temperature with % concentration for the phenol - water system .	24
	e) To study the effect of added electrolyte on the critical solution temperature of phenol- water system and to determine the concentration of the given solution of electrolyte f) To verify the Freundlich and Langmuir adsorption isotherm for adsorption of acetic acid on activated charcoal. g) Synthesis of sodium cobaltinitrite (a laboratory chemical) from Co(II) salt and NaNO ₂ salts. Comment on colour and magnetic properties of the complex. h) Synthesis of potassium Tris(oxalate)aluminium(III) using Al metal powder(Scrap aluminium). Comment on colour and magnetic properties of the complex.	24
	c) Prepare standard solutions of KMnO ₄ / CuSO ₄ , record their absorbance and Verify Beer's Law and determine unknown concentration. d) Prepare solution of Fe(III) and SCN ⁻ of in different molar proportion, record their absorbance and calculate equilibrium constant of [Fe(SCN)] ²⁺ complex	24
	Revision	
	Exam/Vacation	

Signature of Teacher

Department Head Chemistry
ARTS, COMMERCE & SCIENCE COLLEGE
Dindori, Tal. Dindori, Dist. Nashik.

Department of CHEMISTRY
Teaching Plan (Course wise)
Academic Year : 2021-2022
Semester : I

Name of Teacher: Page S. M..

Class: S.Y. B.Sc.

Paper:CH-301

Title of the Paper: Physical & Analytical Chemistry

Lectures allotted:18

Year	Topic	No. of Lectures
Academic year 2021-22 Online/offline teaching as per rules and regulation of Govt. of Maharashtra and SPPU, Pune	Admission + Syllabus introduction	
	Introduction to kinetics, the rates of chemical reactions – definition of rates, rate laws and rate constants, reaction order and molecularity, determination of rate law, factors affecting reaction rates, integrated rate laws – zeroth-order reactions, first-order reactions, second-order reactions (with equal and unequal initial concentration of reactants), half-life period, methods for determination order of a reactions, Arrhenius equation- temperature dependence of reaction rates, interpretation of Arrhenius parameters, reaction dynamics - collision theory and transition-state theory of bimolecular reactions, comparison of the two theories, Problems.	12
	Surface Chemistry [6L] Introduction to surface chemistry - some basic terms related to surface chemistry adsorption, adsorption materials, factors affecting adsorption, characteristics of adsorption, types of adsorption, classification of adsorption isotherms, Langmuir adsorption isotherm, Freundlich's adsorption isotherm, BET theory (only introduction), application of adsorption, problems.	06
	Revision	
	Exam/Vacation	


Signature of Teacher


Department Head
Department of Chemistry
ARTS, COMMERCE & SCIENCE COLLEGE
Dindori, Tal. Dindori, Dist. Nashik.

Department of CHEMISTRY
Teaching Plan (Course wise)
Academic Year : 2021-2022
Semester - II

Name of Teacher: Page S. M.

Class: S.Y. B.Sc.

Paper:CH-401

Title of the Paper: Physical & Analytical Chemistry

Lectures allotted:18

Year	Topic	No. of Lectures
Academic year 2021-22 Online/offline teaching as per rules and regulation of Govt. of Maharashtra and SPPU, Pune	Phase equilibrium Introduction; definitions of phase, components and degrees of freedom of a system; stability of phases, criteria of phase equilibrium. Gibbs phase rule and its thermodynamic derivation, phase diagrams of one- component systems- water, carbon dioxide and sulphur systems, problems.	12
	Ideal and real solutions: Introduction, chemical potential of liquids - ideal solutions, ideal dilute solutions - Raoult's and Henry's Law, liquid mixtures, phase diagram of binary systems : liquids - vapour pressure diagrams, temperature composition diagrams, liquid-liquid phase diagrams, solubility of partially miscible liquids-critical solution temperature, effect of impurity on partially miscible liquids, Problems	06
	Revision/Exam	
	Exam	


Signature of Teacher


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Department of Chemistry
ARTS, COMMERCE & SCIENCE COLLEGE
Dindori, Tal. Dindori, Dist. Nashik.

Department of CHEMISTRY
Teaching Plan (Course wise)
Academic Year : 2021-2022
Semester : I

Name of Teacher: Panpatil P. K.


Class: S.Y. B.Sc.

Paper:CH-301

Title of the Paper: Physical & Analytical Chemistry

Lectures allotted:18

Year	Topic	No. of Lectures	
Academic year 2021-22 Online/offline teaching as per rules and regulation of Govt. of Maharashtra and SPPU, Pune	Admission + Syllabus introduction		
	Errors in Quantitative Analysis: Introduction to errors, limitations of analytical methods, classifications of errors, accuracy, precision, minimization of errors, significant figures and computation, methods of expressing accuracy and precision: mean and standard deviations, reliability of results and numerical. (12	
	Volumetric Analysis: Introduction to volumetric analysis, classification of reactions in volumetric analysis, standard solutions, equivalents, normalities, and oxidation numbers, preparation of standard solutions, primary and secondary standards. Types of Volumetric Analysis methods: 1. Neutralization titrations: Theory of indicators, neutralization curves for strong acid strong base, weak acid strong base, weak base strong acid. Preparation of approximate 0.1 M HCl and standardization against anhydrous sodium carbonate, determination of Na ₂ CO ₃ content in washing soda. 2. Complexometric Titrations: Definition of complexing agent and complexometric titration, EDTA-as complexing agent (structure of EDTA and metal ionEDTA complex), Types of EDTA titration (direct and back titration), pH adjustment and amount of indicator in EDTA titration, metal ion indicators (general properties, solochrome black – T, Patton and Reeder's indicator only), standard EDTA solution, determination of Ca(II) and Mg(II), total hardness of water. 3. Redox Titrations: Definition of oxidizing agent, reducing agent, redox titration, K ₂ Cr ₂ O ₇ and KMnO ₄ as oxidizing agents, 1,10- phenanthroline as indicator in reduction titration, diphenyl amine as oxidation indicator, KMnO ₄ as self-indicator, Standard KMnO ₄ solution and standardization with sodium oxalate, Determination of H ₂ O ₂ . 4. Precipitation titrations: precipitation reactions, determination of end point (formation of coloured ppt, formation of soluble coloured compound, adsorption indicator), standard AgNO ₃ soln., standardization of AgNO ₃ soln. – potassium chromate indicator- Mohr's titration, determination of chloride and bromide, determination of iodide. Problems based on analysis	06	
	Revision		
Exam/Vacation			


Signature of Teacher


Department Head
Department of Chemistry
ARTS, COMMERCE & SCIENCE COLLEGE
Dindori, Tal. Dindori, Dist. Nashik.

Department of CHEMISTRY
Teaching Plan (Course wise)
Academic Year : 2021-2022
Semester - II

Name of Teacher : Panpatil P. K.


Class: S.Y. B.Sc.

Paper:CH-401

Title of the Paper: Physical & Analytical Chemistry

Lectures allotted:18

Year	Topic	No. of Lectures
Academic year 2021-22 Online/off line teaching as per rules and regulation of Govt. of Maharashtra and SPPU, Pune	Conductometry: Introduction, Electrolytic Conductance, Resistance, conductance, Ohm's law, cell constant, specific and equivalent conductance, molar conductance, variation of equivalent and specific conductance with concentrations, Kohlrausch's law and its applications, conductivity cell, conductivity meter, Whetstone Bridge, determination of cell constant, conductometric titrations (strong acid-strong base, strong acid-weak base, weak acid strong base) and Numericals.	12
	Introduction, interaction of electromagnetic radiation with matter, essential terms: radiant power, transmittance, absorbance, molar, Lamberts Law, Beer's Law, Lambert-Beer's Law, molar absorptivity, deviations from Beer's Law, Colorimeter: Principle, Construction and components, Working. Applications-unknown conc. By calibration curve method, Determination of unknown concentration of Fe(III) by thiocyanate method, Numericals	
	Column Chromatography: Introduction, Principle of Column Chromatography, Ion Exchange Chromatography: Ion exchange resins, action of ion exchange resin (Ion exchange equilibria, Ion exchange capacity), Experimental technique, Application: i) Separation of Metal ions / non-metal ions on Ion Exchange Chromatography (Zn(II) and Mg(II), Cland Br-), ii) Purification of water, Liquid solid chromatography: Introduction, the technique of conventional chromatography, column packing materials, Selection of solvent for adsorption chromatography, Adsorption column preparation and loading, Application – Purification of anthracene (Ref-5: 209-215, 221), Size Exclusion Chromatography(Supplementary	06
	Revision/Exam	
	Exam	


Signature of Teacher


Head
Department of Chemistry
ARTS, COMMERCE & SCIENCE COLLEGE
Dindori, Tal. Dindori, Dist. Nashik.

Department of CHEMISTRY

Teaching Plan (Course wise)

Academic Year : 2021-2022

Semester: II

Name of Teacher : M. P. Meshram

Class: F.Y. B.Sc.

Paper:CH-201

Title of the Paper: Inorganic chemistry

Lectures allotted:36

Year	Topic	No. of Lectures
Academic year 2021-22 Online/offline teaching as per rules and regulation of Govt. of Maharashtra and SPPU, Pune	<p>Atomic Structure: Origin of Quantum Mechanics: Why study quantum mechanics? Quantum mechanics arose out of interplay of experiments and Theory Energy quantization- i) Black body radiation ii) The photoelectric effect iii) Wave particle duality-a) The particle character of electromagnetic radiation b) the wave character of particle, iv) diffraction by double slit v) atomic spectra, Review of-Bohr's theory and its limitations, Heisenberg Uncertainty principle. Quantum mechanics: Time independent Schrodinger equation and meaning of various terms in it, 2 Significance of ψ and ψ^2, Schrödinger equation for hydrogen atom. Radial and angular parts of the hydrogenic wavefunctions (atomic orbitals) and their variations for 1s, 2s, 2p, 3s, 3p and 3d orbitals (Only graphical representation). Radial and angular nodes and their significance. Radial distribution functions and the concept of the most probable distance with special reference to 1s and 2s atomic orbitals. Significance of quantum numbers, orbital angular momentum and quantum numbers m_l and m_s. Shapes of s, p and d atomic orbitals, nodal planes. Discovery of spin, spin quantum number (s) and magnetic spin quantum number (m_s). 2. Periodic table and Periodicity of Elements Periodic table: periodic table after 150 years, review on the eve of international year of periodic table [IYPT]. Periodicity of elements: Rules for filling electrons in various orbitals, Electronic configurations of the atoms. Stability of half-filled and completely filled orbitals, concept of exchange energy. Relative energies of atomic orbitals, Anomalous electronic configurations Long form of periodic table-s, p, d and f block elements, Detailed discussion of following properties of elements with reference to s and p block a) Effective nuclear charge, shielding or screening effect b) Atomic and ionic radii c) Crystal radii d) Covalent radii e) Ionization energies f) Electronegativity, Pauling's / electronegativity scale g) Oxidation states of elements 3. Chemical Bonding :Attainment of stable electronic configurations, Types of Chemical bonds: Ionic, covalent, coordinate and metallic bonds Ionic Bond: General characteristics of ionic bonding, Types of ions, Energy considerations in ionic bonding, lattice energy and solvation energy and their importance in the context of stability and solubility of ionic compounds. Statement of Born-Landé equation for calculation of lattice energy, Born-Haber cycle and its applications, polarizing power and polarizability. Fajan's rules, ionic character in covalent compounds, bond moment, dipole moment and percentage ionic character.</p>	36

	Covalent bond: Valence Bond Approach, Hybridization with suitable examples of linear, trigonal planar, square planar, tetrahedral, trigonal bipyramidal and octahedral arrangements. VSEPR theory, Assumptions, need of theory, application of theory to explain geometries of molecules such as i) ClF_3 ii) Cl_2O iii) BrF_5 iv) XeO_3 v) XeOF_4	
	Revision	
	Exam	
	Exam/Vacation	

Signature of Teacher

Department Head of Chemistry
 ARTS, COMMERCE & SCIENCE COLLEGE
 Dindori, Tal. Dindori, Dist. Nashik.

Department of CHEMISTRY

Teaching Plan (Course wise)

Academic Year : 2021-2022

Semester: I

Name of Teacher : Zoman R. R.

Class: F.Y. B.Sc.

Paper:CH-103

Title of the Paper: chemistry Practical I

Lectures allotted:46.8

Year	Topic	No. of Lectures
Academic year 2021-22 Online/offline teaching as per rules and regulation of Govt. of Maharashtra and SPPU, Pune	Admission + Introduction of syllabus	
	Chemical and Lab Safety (Compulsory) 1. Toxicity of the compounds used in chemistry laboratory. 2. Safety symbol on labels of pack of chemicals and its meaning 3. What is MSDS sheets? Find out MSDS sheets of at least hazardous chemicals ($K_2Cr_2O_7$, Benzene, cadmium nitrate, sodium metal, etc.) 4. Precautions in handling of hazardous substances like Conc. acids, ammonia, organic solvents, etc.	46.8
	5. Determination of heat capacity of calorimeter for different volumes. 6. Determination of enthalpy of neutralization of hydrochloric acid with sodium hydroxide. 7. Determination of enthalpy of ionization of acetic acid. 8. Measurement of pH of different solutions like aerated drinks, fruit juices, shampoos and soaps (use dilute solutions of soaps and shampoos to prevent damage to the glass electrode) using pH-meter.	
	9. Measurement of the pH of buffer solutions and comparison of the values with theoretical values. 10. To determine type and detection of extra elements (N, S, Cl, Br, I) in organic compounds (containing up to two extra elements) 11. Separation of constituents of mixtures by Chromatography: Measure the R_f value in each case.	
	Revision	
	Exam/Vacation	


Signature of Teacher


Department Head Chemistry
ARTS, COMMERCE & SCIENCE COLLEGE
Dindori, Tal. Dindori, Dist. Nashik.

Department of CHEMISTRY

Teaching Plan (Course wise)

Academic Year : 2021-2022

Semester: I

Name of Teacher : L. C. Gorade


Class: F.Y. B.Sc.

Paper:CH-103

Title of the Paper: chemistry Practical I

Lectures allotted:46.8

Year	Topic	No. of Lectures
Academic year 2021-22 Online/offline teaching as per rules and regulation of Govt. of Maharashtra and SPPU, Pune	Admission + Introduction of syllabus	
	Chemical and Lab Safety (Compulsory) 12. Toxicity of the compounds used in chemistry laboratory. 13. Safety symbol on labels of pack of chemicals and its meaning 14. What is MSDS sheets? Find out MSDS sheets of at least hazardous chemicals ($K_2Cr_2O_7$, Benzene, cadmium nitrate, sodium metal, etc.) 15. Precautions in handling of hazardous substances like Conc. acids, ammonia, organic solvents, etc.	46.8
	16. Determination of heat capacity of calorimeter for different volumes. 17. Determination of enthalpy of neutralization of hydrochloric acid with sodium hydroxide. 18. Determination of enthalpy of ionization of acetic acid. 19. Measurement of pH of different solutions like aerated drinks, fruit juices, shampoos and soaps (use dilute solutions of soaps and shampoos to prevent damage to the glass electrode) using pH-meter.	
	20. Measurement of the pH of buffer solutions and comparison of the values with theoretical values. 21. To determine type and detection of extra elements (N, S, Cl, Br, I) in organic compounds (containing up to two extra elements) 22. Separation of constituents of mixtures by Chromatography: Measure the R_f value in each case.	
	Revision	
	Exam/Vacation	


Signature of Teacher


Department Head Chemistry
ARTS, COMMERCE & SCIENCE COLLEGE
Dindori, Tal. Dindori, Dist. Nashik.

Department of CHEMISTRY

Teaching Plan (Course wise)

Academic Year : 2021-2022

Semester: I

Name of Teacher : M. P. Meshram

Class: F.Y. B.Sc.

Paper:CH-103

Title of the Paper: chemistry Practical I

Lectures allotted:46.8

Year	Topic	No. of Lectures
Academic year 2021-22 Online/offline teaching as per rules and regulation of Govt. of Maharashtra and SPPU, Pune	Admission + Introduction of syllabus	
	Chemical and Lab Safety (Compulsory) 23. Toxicity of the compounds used in chemistry laboratory. 24. Safety symbol on labels of pack of chemicals and its meaning 25. What is MSDS sheets? Find out MSDS sheets of at least hazardous chemicals ($K_2Cr_2O_7$, Benzene, cadmium nitrate, sodium metal, etc.) 26. Precautions in handling of hazardous substances like Conc. acids, ammonia, organic solvents, etc.	46.8
	27. Determination of heat capacity of calorimeter for different volumes. 28. Determination of enthalpy of neutralization of hydrochloric acid with sodium hydroxide. 29. Determination of enthalpy of ionization of acetic acid. 30. Measurement of pH of different solutions like aerated drinks, fruit juices, shampoos and soaps (use dilute solutions of soaps and shampoos to prevent damage to the glass electrode) using pH-meter.	
	31. Measurement of the pH of buffer solutions and comparison of the values with theoretical values. 32. To determine type and detection of extra elements (N, S, Cl, Br, I) in organic compounds (containing up to two extra elements) 33. Separation of constituents of mixtures by Chromatography: Measure the R_f value in each case.	
	Revision	
	Exam/Vacation	


Signature of Teacher


Head
Department of Chemistry
ARTS, COMMERCE & SCIENCE COLLEGE
Dindori, Tal. Dindori, Dist. Nashik.

MVP's
Arts, Science & Commerce College, Dindori, Tal. Nashik-422202

Department of CHEMISTRY

Teaching Plan (Course wise)

Academic Year :2021-2022

Semester: II

Name of Teacher : Zoman R. R. + L. C. Gorade + M. P. Meshram

Class: F.Y. B.Sc.

Paper:CH-203

Title of the Paper: Chemistry Practical II

Lectures allotted:46.8

Year	Topic	No. of Lectures
Academic year 2021-22 Online/offline teaching as per rules and regulation of Govt. of Maharashtra and SPPU, Pune	1. Synthesis of potash alum from aluminium metal (scrap Aluminium metal) 2. Synthesis of Mohr's Salt $[(\text{FeSO}_4)(\text{NH}_4)_2\text{SO}_4] \cdot 6\text{H}_2\text{O}$ 3. Estimation of sodium carbonate and sodium hydrogen carbonate present in a mixture. 4. Estimation of water of crystallization in Mohr's salt by titrating with KMnO_4 .	46.8
	5. Estimation of Ca from calcium supplementary tablet by complexometric titration. 6. Estimation of acid neutralizing capacity of antacids like Gelusil tablet/ Gellusil syrup etc. 7. Purification of organic compounds by i) crystallization (from water and alcohol) ii) distillation (Two Compounds), iii) Sublimation (micro technique). 8. Semicarbazone derivatives of aldehydes and ketones 9. Oxime and 2,4-dinitrophenylhydrazone of aldehyde/ketone.	
	Exam	
	Exam	
	Exam/Vacation	


Signature of Teacher


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MVP's
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Department of CHEMISTRY

Teaching Plan (Course wise)

Academic Year :2021-2022

Semester: II

Name of Teacher : Zoman R. R.

Class: F.Y. B.Sc.

Paper:CH-203

Title of the Paper: Chemistry Practical II

Lectures allotted:46.8

Year	Topic	No. of Lectures
Academic year 2021-22 Online/offline teaching as per rules and regulation of Govt. of Maharashtra and SPPU, Pune	10. Synthesis of potash alum from aluminium metal (scrap Aluminium metal) 11. Synthesis of Mohr's Salt $[(\text{FeSO}_4)(\text{NH}_4)_2\text{SO}_4] \cdot 6\text{H}_2\text{O}$ 12. Estimation of sodium carbonate and sodium hydrogen carbonate present in a mixture. 13. Estimation of water of crystallization in Mohr's salt by titrating with KMnO_4 .	46.8
	14. Estimation of Ca from calcium supplementary tablet by complexometric titration. 15. Estimation of acid neutralizing capacity of antacids like Gelusil tablet/ Gellusil syrup etc. 16. Purification of organic compounds by i) crystallization (from water and alcohol) ii) distillation (Two Compounds), iii) Sublimation (micro technique). 17. Semicarbazone derivatives of aldehydes and ketones 18. Oxime and 2,4-dinitrophenylhydrazone of aldehyde/ketone.	
	Exam	
	Exam	
	Exam/Vacation	

Signature of Teacher

Head
Department of Chemistry
ARTS, COMMERCE & SCIENCE COLLEGE
Dindori, Tal. Dindori, Dist. Nashik.

MVP's
Arts, Science & Commerce College, Dindori, Tal. Nashik-422202

Department of CHEMISTRY
Teaching Plan (Course wise)
Academic Year :2021-2022
Semester: II

Name of Teacher : L. C. Gorade

Class: F.Y. B.Sc.

Paper:CH-203

Title of the Paper: Chemistry Practical II

Lectures allotted:46.8

Year	Topic	No. of Lectures
Academic year 2021-22 Online/offline teaching as per rules and regulation of Govt. of Maharashtra and SPPU, Pune	19. Synthesis of potash alum from aluminium metal (scrap Aluminium metal) 20. Synthesis of Mohr's Salt $[(\text{FeSO}_4)(\text{NH}_4)_2\text{SO}_4] \cdot 6\text{H}_2\text{O}$ 21. Estimation of sodium carbonate and sodium hydrogen carbonate present in a mixture. 22. Estimation of water of crystallization in Mohr's salt by titrating with KMnO_4 .	46.8
	23. Estimation of Ca from calcium supplementary tablet by complexometric titration. 24. Estimation of acid neutralizing capacity of antacids like Gelusil tablet/ Gellusil syrup etc. 25. Purification of organic compounds by i) crystallization (from water and alcohol) ii) distillation (Two Compounds), iii) Sublimation (micro technique). 26. Semicarbazone derivatives of aldehydes and ketones 27. Oxime and 2,4-dinitrophenylhydrazone of aldehyde/ketone.	
	Exam	
	Exam	
	Exam/Vacation	



Signature of Teacher



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Dindori, Tal. Dindori, Dist. Nashik.

MVP's
Arts, Science & Commerce College, Dindori, Tal. Nashik-422202

Department of CHEMISTRY
Teaching Plan (Course wise)
Academic Year :2021-2022
Semester: II

Name of Teacher : M. P. Meshram

Class: F.Y. B.Sc.

Paper:CH-203

Title of the Paper: Chemistry Practical II

Lectures allotted:46.8

Year	Topic	No. of Lectures
Academic year 2021-22 Online/offline teaching as per rules and regulation of Govt. of Maharashtra and SPPU, Pune	28. Synthesis of potash alum from aluminium metal (scrap Aluminium metal) 29. Synthesis of Mohr's Salt $[(\text{FeSO}_4)(\text{NH}_4)_2\text{SO}_4] \cdot 6\text{H}_2\text{O}$ 30. Estimation of sodium carbonate and sodium hydrogen carbonate present in a mixture. 31. Estimation of water of crystallization in Mohr's salt by titrating with KMnO_4 .	46.8
	32. Estimation of Ca from calcium supplementary tablet by complexometric titration. 33. Estimation of acid neutralizing capacity of antacids like Gellusil tablet/ Gellusil syrup etc. 34. Purification of organic compounds by i) crystallization (from water and alcohol) ii) distillation (Two Compounds), iii) Sublimation (micro technique). 35. Semicarbazone derivatives of aldehydes and ketones 36. Oxime and 2,4-dinitrophenylhydrazone of aldehyde/ketone.	
	Exam	
	Exam	
Exam/Vacation		


Signature of Teacher


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Department of Chemistry
ARTS, COMMERCE & SCIENCE COLLEGE
Dindori, Tal. Dindori, Dist. Nashik.

Department of CHEMISTRY

Teaching Plan (Course wise)

Academic Year : 2021-2022

Semester: I

Name of Teacher : S. M. Page

Class: F.Y. B.Sc.

Paper:CH-101

Title of the Paper: Physical chemistry

Lectures allotted:36

Year	Topic	No. of Lectures
Academic year 2021-22 Online/offline teaching as per rules and regulation of Govt. of Maharashtra and SPPU, Pune	Admission + Introduction of syllabus	
	Chemical Energetics: Review of thermodynamics and the Laws of Thermodynamics. Important principles and definitions of thermochemistry. Concept of standard state and standard enthalpies of formations, integral and differential enthalpies of solution and dilution. Calculation of bond energy, bond dissociation energy and resonance energy from thermochemical data. Variation of enthalpy of a reaction with temperature - Kirchoff's equation. Statement of Third Law of thermodynamics and calculation of absolute entropies of substances, problems	11
	Chemical Equilibrium: Introduction: Free Energy and equilibrium - Concept, Definition and significance. The reaction Gibbs Energy, Exergonic and endergonic reaction. The perfect gas equilibrium, the general case of equilibrium, the relation between equilibrium constants, Molecular interpretation of equilibrium constant. The response of equilibria to conditions- response to pressure , response to temperature, Van't Haff equation, Value of K at different temperature, Problems	11
	Ionic Equilibria: Strong, moderate and weak electrolytes, degree of ionization, factors affecting degree of ionization, ionization constant and ionic product of water. Ionization of weak acids and bases, pH scale, common ion effect. Salt hydrolysis-calculation of hydrolysis constant, degree of hydrolysis and pH for different salts. Buffer solutions. Solubility and solubility product of sparingly soluble salts- applications of solubility product principle.	14
	Revision	
Exam/Vacation		

Signature of Teacher

Department Head Chemistry
ARTS, COMMERCE & SCIENCE COLLEGE
Dindori, Tal. Dindori, Dist. Nashik.

Department of CHEMISTRY

Teaching Plan (Course wise)

Academic Year : 2021-2022

Semester: II

Name of Teacher : L. C. Gorade

Class: F.Y. B.Sc.

Paper: CH-202

Title of the Paper: Analytical Chemistry

Lectures allotted:36

Year	Topic	No. of Lectures
Academic year 2021-22 Online/offline teaching as per rules and regulation of Govt. of Maharashtra and SPPU, Pune	1. Introduction to Analytical Chemistry: What is analytical Chemistry, the analytical perspectives, Common analytical problems. 2. Calculations used in Analytical Chemistry Some important units of measurements-SI units, distinction between mass and weight, mole, millimole and Calculations, significant figures Solution and their concentrations- Molar concentrations, Molar analytical Concentrations, Molar equilibrium concentration, percent Concentration, part per million, part per billion, part per thousand, Solution -dilutant volume ration, functions , density and specific gravity of solutions, problems Chemical Stoichiometry - Empirical and Molecular Formulas, Stoichiometric Calculations, Problems.	13
	3. Qualitative Analysis of Organic Compounds Types of organic compounds, characteristic tests and classifications, reactions of different functional groups, analysis of binary mixtures. Analysis - Detection of nitrogen, sulfur, halogen and phosphorous by Lassaigne's test. Purification of organic compounds- Introduction, recrystallization, distillation, sublimation. Chromatographic Techniques -Paper and Thin Layer Chromatography. Introduction- Introduction to chromatography, IUPAC definition of chromatography. History of Chromatography- paper chromatography, Thin Layer Chromatography, Ion exchange Chromatography, Gas permeation Chromatography, affinity chromatography, Gas chromatography, Supercritical fluid chromatography, High Performance Liquid Chromatography, Capillary electrophoresis, Classification of chromatographic methods - according to separation methods, according to development procedures. Thin Layer Chromatography: Theory and principles, outline of the method, surface adsorption and spot shape, Comparison of TLC with other forms of chromatography, adsorbents, preparation of plates, application of samples, development. Paper Chromatography- Origin, overview of technique, sample preparation, types of paper, solvents, equilibrium, development, sample application and detection, Identification, Quantitative methods, applications of paper chromatography	18

	4. pH meter: Introduction, pH meter, Glass pH electrode, combination of pH electrode-Complete Cell, Standard Buffer -reference for pH measurement, Accuracy of pH measurement, Using pH meter -How does it works? Applications of pH meter.	05
	Revision	
	Exam	
	Exam/Vacation	


Signature of Teacher


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Department of Chemistry
ARTS, COMMERCE & SCIENCE COLLEGE
Dindori, Tal. Dindori, Dist. Nashik.

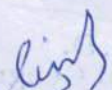
Department of Geography
Teaching Plan (Course wise)
Academic Year: 2021 to 2022
Term: I

Name of Teacher: Mr. Tadvi G.K.

Class: F. Y. B. Sc.

Title of the Paper: Introduction to Physical Geography-I (Geomorphology) Lectures allotted: 36

Month	Topic	No. of Lectures
June	Admission + Introduction of syllabus	
July	a. Introduction to Physical Geography and its branches b. Geomorphology – Definition, Nature and Scope c. Components of Earth systems. d. Geological time scale. e. Applied Geomorphology a. Interior of the Earth – based on seismic evidence. b. Theory of Isostasy.	12
August	c. Wegener's Continental Drift Theory. d. Crustal movements: Folding and faulting and their types a. Theory of Plate tectonics. b. Plates and boundaries and associated landforms. c. Earthquakes and volcanoes, their types, causes and effects.	12
September	a. Rocks and Minerals: Meanings, differences and classification of rocks. b. Weathering: Definition and types c. Mass movement: Meaning and types d. Fluvial cycle of erosion : Theory by Davis	12
October	Revision	
November	Exam/Vacation	


Signature of Teacher


H.O.D.
Department of Geography
Arts, Comm. & Sci. College, Dindori
Tal. Dindori, Dist. Nashik
Head

Department of Geography
Teaching Plan (Course wise)
Academic Year: 2021 to 2022
Term: II


Name of Teacher: Mr. Tadvi G.K.

Class: F. Y. B. Sc.

Title of the Paper: Introduction to Human Geography

Lectures allotted: 36

Month	Topic	No. of Lectures
December	Introduction of Human Geography a) Definition and meaning of Human Geography b) Branches of Human Geography c) Nature and scope of Human Geography d) Importance of Human Geography	12
January	Human Evolution and Races a) Stages of human evolution. b) Meaning and definition of human race c) Bases of human race d) Griffith Taylor's theory of human race e) Pure and Mixed Races Man and Environment a) Human life in cold region-ESKIMO i) Location ii) Geographical environment iii) Physical traits iv) Food & clothing v) Economic activity b) Human life in hot region - PYGMY i) Location ii) Geographical environment	12
February	iii) Physical traits iv) Food & clothing v) Economic activity 4. Economic activities of Man a) Primary activities: Hunting, Fishing, gathering, farming, Lumbering, Pasturing and Mining. b) Secondary activities: manufacturing, Processing, construction and infrastructure industry c) Tertiary activities: Trade, Transportation, Communication, Banking, Entertainment and Tourism d) Quaternary activities: Information and technology, Scientific research, High-tech software based activities e) Quinary activities: Government decisions	12
March	Revision	
April	Exams	
May	Exam/Vacation	


Signature of Teacher


H.O.D.
Department of Geography
Arts, Comm. & Sci. College, Dindori
Tal. Dindori, Dist. Nashik

Department of Geography
Teaching Plan (Course wise)
Academic Year: 2021 to 2022
Term: I

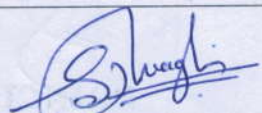
Name of Teacher: Mr. Wagh S.M.

Class: FYBSc

Title of the Paper: Introduction to Physical Geography II (Geography of Atmosphere and Hydrosphere)

Lectures allotted: 36

Month	Topic	No. of Lectures
June	Admission + Introduction of syllabus	
July	Introduction to the Atmosphere a) Definition and evolution b) Composition of the atmosphere c) Structure of the atmosphere d) Weather and climate, elements of weather and climate	12
August	Insolation a) Definition and mechanisms of heat transfer: conduction, convection and radiation b) Heat budget of the Earth c) Factors affecting on horizontal distribution of temperature d) Vertical distribution of temperature- lapse rate and Atmospheric Pressure and Wind System	12
September	a) Meaning and measurement of the atmospheric pressure b) Vertical and horizontal d) Type of winds- planetary winds, periodic winds(monsoon winds), local winds (land and sea breezes, distribution of pressure belts mountain and valley winds). 4. Introduction to the Hydrosphere a) Definition, hydrological cycle b) General structure of ocean floor c) Movements of ocean water i. Waves- characteristics of sea waves ii. Ocean currents- meaning, causes and types iii. Tides- meaning, causes and types	12
October	Revision	
November	Exam/Vacation	


Signature of Teacher


PRINCIPAL
MVP Samaj's Arts, Commerce & Science College
Dindori (Nashik)

Department of Geography
Teaching Plan (Course wise)
Academic Year: 2021 to 2022

Term: II

Name of Teacher: Mr. Wagh S.M.

Class: F. Y. B. Sc.

Title of the Paper: Population and Settlement Geography

Lectures allotted: 36

Month	Topic	No. of Lectures
December	Introduction a) Definitions, nature and scope of Population Geography b) Sources of Population Data: Census, National Sample Survey and other Sources	12
January	Population Dynamic a) Determinates of Distribution and Density of Population b) Distribution of Population -World c) Population Growth- Global & Indian Trend d) Demographic Transition Theory (DTM) e) Demographic Composition: Age, Gender and Literacy	12
February	Settlements a) Definition, Nature and Scope of Settlement Geography b) Types and Pattern of Rural Settlement Classification of Urban Settlements a) Classification of Urban settlements b) Concept of Urbanization c) Trends and Patterns of World urbanization	12
March	Revision	
April	Exams	
May	Exam/Vacation	


Signature of Teacher


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Department of Geography
Teaching Plan (Course wise)
Academic Year: 2021-to 2022

Term: I

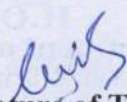
Name of Teacher: Mr. Tadvi G.K.

Class: FYBSc

Title of the Paper: Practical in Physical Geography-III

Lectures allotted: 15

Month	Topic	No. of Lectures
June	Admission + Introduction of syllabus	
July	a) Definition, Elements of maps (scale, direction, map projection, conventional signs and symbols, legend), Types of maps, Uses of maps a) Definition, Types- Verbal Scale (VS), Representative Fraction (RF), Graphical Scale b) Conversion of scale- VS into RF and RF into VS (Minimum 2 example each), Exercise on simple graphical scale (Minimum 2 exercises)	5
August	c) Reading distances on a map a) Definition of map projection b) Classification of map projection 05 c) Construction and study of the following projections I. Zenithal projections Zenithal polar gnomonic projection II. Conical projections - Simple conical projection with two standard parallel III. Cylindrical projections Cylindrical equal area projection (Note:-construction of above map projections with properties and uses, for relevant group one example from each hemisphere) d) Choice of map projections	5
September	a) Symbol method b) Dot method c) Choropleth method d) Isopleth method e) Flow diagram (Representation and Interpretation of thematic maps) a) Reading of maps in the field 02 b) Collection of data and its representation	5
October	Revision	
November	Exam/Vacation	


Signature of Teacher


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Department of Geography
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Tal. Dindori, Dist. Nashik

Department of Geography
Teaching Plan (Course wise)
Academic Year: 2021-to 2022
Term: II

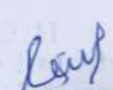
Name of Teacher :Mr. Tadvi G.K.


Class: FYBSc

Title of the Paper:Practical in Human Geography-VI

Lectures allotted:15

Month	Topic	No. of Lectures
December	1. Age-sex pyramid 2. Child-woman ratio 3. Dependency ratio 4. Infant mortality ratio 5. Age-specific mortality 6. Population growth rate Data analysis and presentation using computer	5
January	1. Rank Size Rule 2. Gravity Model. 1. Weaver's method 2. Bhatia's method	5
February	Visit to different places and report writing	5
March	Revision	
April	Exams	
May	Exam/Vacation	


Signature of Teacher


H.O.D.
Department of Geography
Arts, Comm. & Sci. College, Dindori
Tal. Dindori, Dist. Nashik

Department of Geography
Teaching Plan (Course wise)
Academic Year: 2021 to 2022
Term: I

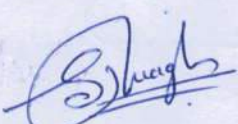
Name of Teacher: Mr. WaghS. M.
A

Class: F. Y. B.

Title of the Paper: Gg: 110(A) Physical Geography-I

Lectures allotted: 48

Month	Topic	No. of Lectures
June	Admission + Introduction of syllabus	
July	1) Definitions of Physical Geography 2) Nature and scope of Physical Geography 3) Branches of Physical Geography 4) Introduction about the Earth system (Lithosphere, Atmosphere, Hydrosphere and Biosphere) 1) Interior of the earth	16
August	2) Wegner's Continental Drift Theory 3) Davis Concept of Cycle of erosion 1) Structure of the atmosphere 2) Heat Balance 3) Pressure belts and wind system	16
September	4) Forms and types of Precipitation 1) Hydrological cycle 2) General structure of ocean floor 3) Waves and Tides	16
October	Revision	
November	Exam/Vacation	


Signature of Teacher


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Dindori (Tal. Nashik)

Department of Geography
Teaching Plan (Course wise)
Academic Year: 2021 to 2022

Term: II

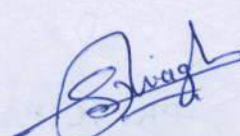
Name of Teacher: Mr. Wagh S. M.

Class: F. Y. B. A

Title of the Paper: Gg:110(B) Human Geography

Lectures allotted: 48

Month	Topic	No. of Lectures
December	1) Definitions of Human Geography 2) Nature and scope of Human Geography 3) Branches and importance of Human Geography 1) Factors affecting on distribution of population	16
January	2) Theory of demographic transition 3) Composition of Indian population (Gender and literacy) 1) Types and pattern of rural Settlements	16
February	2) Urbanisation in India 3) Urbanization in Maharashtra 1) Types of Agriculture 2) Factors affecting on Agriculture activity 3) Problems of Indian agriculture	16
March	Revision	
April	Exams	
May	Exam/Vacation	


Signature of Teacher


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Dindori, Nashik
Principal

Department of Geography
Teaching Plan (Course wise)
Academic Year: 2021 to 2022

Term: I

Name of Teacher: Mr. Wagh S.M.


Class: S. Y. B. A.


Paper: Gg: 210 (A)

Title of the Paper: Environmental Geography-I

Lectures allotted: 48

Month	Topic	No. of Lectures
June	Admission + Introduction of syllabus	
July	Introduction to Environmental Geography 1. Definition, Nature and scope of Environmental Geography. 2. Types of Environments	16
August	3. Importance of Environmental Geography 4. Approaches to study of environmental Geography Ecosystem 1. Meaning, concept and definition of ecosystem. 2. Structure (Biotic and Abiotic factors) and food chain, Tropic Level, food web, energy flow 3. Types of ecosystems a) Equatorial Forest and b) Pond Ecosystem	16
September	Biodiversity and its conservation 1. Concept of biodiversity 2. Economic value and potential of biodiversity 3. Loss of biodiversity and hotspots in India 4. Conservation of biodiversity 1. Concept of Pollution 2. Air Pollution-Causes, effects and control measures 3. Water Pollution-Causes, effects and control measures 4. Soil Pollution-Causes, effects and control measures	16
October	Revision	
November	Exam/Vacation	


Signature of Teacher


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Department of Geography
Teaching Plan (Course wise)
Academic Year: 2021 to 2022
Term: II

Name of Teacher: Mr. Wagh S.M.

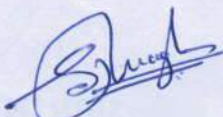
Class: SYBA

Paper: Gg 210 (B)

Title of the Paper: Environmental Geography-II

Lectures allotted: 48

Month	Topic	No. of Lectures
December	Environmental Disaster 1. Meaning and concepts of environmental disaster 2. Classification of Disaster 3. Natural Disaster a) Earthquake b) Flood 4. Biological Disaster a) Swine flu b) Novel Corona (COVID-19)	16
January	Environmental Problems 1. Global Warming and climate change 2. Ozone Depletion 3. Acid rain 4. Over use of chemical fertilizers, pesticides and insecticides Environmental Planning and Management 1. Need of Planning and Management	16
February	2. Micro, macro and meso level Planning and Management with reference to India 3. Environmental impact assessment 4. Environmental Policies 1. Introduction of environmental policies 2. Environmental education in India 3. Kyoto Protocol	16
March	Revision	
April	Exams	
May	Exam/Vacation	


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Department of Geography
Teaching Plan (Course wise)
Academic Year: 2021 to 2022
Term: I

Name of Teacher: Mr. Tadvi G.K.

Class: T. Y. B. A.

Paper: CCIE

Title of the Paper: Gg: 310 (A) Geography of Tourism – I

Lectures allotted: 48

Month	Topic	No. of Lectures
June	Admission + Introduction of syllabus	
July	a) Definition and Nature i. Definition of Tourists and Tourism ii. Nature of Tourism iii. Importance of Tourism b) Scope and Extent i. Tourism and Travel as basic needs of mankind. ii. Tourism and Development. iii. Tourism as product c) Role of Geography in Tourism a) Physical i. Relief ii. Climate iii. Forest	16
August	b) Socio-Cultural i. Religious ii. Historical iii. Sports c) Political --i) Policies ii) Safety of Tourists iii) Accessibility a) Classification of tourism based on i. Nationality ii. Travel Time iii. Purpose b) Concept of Tourism - I i. Agro-Tourism ii. Eco- Tourism iii. Wildlife Tourism	16
September	c) Concept of Tourism - II i. Health/medical Tourism ii Sports Tourism a) Mode of Transportation i) Road ii) Rail iii) Water iv) Air b) Communication i. Role of Guide in tourism development ii. Internet/Telephone/Mobile/TV iii. Electronic and Printing Media c) Travel and Tourism Agencies	16

Signature of Teacher

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Dindori (Nashik)

Department of Geography
Teaching Plan (Course wise)
Academic Year: 2021 to 2022

Term: II

Name of Teacher: Mr. Tadvi G.K.

Class: TYBA

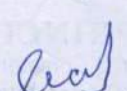
Paper: CC1F

Title of the Paper: Gg: 310(B) Geography of Tourism -II

Lectures allotted: 48

Month	Topic	No. of Lectures
December	a) Accommodation Types i. Hotels, Motels, Inn, Dharmashalas ii. Govt. Accommodation, Tourist homes iii. Private accommodations and unrecognized accommodations b) Factors affecting choice of Accommodation c) Role of Accommodation in Tourism Development a) Economic impact i. Effect on foreign exchange ii. Employment generation iii. Infrastructure development	16
January	b) Physical and Environmental impacts i. Land Degradation ii. Loss of plant and animal life iii. Air and water pollution c) Social cultural impacts i. Crime and Gambling activities ii. Languages iii. Traditional arts a) World Tourism Organization (WTO) b) India Tourism Development Corporation (ITDC)	16
February	b) Maharashtra Tourism Development Corporation (MTDC) a) Hill Station- Manali and Mahabaleshwar b) Historical- Tajmahal and Raigadh fort c) National Parks- Kaziranga, Melghat	16
March	Revision	
April	Exams	
May	Exam/Vacation	

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