Rajarshi Shahu Mahavidyalaya, Latur
(Autonomous)
Department of Chemistry & Analytical Chemistry
Structured Work Plan for Teaching (Odd Semester)
Academic Year 2025-26

Details of Classes to be taught:

Sr. No.	Name of Professor	Subject	Class	Course Type	Course Title	Course Code	Total Hours
1	**Mr. Akshay Atmaram Bhandare**	Analytical Chemistry	B.Sc. II	DSM-I	Analytical Chemistry	201ACH3301	45

Sr. No.	Unit and Chapter to be Covered	Date	No. of Lectures	Academic activities to be organized	No. of Test / Assignment with topic and date
1	**Unit –I** Introduction to Analytical Chemistry & Organic Analysis	23.06.2025 to 23.07.2025	15	Assignment	CAT -I
2	**Unit -II** Introduction to Chromatographic Techniques	28.07.2025 to 20.08.2025	10	Seminar	CAT-II
3	**Unit – III** Introduction to Instrumental Analysis-I	25.08.2025 to 17.09.2025	10	Surprise Test	CAT-III
4	**Unit IV** Introduction to Instrumental Analysis-II	22.09.2025 to 17.10.2025	10	-	

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Structured Work Plan for Teaching (Odd Semester)
Academic Year 2025-26

Details of Classes to be taught:

Sr. No.	Name of Professor	Subject	Class	Course Type	Course Title	Course Code	Total Hours
1	**Mr. Akshay Atmaram Bhandare**	Analytical Chemistry	B.Sc. III	DSM-IV	Environmental Analysis	301ACH5303	30

Sr. No.	Unit and Chapter to be Covered	Date	No. of Lectures	Academic activities to be organized	No. of Test / Assignment with topic and date
1	**Unit –I** Environmental Analysis-I (Air Analysis)	26.06.2025 to 14.08.2025	15	Group Discussion	CAT-I
2	**Unit –II** Environmental Analysis-II (Water Analysis)	21.08.2025 to 17.10.2025	15	Seminar	CAT-II CAT-III

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Department of Chemistry and Analytical Chemistry

Structured Work Plan for Teaching (Even Semester)

Academic Year 2025-26 (Term-II)

Name of Teacher: Mr. Akshay Atmaram Bhandare

1. Details of Classes to be Taught

Class	Semester	Subject	Course Type	Course Title	Course Code	Credit	Total Teaching Hours
B.Sc. II	Sem IV	Analytical Chemistry	DSM-II	Classical & Advanced Methods of Analysis	**201ACH4301**	03	45

Sr. No.	Unit and Chapter to be Covered	Date	No. of Hours	Academic Activities to be Organized	No. of Test / Assignment with Topic and Date
1	**Unit –I** Classification of Analytical Methods	01.12.2025 To 23.12.2025	10	Google Form Quiz	CAT I
2	**Unit –II** Spectroscopic Methods-I (FES)	29.12.2025 To 21.01.2026	10	Seminar	CAT II
3	**Unit -III** Gravimetric Methods of Analysis	27.01.2026 To 02.03.2026	15	Group Discussion	CAT III
4	**Unit -IV** Column chromatography	09.03.2026 To 30.03.2026	10	-	

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Structured Work Plan for Teaching (Even Semester)

Academic Year 2025-26 (Term-II)

Name of Teacher: Mr. Akshay Atmaram Bhandare

2. Details of Classes to be Taught

Class	Semester	Subject	Course Type	Course Title	Course Code	Credits	Total Teaching Hours
M.Sc. II	Sem IV	Chemistry	MEC-IV	Applied Organic Chemistry	**602CHE4201**	03	45

Sr. No.	Unit and Chapter to be Covered	Date	No. of Hours	Academic Activities to be Organized	No. of Test / Assignment with Topic and Date
1	**Unit –I** Supramolecular Chemistry	04.12.2025 To 27.12.2025	10	Google Form Quiz	CAT I
2	**Unit –II** Carbohydrates and Vitamins	01.01.2026 To 31.01.2026	15	Seminar	CAT II
3	**Unit -III** Green Chemistry-I	05.02.2026 To 28.02.2026	10	Group Discussion	CAT III
4	**Unit -IV** Green Chemistry-II	05.03.2026 To 31.03.2026	10	-	-

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Structured Work Plan for Teaching (Even Semester)

Academic Year 2025-26 (Term-II)

Name of Teacher: Mr. Akshay Atmaram Bhandare

1. Details of Classes to be Taught

Class	Semester	Subject	Course Type	Course Title	Course Code	Batch	Credit	Total Hours
B.Sc. II	Sem IV	Analytical Chemistry	DSM-II	Laboratory Course-II	201ACH4302	S_1 & S_2	01	30

Sr. No.	Equipment/Type	Experiments	Date [S1]	Date [S2]	No. of Hours
1	**Gravimetric Analysis**	1. Determination of iron as iron (III) oxide by gravimetric analysis.	**01.12.2025**	**02.12.2025**	**2 per Practical**
2		2. Determination of Aluminium as Aluminium Oxide.			
3		3. Gravimetric estimation of Ba as BaSO4 from a solution containing barium chloride and free hydrochloric acid.	**08.12.2025**	**09.12.2025**	
4		4. Gravimetric estimation of Ba as Barium Chromate from a solution containing barium chloride.	**15.12.2025**	**16.12.2025**	
5		5. Gravimetric estimation of Nickel as [Ni(DMG)2] complex.	**22.12.2025**	**23.12.2025**	
6		6. Estimate the amount of Zinc in the given Zinc Sulphate solution Gravimetrically.	**29.12.2025**	**30.12.2025**	
7	**Flame Photometry**	7. Estimation of Na^+ by Flame Photometry	**05.01.2026**	**06.01.2026**	
8		8. Estimation of K^+ by Flame Photometry	**12.01.2026**	**13.01.2026**	
9		9. Estimation of Ca^{2+} in Egg Shell by Flame Photometry	**19.01.2026**	**20.01.2026**	
10	**Chromatography**	10. Separation of components of a mixture by TLC.	**02.02.2026**	**27.01.2026**	
11		11. Separation of amino acids using paper chromatography.	**09.02.2026**	**03.02.2026**	
12		12. Column Chromatographic Separation of Inorganic Substances.	**16.02.2026**	**10.02.2026**	
13		13. Separation of ink components by column chromatography.	**23.02.2026**	**17.02.2026**	
14	**Colorimetry**	14. Estimation of amino acids by colorimetry.	**02.03.2026**	**24.02.2026**	
15		15. Colorimetric estimation of proteins by biuret method.	**09.03.2026**	**03.03.2026**	

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Structured Work Plan for Teaching (Even Semester)

Academic Year 2025-26 (Term-II)

Name of Teacher: Mr. Akshay Atmaram Bhandare

1. Details of Classes to be Taught

Class	Semester	Subject	Course Type	Course Title	Course Code	Batch	Credits	Total Teaching Hours
M.Sc. II	Sem IV	Chemistry	MMC-XII	Laboratory Course-XV	602CHE4106	P_1C_1 & P_2C_2	01	30

Sr. No.	Equipment/Type	Experiments	Date P1C1	Date P1C2	No. of Hours
1	Isolations	1. Isolation of caffeine from tea leaves.	06.12.2025	06.12.2025	3 per Practical
2		2. Isolation of piperine from black pepper	13.12.2025	13.12.2025	
3		3. Isolation of β-carotene from carrots	20.12.2025	20.12.2025	
4		4. Isolation of lycopene from tomatoes	27.12.2025	27.12.2025	
5		5. Isolation of limonene from lemon peel	03.01.2026	03.01.2026	
6		6. Isolation of euginol from cloves	10.01.2026	10.01.2026	
7		7. Isolation of Nicotine from Tobacco.	17.01.2026	17.01.2026	
8		8. Isolation of Hesperidin from Orange Peel.	24.01.2026	24.01.2026	
9		9. Isolation of lecithin from Egg yolk.	31.01.2026	31.01.2026	
10		10. Isolation of Lactose and Casein from Milk.	07.02.2026	07.02.2026	
11	Estimations	11. Assay of Riboflavin by UV-Vis Spectrophotometer.	14.02.2026	14.02.2026	
12		12. Estimation of Carbohydrates by UV-Vis spectrophotometer	21.02.2026	21.02.2026	
13		13. Estimation of Amino acids by UV-Vis spectrophotometer.	28.02.2026	28.02.2026	
14		14. Estimation of Proteins by UV-Vis spectrophotometer.	07.03.2026	07.03.2026	
15		15. Determination of Hammett constants and determine its substitution effect. i) Benzoic acid ii) p-Nitro Benzoic acid, iii) p-Methoxy Benzoic acid, iv) p-Methyl benzoic acid, v) p-chloro benzoic acid. vi) m-Nitro Benzoic Acid vii) p-Amino Benzoic Acid. viii) p-Hydroxy Benzoic Acid	14.03.2026	14.03.2026	

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