

Sadakathullah Appa College

(AUTONOMOUS)

Rahmath Nagar, Tirunelveli - 627 011.

LESSON PLAN AND RECORD OF CLASSES ENGAGED

Class : U - UG

Academic Year : 2018 - 2019 Semester : III

Course : BSc

Title of the Paper :

Chromatography

Subject Code : 13UCH831

Theory / Practical

Name of the Teacher : Dr. M. Kamalathheer

Sl.No.	Date & Order	Unit	Topics planned	Covered on
1	21/6/18-D	<u>P</u>	<u>Introduction</u>	21/6/18
2	25/6/18-F		<u>Classification chromatography methods</u>	25/6/18
3	2/7/18-D		<u>Continue</u>	2/7/18
4	4/7/18-F		<u>Column Chromatography - Principles</u>	4/7/18
5	10/7/18-D		<u>Experimental Procedures</u>	10/7/18
6	12/7/18-F		<u>Stationary and mobile phase</u>	12/7/18
7	18/7/18-D		<u>Choice of solvent systems</u>	18/7/18
8	20/7/18-F		<u>Separation techniques</u>	20/7/18
9	26/7/18-D		<u>Applications</u>	26/7/18
10	31/7/18-F	<u>II</u>	<u>Principles of R_f values</u>	31/7/18
11	6/8/18-D		<u>factor effect R_f values</u>	6/8/18

Text books :

1. An Intro to Chromatography - Karr, 2001
2. Lab. Man. of Anal. Biochem. Pabrade, 2000

Reference books :

1. Fund. of Anal. Chem - Skog 2004
2. Instrumental methods of Analysis - B.S. Sharma 2003

Activity	Total Number	Topic I	Topic II	Topic III	Planned Date	Actual Date
Assignment						
Internal Test		<u>Ist Test Portions</u>	<u>IInd Test Portions</u>	<u>IIIrd Test Portions</u>		

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LESSON PLAN AND RECORD OF CLASSES ENGAGED

Sl.No.	Date & Order	Unit	Topics planned	Covered on
12	8/8/18 - F		Experimental Procedures	8/8/18
13	14/8/18 - D		Choice of paper and	14/8/18
14	12/8/18 - F		Solvent Systems	12/8/18
15	29/8/18 - D		Developments of chromatography	29/8/18
16	31/8/18 - F		Detection of spots -	31/8/18
17	6/9/18 - D		Ascending, Descending and	6/9/18
			Radial paper chromatography	
18	8/9/18 - F		Two Dimensional Chromatography - Applications	8/9/18
19	12/9/18 - D		Principles	12/9/18
20	19/9/18 - F		Factors affecting R _f Values	19/9/18
21	26/9/18 - D		Experimental Procedures	26/9/18
22	28/9/18 - F		Choice of solvents and	28/9/18
			Solvents	
23	4/10/18 - D		Preparation of plates	4/10/18
24	8/10/18 - F		Development of the	8/10/18
			Chromatogram.	
25	12/10/18 - D		Detection of spots	12/10/18
26	16/10/18 - F		Advantages of Thin layer	16/10/18
			Chromatography over paper	
			Chromatography	
27	24/10/18 - D		Applications	24/10/18

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SADAKATHULLAH APPA COLLEGE (AUTONOMOUS), TIRUNELVELI-627011
LESSON PLAN AND RECORD OF CLASSES ENGAGED

Course: B.Sc. Chemistry Class: II Academic year: 2018-2019 Semester: III

Title of the Paper: **CHROMATOGRAPHY** Subject Code: 15SECH31

Theory / Practical: Theory

Sl. No	Date	Order	Unit	Topics planned	Covered on
			IV	Ion Exchange Chromatography	
1	20.06.2018	C		Principle, Ion exchange resins and their types -	20.06.2018
2	29.06.2018	C		Cation exchange resins	29.06.2018
3	09.07.2018	C		Anion exchange resins	09.07.2018
4	17.07.2018	C		Ion exchange equilibria- Properties of ion exchange resins	17.07.2018
5	25.07.2018	C		Ion exchange capacity- techniques	25.07.2018
6	03.08.2018	C		Applications of ion exchangers Removal of interfering radicals-	03.08.2018
7	13.08.2018	C		Separation of similar ions from one another, lanthanides	13.08.2018
8	28.08.2018	C		Sugars and amino acids	28.08.2018
9	05.09.2018	C		Revision	05.09.2018
			V	High Performance Liquid Chromatography	
10	12.09.2018	C		Introduction	12.09.2018
11	25.09.2018	C		Instrumentation	25.09.2018
12	03.10.2018	C		Stationary Phases	03.10.2018
13	11.10.2018	C		Mobile Phases	11.10.2018

Text books:

Reference books:

1. *Instrumental Methods of Analysis - B.K. Sharma, 2003.*

2.

2.

Activity	Total Number	Topic I	Topic II	Topic III	Planned Date	Actual Date
Assignment						
Internal Test		Unit I & Unit IV	Unit II Unit III (1/2)	Unit III Unit IV (1/2)		

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Sl. No	Date	Order	Unit	Topics planned	Covered on
14	23.10.2018	C	V	Mobile Phase - Composition	23.10.2018
15	30.10.2018	C		Column - Preparation -Cleaning - regeneration	30.10.2018


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LESSON PLAN AND RECORD OF CLASSES ENGAGED

Course: B.Sc.

Class: I Chemistry

Academic year: 2018-2019

Semester: I

Title of the Paper: **Inorganic Quantitative Analysis**

Subject Code: 18UCCH1P1

Theory / Practical: Practical

Sl. No	Date	Order	Unit	Topics planned	Covered on
1	25.06.18	F		Apparatus Issue	25.6.18
2	04.07.18	F		Demonstration for taking weights & making up solutions	4.7.18
3	12.07.18	F		Estimation of H ₂ SO ₄ – Std. oxalic acid. [Link-NaOH]	12.7.18
4	20.07.18	F		Estimation of NaOH – Std. Na ₂ CO ₃ . [Link – H ₂ SO ₄ /HCl]	20.7.18
5	31.07.18	F		Estimation of Na ₂ CO ₃ and NaHCO ₃ by Walden's Method	31.7.18
6	08.08.18	F		Estimation of sodium oxalate – Std. oxalic acid. [Link-KMnO ₄]	7.7.18
7	17.08.18	F		I Internal	31.8.18
8	31.08.18	F		Estimation of Fe ²⁺ ion – Std. ferrous ammonium sulphate. [Link-KMnO ₄]	8.9.18
9	08.09.18	F		Estimation of Copper – Std. K ₂ Cr ₂ O ₇ [Link-Sodium Thiosulphate]	19.9.18
10	19.09.18	F		Estimation of Ferrous ion by Internal Indicator	28.9.18
11	28.09.18	F		Estimation of Ferrous ion by External Indicator	8.10.18
12	08.10.18	F		II Internal	16.10.18
13	16.10.18	F		Estimation of acetic acid in commercial vinegar	26.10.18
14	26.10.18	F		Procedure test	2.11.18
15	02.11.18	F		Instruction for Practical Exam	2.11.18

Text books:

Reference books:

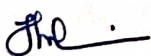
1. Lab manual

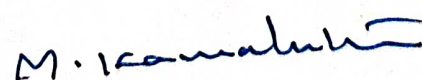
Inorganic Analysis - A. I. Vogel, (Longman), Pearson education, India.

2.

1. Vogel's text book of Quantitative

Activity	Total Number	Topic I	Topic II	Topic III	Planned Date	Actual Date
Assignment						
Internal Test	2					


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LESSON PLAN AND RECORD OF CLASSES ENGAGED

Course: B.Sc. Chemistry Class: III Academic year: 2018-2019 Semester: V

Title of the Paper: SPECTROSCOPY Subject Code: 15UECH51A

Theory / Practical: Theory

Sl. No	Date	Order	Unit	Topics planned	Covered on
			I	Microwave & Electronic Spectroscopy	
1	19.06.2018	B		Electromagnetic spectrum	19.06.2018
2	20.06.2018	C		Different regions – electromagnetic radiation	20.06.2018
3	21.06.2018	D		Molecular spectra	21.06.2018
4	25.06.2018	F		Born-Oppenheimer approximation-	25.06.2018
5	25.06.2018	F		Types of molecular spectra	25.06.2018
6	28.06.2018	B		Factors influencing width and intensity of spectral transition.	28.06.2018
7	29.06.2018	C		Microwave (rotational) spectra – condition,	29.06.2018
8	02.07.2018	D		Selection rules	02.07.2018
9	04.07.2018	F		Theoretical principles	04.07.2018
10	04.07.2018	F		Applications (Calculation of bond length and inversion spectrum of NH ₃).	04.07.2018
11	06.07.2018	B		Microwave oven- principle	06.07.2018
12	09.07.2018	C		Electronic spectra- principle – selection rule	09.07.2018
13	10.07.2018	D		Rotational structure of electronic-vibration spectra	10.07.2018
14	12.07.2018	F		Franck Condon principle	12.07.2018

Text books:

Reference books:

- Spectroscopy. G.R. Chattopadhyay, 2004, Himalaya Publishing House
- Fundamentals of Molecular Spectroscopy – CN Banwell, 2000,

Activity	Total Number	Topic I	Topic II	Topic III	Planned Date	Actual Date
Assignment						
Internal Test		Unit I & Unit II (1/2)	Unit II (1/2) & Unit III	Unit IV & Unit V		

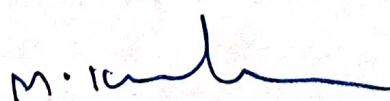
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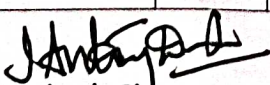
Sl. No	Date	Order	Unit	Topics planned	Covered on
15	12.07.2018	F		Revision	12.07.2018
			II	IR spectroscopy	
16	16.07.2018	B		Vibrational (IR) Spectra – theoretical principle–	16.07.2018
17	17.07.2018	C		Vibrational frequencies	17.07.2018
18	18.07.2018	D		Harmonic oscillator – anharmonicity	20.07.2018
19	20.07.2018	F		Determination of force constant.	20.07.2018
20	20.07.2018	F		Rotational – Vibrational spectra of diatomic molecules,	24.07.2018
21	24.07.2018	B		P, Q, R branches	25.07.2018
22	25.07.2018	C		Vibrational spectra of polyatomic molecules	26.07.2018
23	26.07.2018	D		Normal modes of vibration of CO ₂ , H ₂ O	31.07.2018
24	31.07.2018	F		Factors affecting IR spectra	31.07.2018
25	31.07.2018	F		Finger print region	02.08.2018
26	02.08.2018	B		Fermi resonance-	03.08.2018
27	03.08.2018	C		Applications (aliphatic, aromatic hydrocarbons, alcohols,	06.08.2018
28	06.08.2018	D		Aldehydes, ketones, carboxylic acid, ester and amide).	08.08.2018
29	08.08.2018	F		Inter-molecular and intra-molecular hydrogen bonding.	08.08.2018
30	08.08.2018	F		Revision	10.08.2018
			III	Raman spectroscopy	
31	10.08.2018	B		Raman spectroscopy –introduction	13.08.2018
32	13.08.2018	C		Rayleigh scattering	14.08.2018
33	14.08.2018	D		Raman scattering	17.08.2018
34	17.08.2018	F		Stokes Lines (Quantum theory) -	17.08.2018
35	17.08.2018	F		Anti-stokes lines	27.08.2018
36	27.08.2018	B		Vibrational Raman spectra.	28.08.2018

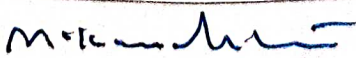

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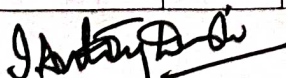
Sl. No	Date	Order	Unit	Topics planned	Covered on
37	28.08.2018	C		Vibrational Raman spectra.	29.08.2018
38	29.08.2018	D		Mutual exclusion principle.	31.08.2018
39	31.08.2018	F		Mutual exclusion principle.	31.08.2018
40	31.08.2018	F		Raman spectra of CO ₂ molecule	04.09.2018
41	04.09.2018	B		Raman spectra of H ₂ O molecule.	05.09.2018
42	05.09.2018	C		Advantages and limitations of Raman Spectroscopy.	06.09.2018
43	06.09.2018	D		Comparison of IR and Raman spectroscopy	08.09.2018
44	08.09.2018	F		Revision	08.09.2018
45	08.09.2018	F		Revision	11.09.2018
			IV	NMR spectroscopy	
46	11.09.2018	B		NMR spectroscopy Introduction	12.09.2018
47	12.09.2018	C		Principle	17.09.2018
48	17.09.2018	D		Relaxation effect,	19.09.2018
49	19.09.2018	F		Chemical shift,	19.09.2018
50	19.09.2018	F		Factors influencing chemical shift.	24.09.2018
51	24.09.2018	B		spin-spin coupling and	25.09.2018
52	25.09.2018	C		Coupling constant.	26.09.2018
53	26.09.2018	D		NMR spectrum of simple molecules such as 1-propanol	28.09.2018
54	28.09.2018	F		NMR spectrum of 1,1,2-tribromoethane,	28.09.2018
55	28.09.2018	F		NMR spectrum of ethyl acetate,	01.10.2018
56	01.10.2018	B		NMR spectrum of benzaldehyde,	03.10.2018
57	03.10.2018	C		NMR spectrum of acetaldehyde	04.10.2018
58	04.10.2018	D		NMR spectrum of ethyl methyl ketone	08.10.2018
59	08.10.2018	F		NMR spectrum of isopropyl alcohol	08.10.2018



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LESSON PLAN AND RECORD OF CLASSES ENGAGED

Sl. No	Date	Order	Unit	Topics planned	Covered on
60	08.10.2018	F		Revision	11.10.2018
			V	ESR and Atomic Absorption Spectroscopy	
61	10.10.2018	B		ESR spectroscopy – Introduction	12.10.2018
62	11.10.2018	C		Principle-	16.10.2018
63	12.10.2018	D		ESR spectrometer	16.10.2018
64	16.10.2018	F		Hyperfine splitting	22.10.2018
65	16.10.2018	F		ESR spectrum of hydrogen atom	23.10.2018
66	22.10.2018	B		ESR spectrum of CH ₃ radical	24.10.2018
67	23.10.2018	C		ESR spectrum of Benzene anion radical	26.10.2018
68	24.10.2018	D		ESR spectrum of deuterium.	28.10.2018
69	26.10.2018	F		Differences between NMR & ESR.	29.10.2018
70	26.10.2018	F		Atomic absorption spectroscopy – Introduction	30.10.2018
71	29.10.2018	B		Basic principle–	31.10.2018
72	30.10.2018	C		Application of Cr in steel	02.11.2018
73	31.10.2018	D		Ca in blood serum	02.11.2018
74	02.11.2018	F		Revision	
75	02.11.2018	F		Revision	


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Rahmath Nagar, Tirunelveli - 627 011



Lesson Plan

Academic Year 2018-2019

Department: CHEMISTRY

Class	: B.Sc. Chemistry
Semester	: I
Name of the Faculty	: Dr. M. Thameem Ansari
Title of the Course	: CARBOHYDRATES AND NUCLEIC ACIDS
Subject Code	: 18UABC11
Text books	: 1. Biochemistry - U. Satyanarayana & U. Chakrapani, 2008; Books and Allied (P) Ltd., Kolkata.
Reference books	: 2. Biochemistry - L. Stryer, W.H. Freeman and Company, New York.

Sl. No	Actual Date	Order	Unit	Topics Planned	Date-Topics Covered on	Remarks
1	18-6-18	A	IV	UNIT IV - LIPIDS Lipids - Definition, classification	18-6-18	
2	21-6-18	D		- Fatty acids - Definition, classification - . Saturated,	21-6-18	
3	26-6-18	A		unsaturated and unusual fatty acids. -	26-6-18	
4	2-7-18	D		Essential Fatty acids - Functions and Physiological role -	2-7-18	
5	5-7-18	A		Triacylglycerol. -	5-7-18	
6	10-7-18	D		Physical and chemical properties - Acid number,	10-7-18	
7	13-7-18	A		Iodine number, Saponification number	13-7-18	

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Sl. No	Actual Date	Order	Unit	Topics Planned	Date-Topics Covered on	Remarks
8	18.7.18	D		and R.M. value.	18.7.18	
9	23.7.18	A		Cholesterol - structure,	23.7.18	
10	26.7.18	D		colour reaction,	26.7.18	
11	1.8.18	A		biochemical function and biological importance	1.8.18	
12	6.8.18	D		Revision	6.8.18	
13	9.8.18	A	V	UNIT V – Nucleic Acids Bases – Structure of Purine,	9.8.18	
14	14.8.18	D		Pyrimidine bases (occur in nucleic acids),	14.8.18	
15	18.8.18	A		nucleosides,	18.8.18	
16	29.8.18	D		nucleotides and deoxynucleotides.	29.8.18	
17	3.9.18	A		Genetic code	3.9.18	
18	6.9.18	D		Watson and crick DNA structure	6.9.18	
19	10.9.18	A		RNA – Different types (MRNA, tRNA&rRNA)	10.9.18	
20	17.9.18	D		structure of mRNA	17.9.18	
21	20.9.18	A		structure of tRNA.	20.9.18	
22	26.9.18	D		Revision	26.9.18	

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Sl. No	Actual Date	Order	Unit	Topics Planned	Date-Topics Covered on	Remarks
23	29.9.18	A		Revision	29.9.18	
24	4.10.18	D		Revision	29.9.18	
25	9.10.18	A	III	UNIT III - AMINO ACIDS AND PROTEINS Proteins - Classification of proteins based on shape, solubility,	9.10.18	
26	12.10.18	D		composition and biological function -.	12.10.18	
27	17.10.18	A		Biological actions of proteins.	17.10.18	
28	24.10.18	D		Primary structure, (one method each for C - Terminal, N - Terminal amino acid analysis), Secondary,	24.10.18	
29	27.10.18	A		tertiary and quaternary structure of proteins	27.10.18	
30	31.10.18	D		Revision	31.10.18	

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M. Lakshmi
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SADAKATHULLAH APPA COLLEGE (AUTONOMOUS), TIRUNELVELI-627011
LESSON PLAN AND RECORD OF CLASSES ENGAGED

Course: B.Sc. Class: I Chemistry Academic year: 2018-2019 Semester: I

Title of the Paper: Carbohydrates and Nucleic Acids Subject Code: 18UABC11

Theory / Practical: Theory

Sl. No	Date	Order	Unit	Topics planned	Covered on
1	19.06.18	B	I	Definition and classification of carbohydrates - fructose, Galactose	19.6.18
2	20.06.18	C		Structure of monosacharides -pyranose structure of glucose	20.6.18
3	28.06.18	B		Structure of fructose	28.6.18
4	29.06.18	C		Structure of galactose	29.6.18
5	06.07.18	B		Reactions of glucose	6.7.18
6	09.07.18	C		Reactions of fructose	9.7.18
7	16.07.18	B		Reactions of galactose	16.7.18
8	17.07.18	C		Mutarotation - Epimerisation	17.7.18
9	24.07.18	B		Interconversion of D - Arabinose to D - Glucose and vice - versa	24.7.18
10	25.07.18	C		Interconversion of D - Glucose to D - fructose and vice - versa	25.7.18
11	02.08.18	B		Qualitative test for glucose, fructose and galactose	2.8.18
12	03.08.18	C		Revision	3.8.18
13	10.08.18	B	II	Disaccharides - Occurrence, Structure and reactions of maltose	10.8.18
14	13.08.18	C		Occurrence, Structure and reactions of lactose	13.8.18
15	27.08.18	B		Occurrence, Structure and reactions of sucrose	27.8.18

Text books:

Reference books:


1.

1. Biochemistry - U. Satyanarayana & U. Chakrapani

Activity	Total Number	Topic I	Topic II	Topic III	Planned Date	Actual Date
Assignment	1	Qualitative tests				
Internal Test	3	Unit I	Unit II	Unit III (1/2)		



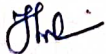
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Sl. No	Date	Order	Unit	Topics planned	Covered on
16	28.08.18	C		Qualitative test for lactose, maltose and sucrose	28.8.18
17	04.09.18	B		Glycosides - Physiological significance	4.9.18
18	05.09.18	C		Amino sugars - Importance	5.9.18
19	11.09.18	B		Polysaccharides - Definition of homo and hetero polysaccharide.	11.9.18
20	12.09.18	C		Occurrence, structure and applications of starch	12.9.18
21	24.09.18	B		Occurrence, structure and applications of cellulose	24.9.18
22	25.09.18	C		Heteropolysaccharides - occurrence, structure and uses of Hyaluronic acid	25.9.18
23	01.10.18	B		Heteropolysaccharides - occurrence, structure and uses of chondroitin sulphate.	01.10.18
24	03.10.18	C		Revision	3.10.18
25	10.10.18	B	III	Proteins - Classification of proteins based on shape, solubility	10.10.18
26	11.10.18	C		Classification of proteins based on composition and biological function	11.10.18
27	22.10.18	B		Biological actions of proteins	22.10.18
28	23.10.18	C		Primary structure, (one method each for C - Terminal, N - Terminal amino acid analysis)	23.10.18
29	29.10.18	B		Secondary structure of proteins	29.10.18
30	30.10.18	C		tertiary and quarternary structure of proteins	30.10.18


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