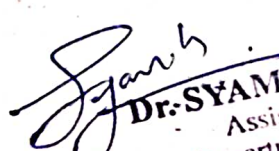


MANNAM MEMORIAL NSS COLLEGE, KOTTIYAM
STUDENT ENROLMENT LIST

Name of department : Chemistry

Name of course : An Introduction to Purification & Characterization of organic compounds (2021-22)

Sl No	Name of Student	Signature
1	ABHIRAMI B	Ab
2	ABHIRAMI R	Ab
3	AKASH R JANARDHANAN	AK
4	ANAMIKA.S	As
5	ARYA ABHILASH.S	AA
6	ASWATHY. M	AS
7	DARSANA .S	DS
8	DEVIKA L	DL
9	DRISYA.T.S	DS
10	GOPIKA KRISHNAN	GK
11	GOURI S	Gouri
12	HAADHIYA S	HS
13	VEENA U G	Veena
14	VISHNUPRIYA B	VB
15	ADITHYA S	AS
16	AKHILMON. S	AS
17	ALI. A	AA
18	ANAND.O. V	OV
19	ANANTHAKRISHNAN. A. R	AR
20	ARSHA VIJAYAN	AR
21	ARYA THILAK	AT
22	GOPIKA GOPAN	GG
23	GOPIKA M	GM
24	GOURI REGHUNADHAN	GR
25	GOVIND S P	GSP
26	JOISY JOHNSON	Jay
27	KARTHIKA . A	Ka
28	KRISHNA SEKHAR J	KSJ
29	MEGHA R B	MRB
30	NAVAMI G S	NGS
31	PARVATHI. A	Parvathi
32	RAMEESA N	Ram
33	RIYANA SHANAVAS	Riyana
34	ROHAN ALEX	RA
35	SUDHEESH.S	SS
36	THUMPI M	TM
37	VANDANA B	VB


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ADD ON COURSE IN CHEMISTRY (2021-22)

An Introduction to Purification & Characterization of Organic Compounds (CH 02)

Module 1

Organic Compounds: Introduction, Difference between organic & Inorganic compounds. Different classes of organic compounds. Aromatic and aliphatic. Important Functional Groups.

Module 2

General methods for the purification of Organic compounds.

Distillation, Differential extraction, Crystallization and Chromatography.

Chromatography - classification of methods - Elementary study of adsorption chromatography

Column and thin layer chromatography: Ion-exchange and gas chromatographic methods.

TLC of simple organic compounds (using TLC sheets)

Column chromatographic separation of a mixture of dyes.

Module 3

Characterization of organic compounds:

IR spectroscopy: Principle and applications: IR spectra of simple organic compounds: Solving simple problems using IR Spectra

NMR Spectroscopy: Principle and Applications

NMR spectra of simple organic compounds: Solving simple problems using NMR Spectra

Objectives

1. Familiarize students about various purification techniques used for organic compounds
2. Familiarize students about various characterization techniques used for organic compounds

Learning Outcomes

1. Understand the basics of chromatography
2. Learn to characterize compounds using IR spectroscopy
3. Discuss about the applications of NMR spectroscopy in structure characterization

Course - Co-ordinator


Dr. SYAM KRISHNAN K.
Assistant Professor
Department of Chemistry
MMNSS College Kottiyam

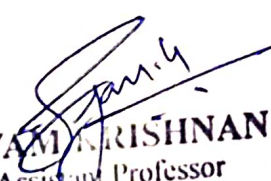
Principal
M.M.N.S.S.COLLEGE
KOTTIYAM


Dr. R. PRAKASH CHANDRA
Head, Dept. of Chemistry
M.M.N.S.S. College, Kottiyam

Introduction to Purification & Characterization of Organic Compounds (CH 02)

Course Schedule and topic of discussion

Date	Time	Topic	Number of hours	Theory/Practical
20/9/2021 Monday	3.15 pm to 4.15 pm	Introduction to Organic Chemistry and organic compounds	1h	Theory
23/9/21 Thursday	3.15 pm to 4.15 pm	Important functional groups	1h	Theory
25/9/21 Saturday	10 am-1 pm 1.45 to 3.45 pm	General methods for the purification of Organic compounds. Distillation, Differential extraction, Crystallization and Chromatography. Chromatography - classification of methods -Elementary study of adsorption chromatography Column and thin layer chromatography	5h	Theory
28/9/21 Tuesday	3.15 pm to 4.15 pm	Ion-exchange Chromatography	1h	Theory
30/9/21 Thursday	3.15 pm to 4.15 pm	Gas Chromatography	1h	Theory
5/10/21 Tuesday	3.15 pm to 4.15 pm	IR spectroscopy: Principle and applications	1h	Theory
12/10/21 Tuesday	3.15 pm to 4.15 pm	IR spectroscopy: Principle and applications	1h	Theory
18/10/21 Monday	3.15 pm to 4.15 pm	NMR spectroscopy: Principle and applications	1h	Theory
23/10/21 Saturday	10 am-1 pm 1.45 to 3.45 pm	TLC of simple compounds Colum chromatography of dyes	5h	Practical
26/10/21 Tuesday	3.15 pm to 4.15 pm	NMR spectroscopy: Principle and applications	1h	Theory
30/10/21 Saturday	10 am-1 pm 1.45 to 3.45 pm	Structural characterization of Simple compounds using NMR and IR	5 h	Workout of simple problems using original spectra
1/11/21 Monday	3.15 pm to 4.15 pm	TLC of simple organic compounds	1h	Practical
3/11/21 Wednesday	3.15 pm to 4.15 pm	Student seminar	1h	
6/11/21 Saturday	10 am-1 pm 1.45 to 3.45 pm	Final Exam and Feedback	5h	


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Department of Chemistry, MM NSS College, Kottiyam

Add on Course (2021-22)

An Introduction to Purification & Characterization of Organic Compounds (CH 02)

Each Question carries 6 marks each ($6 \times 10 = 60$)

Total marks-60

Time: 3h

1. Explain the differences between organic and inorganic compounds with examples
2. What are functional groups, explain with examples?
3. Compare Distillation & Differential extraction for the purification of organic compounds
4. Write a note on the principle of adsorption chromatography
5. Compare TLC and GC
6. Discuss the principle of IR Spectroscopy
7. Discuss the principle of NMR spectroscopy
8. Give the important peaks you would expect in the NMR spectrum of acetone and benzaldehyde
9. How will you distinguish between ethanol and acetone using IR spectroscopy
10. Analyze the given NMR spectrum and IR spectrum of a compound and identify the structure



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MANNAM MEMORIAL NSS COLLEGE, KOTTIYAM
END COURSE EVALUATION

Name of department : Chemistry

Name of course : An Introduction to Purification & Characterization of organic compounds (2021-22)

Duration of Exam: 3h

Total Marks: 60

Sl No	Name of Student	Marks obtained
1	ABHIRAMI B	47
2	ABHIRAMI R	45
3	AKASH R JANARDHANAN	46
4	ANAMIKA.S	43
5	ARYA ABHILASH.S	40
6	ASWATHY. M	42
7	DARSANA .S	40
8	DEVIKA L	42
9	DRISYA.T.S	50
10	GOPIKA KRISHNAN	48
11	GOURI S	46
12	HAADHIYA S	49
13	VEENA U G	47
14	VISHNUPRIYA B	50
15	ADITHYA S	48
16	AKHILMON. S	46
17	ALI. A	37
18	ANAND.O. V	43
19	ANANTHAKRISHNAN. A. R	39
20	ARSHA VIJAYAN .	37
21	ARYA THILAK	39
22	GOPIKA GOPAN	42
23	GOPIKA M	43
24	GOURI REGHUNADHAN .	46
25	GOVIND S P	
26	JOISY JOHNSON	43
27	KARTHIKA . A	45
28	KRISHNA SEKHAR J	44
29	MEGHA R B	48
30	NAVAMI G S	49
31	PARVATHI. A	46
32	RAMEESA N	38
33	RIYANA SHANAVAS	38
34	ROHAN ALEX	46
35	SUDHEESH.S	41
36	THUMPI M	51
37	VANDANA B	44

Number of students enrolled: 37

Number of students completed: 36

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An Introduction to Purification & Characterization of Organic Compounds (CH 02)

Report

The add on course "An Introduction to Purification & Characterization of Organic Compounds" was offered to the second-year students of BSc Chemistry (2020-23 batch). The duration of the course was 30h including 6h practical and final examination/feedback. The classes were arranged either on evenings or on Saturdays. The final examination was conducted on 6/11/21. Students actively participated in the discussion throughout the course. They understood the basics of Chromatography especially Thin Layer Chromatography and Column chromatography. They also acquired practical skills in doing chromatography and also solved several spectra (NMR and IR) related to structure characterization.

Feedback

Students were pleased with the content of the course. They find it engaging and informative. were of the opinion that the practical sessions added more value to the course content. The str elucidation of organic compounds using spectra were interesting and challenging to all of them


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Soi

Principal
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