

**A.S.D GOVERNMENT DEGREE COLLEGE FOR WOMEN (A),
KAKINADA**



DEPARTMENT OF CHEMISTRY

**CERTIFICATE COURSE
ON
SEPARATION TECHNIQUES
2021-22**

Duration : 45 Hrs



Letter of Permission from the Principal

Kakinada

08.12.2021

From

V.Mallikarjuna Sarma

Lecturer Incharge

Department of Chemistry

A.S.D Government Degree College for Women (A)

Kakinada.

To

The Principal

A.S.D Government Degree College for Women (A)

Kakinada.

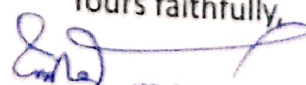
Madam,

Sub: ASD GDC (W) (A), Kakinada-Department of Chemistry - Seeking permission to start a certificate course on "Separation Techniques" for the students of III Semester for the Academic Year 2021-22 – Permission Requested – Regarding

With reference to the subject cited , I bring to your kind notice that the Department of Chemistry is offering a certificate course in "Separation Techniques " for the year 2021 – 22. In this Connection I request you to grant permission to start the course from 15th December to 02nd March for the academic year 2021-22.

Thanking You Madam,

Yours faithfully,



HEAD
DEPARTMENT OF CHEMISTRY
A.S.D GOVT DEGREE COLLEGE
JAGANNAICKPUR
KAKINADA-533 00

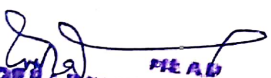
Circular


A.S.D Government Degree College for Women (A), Kakinada

Department of Chemistry



The students of IIIrd semester are here by informed that the Department of Chemistry is going to conduct a certificate course on "Separation Techniques" for 45 hours (15th December to 2nd march) with no entry fee. Those who are interested should enroll their names in Department of Chemistry on or before 12th December 2021.


HEAD
DEPARTMENT OF CHEMISTRY
A.S.D. GOVT. DEGREE COLLEGE (W)
JAGANNAICKPETA
In-Charge of Chemistry


PRINCIPAL
A.S.D. GOVT. DEGREE COLLEGE (W)
AUTONOMOUS
KAKINADA

Circulated to the Classes

II BA

II H.Sc

II BCOM

II MPC

II BCOM CA

II MPCS

II CBZ



II CBHT

II CZAQT

II CBMB

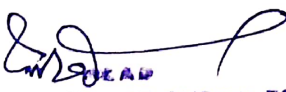
Brief report on Certificate Course

Academic Year 2021-22

Name of the Certificate Course	Certificate Course In Separation Techniques
Academic Year of Course	2021-22
Department Conducting the Course	Department Of Chemistry
Duration Of the Course	45 Hrs
Number of Students Completed the Course	30 Students
Brief Report	Certificate course on Separation Techniques was conducted by the department of Chemistry for 45hrs in which total 30 students were enrolled & participated. All the students completed the course and also appeared for the examination conducted at the end of the course. They have been given grades. The certificates are also given to them. The course was held from 15 th December 2021 to 2 nd March 2022
Number of Beneficiaries	Students : 30
 HEAD DEPARTMENT OF CHEMISTRY A.S.D. GOVT. DEGREE COLLEGE (W) JAGANNAICKPUR RAKINADA-533 000	Signature & Stamp of the Principal
	 PRINCIPAL A.S.D. GOVT. DEGREE COLLEGE (W) JAGANNAICKPUR RAKINADA

List of students Enrolled for Certificate Course

S.NO	Name of the Student	Group	Regd.No	Signature
1	Pemmadi Uma Devi	II BSC(MPC)	2037001	P. Uma Devi
2	Guttula Sri Jyothi	II BSC(MPC)	2037007	Gr. Sri jyothi
3	Palepu Satya Veni	II BSC(MPC)	2037010	p. Satya veni
4	Peruri Sai Durga	II BSC(MPC)	2037012	P. Sai Durga
5	Atla Durga Devi	II BSC(MPC)	2037014	A. Durga Devi
6	Buddala Suji	II BSC(MPC)	2037015	B. Suji
7	Pilaka Sujatha	II BSC(MPC)	2037025	P. sujatha
8	Vatari Naga Sravani	II BSC(MPC)	2037028	V. naga Sravani
9	Vipparthi Deepika	II BSC(MPC)	2037030	V. Deepika
10	Karri Bujji	II BSC(MPC)	2031002	K. Bujji
11	Pothabathula Adilakshmi	II BSC(MPC)	2031004	P. Adilakshmi
12	Kollati Renuka	II BSC(MPC)	2031007	k. Renuka
13	Surada Girisha	II BSC(MPC)	2031010	S. Girisha
14	Vasamsetti Yasaswini	II BSC(MPC)	2031012	V. Yasaswini
15	Donam Neelima	II BSC (CZAQT)	2036001	D. neelima
16	Surla Pavani	II BSC (CZAQT)	2036005	S. Pavani
17	Gandi Satyaveni	II BSC (CZAQT)	2036008	G. satyaveni
18	Kunche Kusuma	II BSC (CZAQT)	2036012	k. kusuma
19	Madhura Kavya Sri	II BSC (CZAQT)	2036013	M. Kavya Sri
20	Pilaka Sai Lakshmi	II BSC (CZAQT)	2036019	P. Sai Lakshmi
21	Chillaka Keerthi	II BSC (CBZ)	2033004	Ch. Keerthi
22	Chintala Devi		2033005	ch. keerthi
23	Eeka Anusha	II BSC (CBZ)	2033008	E. Anusha
24	Kandrakota Veera Sunitha	II BSC (CBZ)	2033013	K. Veera Sunitha
25	K.V.V.Satyaveni		2033016	k.v.v. satyaveni
26	Matha Srilakha	II BSC (CBZ)	2033018	M. Srilakha
27	Nandika Asha	II BSC (CBZ)	2033020	n. Asha
28	Revu Renuka	II BSC (CBZ)	2033025	R. Renuka
29	Yalla Venkata Ramani	II BSC (CBZ)	2033029	Y. Venkata Ramani
30	Payam Naga Lakshmi	II BSC (CBZ)	2033024	P. Naga Lakshmi


 DEPARTMENT OF CHEMISTRY
 J.S.B GOVT DEGREE COLLEGE
 JAGANNAICKPUR
 RAKINADA-533 001

A.S.D Government Degree College for Women (A), Kakinada
Autonomous and NAAC Re-Accredited With "B"
Grade in Cycle-III Affiliated to Adikavi Nannaya
University, Rajamahendravaram

DEPARTMENT OF CHEMISTRY

APPLICATION FORM


(Skill Development Certificate Course on "Separation Techniques")

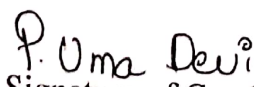
1. Name of the candidate (in BLOCK letters) : Pemmadi Uma Devi
2. Class studying : II BSC. MPC
3. Reg.No : 2037001
4. Grade of Chemistry in Previous exams : 'O'

Undertaking

I have gone through syllabus carefully and understand

1. To maintain 75% attendance is a pre-requisite for obtaining certificate course.
2. To maintain at least 50% marks in final test.
3. To follow discipline of ASDGDC (W) (A), Kakinada.


Signature of the Course Coordinator


P. Uma Devi
Signature of Candidate

A.S.D Government Degree College for Women (A), Kakinada

Department of Chemistry

Certificate Course on "SEPARATION TECHNIQUES"

Syllabus

UNIT – I

Paper chromatography: Principle, modified Papers, solvent systems, mechanism of paper chromatography, experimental technique, different development methods-ascending, descending, horizontal, circular spreading, multiple development, two dimensional development, reverse phase paper chromatographic technique-visualization and evaluation of chromatograms.

Applications – Separation of Aminoacids using Paper Chromatography

UNIT - II

Thin layer chromatography: Principle, chromatographic media-coating materials, applications, activation of adsorbent, sample development, solvent systems, development of chromatoplate, types of development, visualization methods.

Applications - Analyse the purity of the compounds and also the separation of plant extracts from the mixture, Separation of biochemical metabolites from its blood , plama, urine, serum

UNIT – III

Column Chromatography

Column chromatography (adsorption chromatography): principles, general aspects, adsorption isotherms, chromatographic media, nature of forces between adsorbent and solutes,eluent (mobile phase)

Application : Separation of a mixture of ortho and para nitro anilene using silica gel as adsorbent and chloroform as the eluent using Column Chromatography.

UNIT – IV

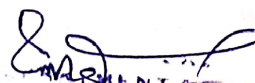
Isolation of Natural Products

Isolation of Caffeine from tea leaves

Isolation of casein and lactose from milk

Isolation of limonene from lemon peel

Isolation of beta carotene from carrots


A.S.D GOVERNMENT DEGREE COLLEGE FOR WOMEN
JAGANNAIKPUR
KAKINADA-533 002



**A.S.D. GOVERNMENT DEGREE COLLEGE FOR WOMEN (AUTONOMOUS)
KAKINADA
DEPARTMENT OF CHEMISTRY
Certificate Course in Separation Techniques**

Course Duration : 45 Hours

Eligibility : All B.Sc. First year/ Second Year students having chemistry as major subject are eligible

Number of seats : 30

Objectives:

1. Department of Chemistry of A.S.D. Government Degree College for Women (Autonomous) Kakinada offers 45 hours **Certificate Course in SEPARATION TECHNIQUES**
2. This course aims to provide students with a comprehensive understanding of chromatographic principles, methodologies, and applications. Throughout the duration of the course, the students delve into the theoretical foundations of chromatography.
3. At the end of course, the participants gains knowledge in various scientific fields to separate, identify, and quantify components of complex structures.

Course outcomes:

1. The candidate develops knowledge on fundamental principles underlying chromatographic separation including the concepts of partitioning and adsorption
2. The candidate will be able to know the quality control in pharmaceutical, food, bevarages industries and also in forensic analysis
3. Students learn about purification and isolation of compounds for further analysis.
4. Acquire skill in analysing chromatographic data and interpreting results accurately
5. Acquires skill necessary for success in various industries and research.

Evaluation Process:

Assessment of candidates will be done through theoretical assignments and course end examinations after the completion of the course. All successful candidates will be awarded with certificates. Exam will be conducted for 50 marks containing two sections having Essays and Short answer questions.

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DEPARTMENT OF CHEMISTRY
A.S.D. GOVT DEGREE COLLEGE
KAKINADA-533 002



A.S.D GOVERNMENT DEGREE COLLEGE FOR WOMEN (A), KAKINADA

DEPARTMENT OF CHEMISTRY – CERTIFICATE COURSE

SEPARATION TECHNIQUES

QUESTION PAPER

Max Marks : 50

Dt : 06.03.2023

Time : 1 hr 30 min

Answer any FOUR questions

4 X 5 = 20M

1. Write the principle of Paper Chromatography.
2. Explain the separation of aminoacids using Paper Chromatography.
3. How to analyse the purity of compounds using TLC.
4. Explain the Separation technique of biochemical metabolites from its blood , plama, urine Thin Layer Chromatogrsphy.
5. Explain about the isolation of Caffeine from tea leaves.
6. Explain about the Isolation of beta carotene from carrots.

Answer any TWO questions

15 X 2 = 30M

1. Explain the different development methods of Paper Chromatography.
2. Write about the Isolation of casein and lactose from milk.
3. Explain the Separation Technique of a mixture of ortho and para nitro anilene using silica gel as adsorbent and chloroform as the eluent using Column Chromatography.

HEAD
DEPARTMENT OF CHEMISTRY
A.S.D GOVT DEGREE COLLEGE FOR WOMEN
JAGANNAICKPUR
KAKINADA - 531 001



A.S.D GOVT.DEGREE COLLEGE FOR WOMEN(A) KAKINADA

CHEMISTRY DEPARTMENT TIME TABLE 2021-22

DAY	CLASS	0 HOUR	1	2	3	4	5	6
MON	I B.Sc		Chem-I (SPD,MSL, PL)					
	II B.Sc	Certificate Course		S8,S9,S10 Chem Practicals(K,JL & MSL)		Chem-III(VMS,KJL, PL)		
	III B.Sc			Chem-V (VMS,SPD,PL)			T1,T2 Chem Practicals(KJL & SPD)	
TUE	I B.Sc		Chem-I (SPD,MSL,KJL)			L		
	II B.Sc			S1,S2,S3 Chem Practicals(K,JL, MSL, VMS)				
	III B.Sc			Chem-V(SP,PL)			T5,T6 Chem Practicals(VMS,MSL)	Chem-V(VMS)
WED	I B.Sc					U		
	II B.Sc	Certificate Course		S6,S7 Chem Practicals(KJL, SPD,MSL)		Chem-III(VMS,KJL, PL)		
	III B.Sc		Chem-V(VMS,SPD,PL)				T7,T8 Chem Practicals(VMS&PL)	
THU	I B.Sc		F7,F8,F9 Chem Practicals(SPD,PL)			N		
	II B.Sc			Chem-III(VMS,KJL, SPD)		Chem-I (SPD,MSL, PL)		
	III B.Sc		Chem-VI(VMS,KJL,MSL)					
FRI	I B.Sc			F1,F2 Chem Practicals(SPD,KJL,PL)		Chem-I (SPD,KJL,MSL)		T1,T2 Chem Practicals(VMS & PL)
	II B.Sc	Certificate Course					Chem-III(VMS,SPD,KJL)	
	III B.Sc		Chem-VI(VMS,KJL,MSL)					
SAT	I B.Sc		Tutor Ward	F5,F6 Chem Practicals(SPD, PL)				T5,T6 Chem Practicals(PL, MSL)
	II B.Sc							
	III B.Sc		Chem-VI (VMS,KJL,MSL)	Tutor Ward	Tutor Ward			T7,T8 Chem Practicals(VMS,MSL)

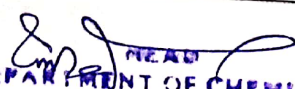
Mr.V.Mallikarjuna sarma: 10(T)+10(P)=20
Dr.S.Priya darshini: 9(T)+10(P)=19

Dr.K.Jhansi Lakshmi:9(T)+10(P)=19
Ms.P.Leena:7(T)+12(P)=19
Ms.M.Subbalakshmi:7(T)+12(P)=19

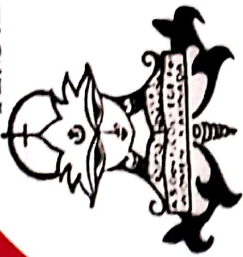
DEPARTMENT HEAD
DEPARTMENT OF CHEMISTRY
A.S.D GOVT DEGREE COLLEGE FOR
WOMEN(A) KAKINADA

Students Grade after the End Exam

S.NO	Name of the Student	Group	Regd.No	Grade Obtained by the Student
1	Pemmadi Uma Devi	II BSC(MPC)	2037001	A
2	Guttula Sri Jyothi	II BSC(MPC)	2037007	A
3	Palepu Satya Veni	II BSC(MPC)	2037010	A
4	Peruri Sai Durga	II BSC(MPC)	2037012	A
5	Atla Durga Devi	II BSC(MPC)	2037014	A
6	Buddala Suji	II BSC(MPC)	2037015	A
7	Pilaka Sujatha	II BSC(MPC)	2037025	A
8	Vatari Naga Sravani	II BSC(MPC)	2037028	A
9	Vipparthi Deepika	II BSC(MPC)	2037030	A
10	Karri Bujji	II BSC(MPC)	2031002	A
11	Pothabathula Adilakshmi	II BSC(MPC)	2031004	A
12	Kollati Renuka	II BSC(MPC)	2031007	A
13	Surada Girisha	II BSC(MPC)	2031010	A
14	Vasamsetti Yasaswini	II BSC(MPC)	2031012	A
15	Donam Neelima	II BSC (CZAQT)	2036001	A
16	Surla Pavani	II BSC (CZAQT)	2036005	A
17	Gandi Satyaveni	II BSC (CZAQT)	2036008	A
18	Kunche Kusuma	II BSC (CZAQT)	2036012	A
19	Madhura Kavya Sri	II BSC (CZAQT)	2036013	A
20	Pilaka Sai Lakshmi	II BSC (CZAQT)	2036019	A
21	Chillaka Keerthi	II BSC (CBZ)	2033004	A
22	Chintala Devi		2033005	A
23	Eeka Anusha	II BSC (CBZ)	2033008	A
24	Kandrakota Veera Sunitha	II BSC (CBZ)	2033013	A
25	K.V.V.Satyaveni		2033016	A
26	Matha Srilakha	II BSC (CBZ)	2033018	A
27	Nandika Asha	II BSC (CBZ)	2033020	A
28	Revu Renuka	II BSC (CBZ)	2033025	A
29	Yalla Venkata Ramani	II BSC (CBZ)	2033029	A
30	Payam Naga Lakshmi	II BSC (CBZ)	2033024	A



 HEAD
 DEPARTMENT OF CHEMISTRY
 S.B. GOVT DEGREE COLLEGE
 JAGANNAICKPUR
 RAKINADA-511 001


A.S.D. GOVERNMENT DEGREE COLLEGE FOR WOMEN(A), KAKINADA



Department of Chemistry

This is to certify that Ms. ----- of class/group has successfully completed the 45 hrs Certificate Course in "Separation techniques" Conducted by Department of Chemistry with ----- grade for the academic year 2021 - 22 from 15th December 2021 to 02nd march 2022.


DEPARTMENT OF CHEMISTRY
A.S.D. GOVT. DEGREE COLLEGE FOR
WOMEN
KAKINADA
Convener


A.S.D. GOVT. DEGREE COLLEGE (W)
KAKINADA
Principal

