

**A.S.D. GOVERNMENT DEGREE COLLEGE FOR WOMEN
(AUTONOMOUS)
Affiliated to Adikavi Nannaya University
Jagannaickpur, Kakinada**

DEPARTMENT OF CHEMISTRY



CERTIFICATE COURSE

On

“CHEM DRAW MOLECULAR MODELING SOFTWARE”

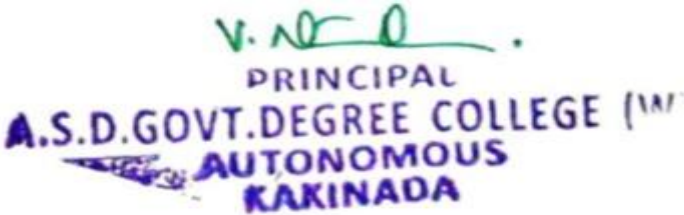
2025-2026

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

**Affiliated to Adikavi Nannaya University
Jagannaickpur, Kakinada**

Brief report on Certificate Course

Academic Year 2024-2025

Name of the Certificate Course	Certificate Course in “ Chem Draw Molecular Modeling Software ”
Academic Year of Course	2024-2025
Department Conducting the course	Department of Chemistry
Duration of the Course	45 Hrs
Course Code	CC24/Chem
Number of Students Completed the Course	17 Students
Brief Report	Certificate course on “ Chem Draw Molecular Modeling Software ” was conducted by the department of Chemistry for 45 hrs in which total 18 students were enrolled. The course was held from 3 rd December 2024 to 29th March 2025 . 17 students appeared for the examination conducted on 17 th & 18 th of July 2025 and completed the course. They have been given grades.
Number of Beneficiaries	17 students
Signature of the Certificate Course Coordinator	
Signature of the Principal	 PRINCIPAL A.S.D. GOVT. DEGREE COLLEGE (W) AUTONOMOUS KAKINADA

PERMISSION LETTER

From

Dr.K. Anitha

Incharge of department of Chemistry

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

Kakinada.

To

Principal

A.S.D. Govt. Degree College for Women

Kakinada.

Respected Madam,

Sub: ASD GDC (W) (A), Kakinada- Department of Chemistry - Seeking permission to start a certificate course on “**Chem Draw Molecular Modeling Software**” for the students of II Semester for the Academic Year 2024-25 – Permission – Regarding.

With reference to the subject cited , I bring to your kind notice that the Department of Chemistry is offering a certificate course in “**Certificate Course in Chem Draw Molecular Modeling Software**” for the year 2024 – 25. In this Connection I request you to grant permission to start the course from 3rd December 2024 to 29th March 2025 for the academic year 2024-2025.

Thanking You Madam,

Place: Kakinada

Date: 28/11/2024

Yours faithfully



(Dr.K.Anitha)

Circular

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

DEPARTMENT OF CHEMISTRY



The students of IIrd semester are hereby informed that the Department of Chemistry is going to conduct a certificate course on **“Certificate Course in Chem Draw Molecular Modeling Software”** for 45 hours (3rd December 2024 to 29th March 2025) for the academic year 2024-2025 with no entry fee. Those who are interested should enroll their names in Department of Chemistry on or before 30th November 2024.

Dr.K.Anitha

In-Charge of Chemistry department

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

Principal

A.S.D. GOVERNMENT DEGREE COLLEGE FOR WOMEN



Autonomous and NAAC Re-Accredited With "B" Grade in Cycle-III
Affiliated to Adikavi Nannaya University, Rajamahendravaram
Kakinada-533 002, Andhra Pradesh



Department of Chemistry

A SKILL DEVELOPMENT CERTIFICATE COURSE ON "CHEM DRAWMOLECULAR MODELING SOFTWARE"

ADMISSION NOTIFICATION 2024 - 25



Dear Chemistry Learners!

Are you interested in Drawing Chemical Structures on a computer?

Then come on! Here is an Opportunity for you.

The department of chemistry offers a certificate course on the Usage of Softwares for drawing chemical structures.

**Enroll
Today**

Course Highlights

- This course aims at imparting skills on use of various open-source chemistry tools that are essential for any student with chemistry as a major subject.
- At the end of course, the participants will be able to use these softwares for drawing chemical structures, generation of their names, retrieve information about physical properties calculations, three-dimensional molecular structure calculations, spectroscopic signatures, chemical reaction pathways prediction, molecular functional groups and other parameters efficiently.

Target Group

B. Sc (Firstyear) with Chemistry as one of the Subjects.

**Course Fee
No. 0
Rs. 200/-
Course Fee
Only**

For Details Contact
Dr.K. Anitha

**Last Date for enrolment:
02-12-2024**

Course Coordinator

Lecturer In-Charge, Department of Chemistry

Phone No.: 8341546804, 9676822550

"Drawing Chemical Structures is an art of Chemistry"

**A.S.D. GOVERNMENT DEGREE COLLEGE FOR WOMEN
(AUTONOMOUS)
Affiliated to Adikavi Nannaya University
Jagannaickpur, Kakinada**

DEPARTMENT OF CHEMISTRY

CERTIFICATE COURSE

On

“CHEM DRAW MOLECULAR MODELING SOFTWARE”

Course Duration: 45 Hours

Eligibility: All B.Sc. 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 Basic Chemistry Molecular Modelling softwares.**
2. This course aims at imparting skills on use of various open-source chemistry tools that are essential for any student with chemistry as a major subject.
3. At the end of course, the participants will be able to use these softwares for drawing chemical structures, generation of their names, retrieve information about physical properties calculations, three-dimensional molecular structure calculations, spectroscopic signatures, chemical reaction pathways prediction, molecular functional groups and other parameters efficiently.

Course outcomes:

1. The candidate will be able to use Cambridge Chem Draw Ultra Drawing of simple and complex chemical structures, calculation of physical/chemical properties.
2. Students should be able to accurately represents stereochemistry, and

molecular geometry.

3. Students learn ability to draw and depict chemical reactions using ACD Chem Sketch software and ChemDraw, including reaction mechanisms, intermediates, and products.
4. This skill necessary for success in various industries and research.

Evaluation Process:

Assessment of candidates will be done through practical examination-50 M after completion of course. All successful candidates with 40% will be awarded certificates.

A.S.D. GOVERNMENT DEGREE COLLEGE FOR WOMEN (AUTONOMOUS)
Affiliated to Adikavi Nannaya University
Jagannaickpur, Kakinada
Certificate Course in “Chemdraw Molecular Modelling Software”

SYLLABUS

Module -I: Chemical structures, Names and Physical properties (10 hours)

Drawing various chemical structures (acyclic, cyclic, polycyclic, heterocyclic hydrocarbons, Hydroxy compound, Carbonyl compounds, Acids and its derivatives), Conversion of structure into IUPAC name, Convert the IUPAC name into structure, calculation of physical properties such as density, molecular weight, molecular formula from structural formula

Module-II: Stereochemistry & Spectroscopy (15 hours)

Drawing of Chiral centered molecules, Find the stereochemistry of molecule, drawing structure of biomolecules such as proteins, carbohydrates etc.

Spectral data analysis:

To predict ^1H , ^{13}C NMR spectrum's from molecular structure

Predict the ^1H NMR spectra and chemical shift values, Predict the ^{13}C NMR spectra and chemical shift values.

Module-III: Chemical equations and mechanisms (20 hours)

To draw following Chemical equations and Write the mechanism of chemical reaction using CHEM DRAW soft ware and to Study their reaction mechanisms through chemistry softwares-ACD ChemSketch software/ ChemDraw Ultra software.

1. Friedel crafts alkylation
2. Friedel crafts acylation.
3. Nitration of Benzene
4. Aldol Condensation
5. Cannizaro reaction
6. Benzoin Condensation
7. Claisen Condensation
8. Pinacol Rearrangement
9. Kolbe-Schmidt Reaction

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

MODEL QUESTION PAPER

SEMESTER - II

Certificate Course in Chemdraw Molecular Modelling Software

Time: 2 hours

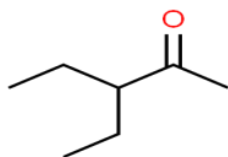
Maximum Marks: 40M

Section- A

Answer any TEN of the following questions. Each carries TWO marks 10 X 2 = 20 M

1. Draw structure of 2-Propanol and find its physical properties M.Pt, B.Pt, density and refractive index?

2. Find IUPAC Nomenclature of following compound. Predict its elemental analysis



3. Draw stereoisomers of 2 Bromo butane ((S)-2 Bromo butane & (R)-2 Bromo butane)?

4. Predict NMR spectrum of Ethyl alcohol and write Chemical shift values from spectrum?

5. Determine NMR spectrum of acetaldehyde? Analyse its Chemical shift values from spectrum?

6. Analyse ^{13}C NMR of Toluene?

7. Write Chemical equations for Friedel crafts acylation?

8. Write Chemical equations for Pinacol-Pinacolone Rearrangement

9. Write Chemical equations for Claisen Condensation?

10. Write Chemical equations for Pinacol-Pinacolone Rearrangement?

11. Write Chemical equations for Friedel Crafts alkylation?

12. Write Chemical equations for Kolbe-Schmidt Reaction?

Section- B

Answer any FOUR of the following questions. Each carries FIVE mark 4X5 = 20 M

1. Draw structure of following compounds and predict their physical properties

a) Phenol b) Pyridine.

2. Predict NMR, ^{13}C spectral data of Toluene? Write their spectral data?

3. Sketch structure (S)-Alanine and get its NMR Spectrums?

4. Write mechanism of Aldol reaction?

5. Write mechanism of Cannizaro reaction?
6. Write mechanism of Friedel Crafts alkylation?
7. Write mechanism of Nitration of Benzene?
8. Write mechanism of Benzoin Condensation

**A.S.D. GOVERNEMENT DEGREE COLLEGE FOR WOMEN(A),
KAKINADA
SEMESTER - II**

Certificate Course in Chemdraw Molecular Modelling Software

QUESTION PAPER BLUE PRINT

S.NO.	COURSE CONTENT	LONG ANSWER QUESTIONS (5M)	SHORT ANSWER QUESTIONS (2M)
1.	UNIT - I	2	1
2.	UNIT – II	4	2
3.	UNIT – III	6	5
	TOTAL	12	8

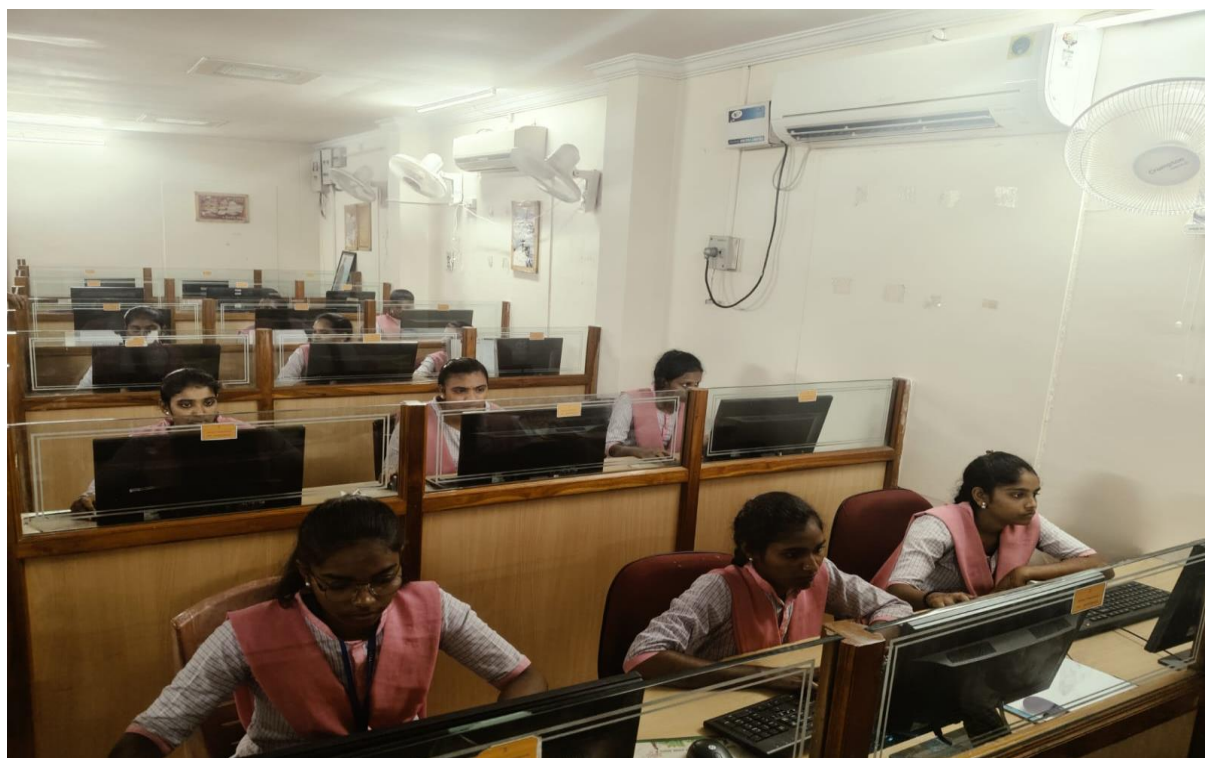
List of Students Enrolled for Certificate Course

S.No	Regd.No	Name of the Student	Programme
S.No	Roll Number	Candidate Name	II BSc Hons(Chemistry)
1	2473001	Gooti Lowkhya Venika	II BSc Hons(Chemistry)
2	2473002	Nakka Satya Sri	II BSc Hons(Chemistry)
3	2473003	Panthadi Haneesha Amrutha	II BSc Hons(Chemistry)
4	2473004	Pedapatruni Rama Satya Supriya	II BSc Hons(Chemistry)
5	2473005	Teki Satya Aruna Manga Devi	II BSc Hons(Chemistry)
6	2473006	Vallipudi Pavani	II BSc Hons(Chemistry)
7	2473007	Darakonda Kalpana	II BSc Hons(Chemistry)
8	2473008	Kalina Durga	II BSc Hons(Chemistry)
9	2473009	Kasapu Swathi	II BSc Hons(Chemistry)
10	2473010	Kunche Deekshita	II BSc Hons(Chemistry)
11	2473011	Lankadi Kanchana	II BSc Hons(Chemistry)
12	2473012	Mallarapu Sunitha	II BSc Hons(Chemistry)
13	2473013	Nakile Satya Durga Darahasini	II BSc Hons(Chemistry)
14	2473014	Nurukurthi Meenakshi	II BSc Hons(Chemistry)
15	2473015	Palivela Vijaya Mary	II BSc Hons(Chemistry)
16	2473016	Pappala Vanaja	II BSc Hons(Chemistry)
17	2473017	Singuluri Hasini	II BSc Hons(Chemistry)

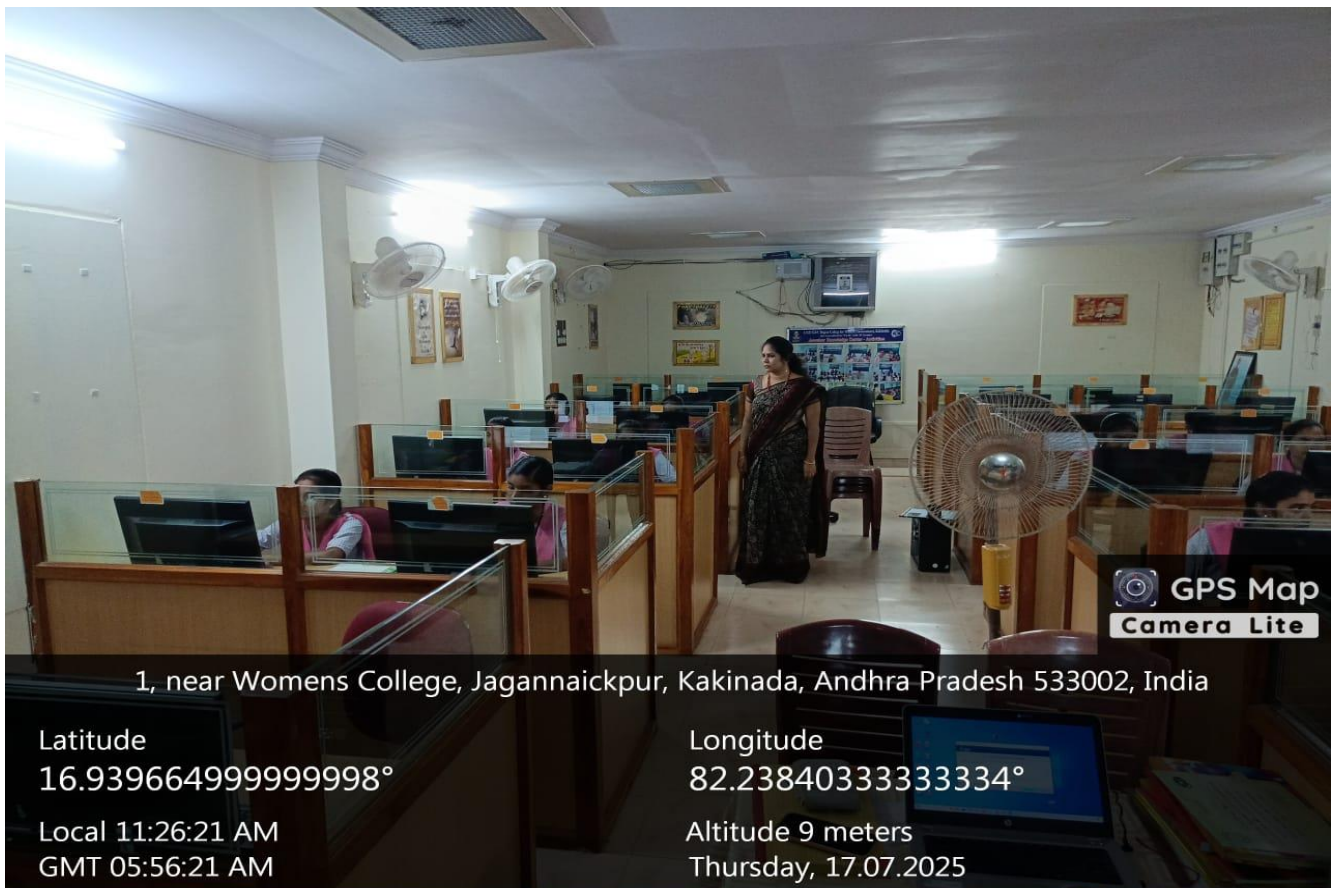
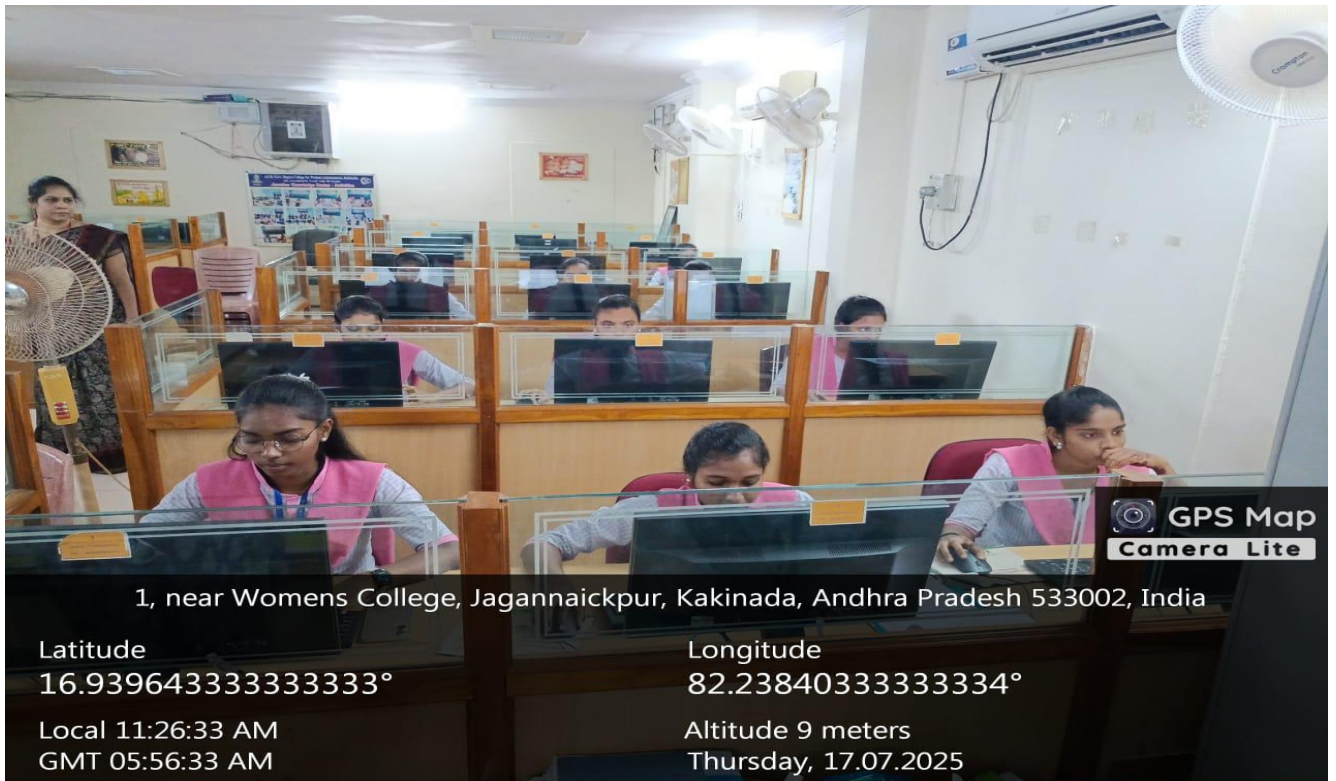
List of Students Completed Certificate Course with Grades

S.No	Regd.No	Name of the Student	Programme	Grade
S.No	Roll Number	Candidate Name	II BSc Hons(Chemistry)	A
1	2473001	Gooti Lowkhya Venika	II BSc Hons(Chemistry)	A
2	2473002	Nakka Satya Sri	II BSc Hons(Chemistry)	A
3	2473003	Panthadi Haneesha Amrutha	II BSc Hons(Chemistry)	A
4	2473004	Pedapatruni Rama Satya Supriya	II BSc Hons(Chemistry)	A
5	2473005	Teki Satya Aruna Manga Devi	II BSc Hons(Chemistry)	A
6	2473006	Vallipudi Pavani	II BSc Hons(Chemistry)	A
7	2473007	Darakonda Kalpana	II BSc Hons(Chemistry)	A
8	2473008	Kalina Durga	II BSc Hons(Chemistry)	A
9	2473009	Kasapu Swathi	II BSc Hons(Chemistry)	A
10	2473010	Kunche Deekshita	II BSc Hons(Chemistry)	A
11	2473011	Lankadi Kanchana	II BSc Hons(Chemistry)	A
12	2473012	Mallarapu Sunitha	II BSc Hons(Chemistry)	A
13	2473013	Nakile Satya Durga Darahasini	II BSc Hons(Chemistry)	A
14	2473014	Nurukurthi Meenakshi	II BSc Hons(Chemistry)	A
15	2473015	Palivela Vijaya Mary	II BSc Hons(Chemistry)	A
16	2473016	Pappala Vanaja	II BSc Hons(Chemistry)	A
17	2473017	Singuluri Hasini	II BSc Hons(Chemistry)	A
21	2376014	O.Ramya Sri	II BSc Hons(Zoology)	A

Certificate Course in “Chemdraw Molecular Modelling Software” training Classes



Certificate Course Examination at JKC Lab



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



Department of Chemistry

CC24/Chem

*This is to certify that Ms-----
-----of class/group has successfully completed
Certificate Course in "Chemdraw Molecular Modelling Software" with course code
CC24/Chem Conducted by Department of Chemistry with -----grade for the
academic year 2024-2025 – 3rd December 2024 to 29th March 2025.*





Course Co-ordinator



Principal

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

I B.Sc. Chemistry Honours, Semester - II

Attendance Particulars of Chemdraw Certificate Course

S.No	Roll Number	Candidate Name	3/12	5/12	7/12	10/12	12/12	14/12	17/12	19/12
1	2473001	Gooti Lowkhya Venika	P	a	P	P	P	P	P	P
2	2473002	Nakka Satya Sri	a	P	P	P	P	P	P	P
3	2473003	Panthadi Haneesha Amrutha	P	P	P	P	a	P	P	P
4	2473004	Pedapatruni Rama Satya Supriya	P	P	P	a	P	P	P	P
5	2473005	Teki Satya Aruna Manga Devi	a	P	P	P	P	P	P	P
6	2473006	Vallipudi Pavani	P	P	P	a	P	P	P	P
7	2473007	Darakonda Kalpana	P	a	P	P	P	P	P	P
8	2473008	Kalina Durga	P	P	P	P	P	P	a	P
9	2473009	Kasapu Swathi	P	P	P	P	P	a	P	a
10	2473010	Kunche Deekshita	P	P	P	P	P	a	P	P
11	2473011	Lankadi Kanchana	P	P	P	P	P	P	P	P
12	2473012	Mallarapu Sunitha	P	a	P	P	P	P	P	a
13	2473013	Nakile Satya Durga Darahasini	P	P	P	P	P	P	P	P
14	2473014	Nurukurthi Meenakshi	a	P	P	P	P	P	P	P
15	2473015	Palivela Vijaya Mary	P	P	P	P	P	P	P	P
16	2473016	Pappala Vanaja	P	P	P	P	P	P	P	P
17	2473017	Singuluri Hasini	P	P	P	P	P	P	P	P
18	2473018	Tirukoti Prasanna Kumari	P	P	a	P	P	P	P	a

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

I B.Sc. Chemistry Honours, Semester – II

Attendance Particulars of Chemdraw Certificate Course

S.No	Roll Number	Candidate Name	21/12	28/12	31/12	2/1	4/1	7/1	9/1	21/1
1	2473001	Gooti Lowkhya Venika	a	P	P	P	P	a	P	P
2	2473002	Nakka Satya Sri	P	P	P	P	P	P	P	a
3	2473003	Panthadi Haneesha Amrutha	P	P	a	P	P	P	P	P
4	2473004	Pedapatruni Rama Satya Supriya	P	P	P	P	P	P	P	a
5	2473005	Teki Satya Aruna Manga Devi	P	P	P	P	a	P	a	P
6	2473006	Vallipudi Pavani	a	P	P	a	P	P	P	P
7	2473007	Darakonda Kalpana	P	P	P	P	P	P	P	a
8	2473008	Kalina Durga	P	P	P	P	P	P	P	P
9	2473009	Kasapu Swathi	P	P	P	P	P	a	P	P
10	2473010	Kunche Deekshita	P	a	P	P	P	P	P	P
11	2473011	Lankadi Kanchana	P	P	P	a	P	P	P	P
12	2473012	Mallarapu Sunitha	P	P	P	P	P	P	P	P
13	2473013	Nakile Satya Durga Darahasini	P	P	P	P	P	P	P	P
14	2473014	Nurukurthi Meenakshi	P	P	P	P	P	P	P	P
15	2473015	Palivela Vijaya Mary	P	a	P	P	P	P	P	P
16	2473016	Pappala Vanaja	P	P	P	P	P	P	P	P
17	2473017	Singuluri Hasini	P	P	P	P	P	P	P	P
18	2473018	Tirukoti Prasanna Kumari	P	a	P	P	P	a	P	P

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

I B.Sc. Chemistry Honours, Semester - II

Attendance Particulars of Chemdraw Certificate Course

S.No	Roll Number	Candidate Name	23/1	25/1	28/1	30/1	1/2	4/2	6/2	11/2	13/2
1	2473001	Gooti Lowkhya Venika	P	P	P	P	a	P	P	P	P
2	2473002	Nakka Satya Sri	P	a	P	P	P	P	a	P	P
3	2473003	Panthadi Haneesha Amrutha	P	P	P	a	P	P	P	P	P
4	2473004	Pedapatruni Rama Satya Supriya	P	P	P	P	P	a	P	P	P
5	2473005	Teki Satya Aruna Manga Devi	P	P	P	a	P	P	P	P	P
6	2473006	Vallipudi Pavani	a	P	P	P	P	P	P	P	a
7	2473007	Darakonda Kalpana	P	P	P	P	a	P	P	P	P
8	2473008	Kalina Durga	P	a	a	P	P	P	P	P	P
9	2473009	Kasapu Swathi	P	P	P	P	P	a	P	P	P
10	2473010	Kunche Deekshita	P	P	P	P	P	P	a	P	P
11	2473011	Lankadi Kanchana	P	P	P	P	P	a	P	P	P
12	2473012	Mallarapu Sunitha	P	P	a	P	P	P	P	P	P
13	2473013	Nakile Satya Durga Darahasini	P	P	P	P	P	P	P	P	a
14	2473014	Nurukurthi Meenakshi	P	a	P	P	P	P	P	P	P
15	2473015	Palivela Vijaya Mary	P	a	P	P	P	P	P	P	P
16	2473016	Pappala Vanaja	P	P	P	P	P	P	P	P	a
17	2473017	Singuluri Hasini	P	P	a	P	P	P	P	P	P
18	2473018	Tirukoti Prasanna Kumari	P	P	P	P	P	P	P	a	P

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

I B.Sc. Chemistry Honours, Semester – II

Attendance Particulars of Chemdraw Certificate Course

S.No	Roll Number	Candidate Name	15/2	18/2	20/2	22/2	25/2	27/2	1/3	4/3	6/3
1	2473001	Gooti Lowkhya Venika	P	P	P	A	P	P	P	A	P
2	2473002	Nakka Satya Sri	A	P	P	P	P	A	P	P	P
3	2473003	Panthadi Haneesha Amrutha	P	P	P	A	P	P	P	P	P
4	2473004	Pedapatruni Rama Satya Supriya	P	P	P	P	A	P	P	P	P
5	2473005	Teki Satya Aruna Manga Devi	P	P	P	A	P	A	P	P	P
6	2473006	Vallipudi Pavani	P	P	A	P	P	P	A	P	P
7	2473007	Darakonda Kalpana	P	P	P	P	A	P	P	P	A
8	2473008	Kalina Durga	P	P	P	P	P	A	P	P	P
9	2473009	Kasapu Swathi	P	A	P	P	P	P	P	P	P
10	2473010	Kunche Deekshita	P	P	P	P	P	P	P	P	P
11	2473011	Lankadi Kanchana	P	P	P	P	P	P	P	P	P
12	2473012	Mallarapu Sunitha	P	P	P	P	P	P	P	P	P
13	2473013	Nakile Satya Durga Darahasini	P	P	P	P	A	P	P	P	P
14	2473014	Nurukurthi Meenakshi	P	P	P	P	P	P	P	A	P
15	2473015	Palivela Vijaya Mary	P	P	P	P	P	P	P	P	P
16	2473016	Pappala Vanaja	P	P	P	P	P	P	P	P	P
17	2473017	Singuluri Hasini	P	A	P	P	P	P	P	P	A
18	2473018	Tirukoti Prasanna Kumari	P	A	P	P	P	P	P	A	A

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

I B.Sc. Chemistry Honours, Semester - II

Attendance Particulars of Chemdraw Certificate Course

S.No	Roll Number	Candidate Name	11/3	13/3	15/3	18/3	20/3	22/3	25/3	27/3	29/3
1	2473001	Gooti Lowkhya Venika	P	a	P	P	a	P	P	P	a
2	2473002	Nakka Satya Sri	P	P	a	P	P	P	P	P	P
3	2473003	Panthadi Haneesha Amrutha	P	P	a	P	P	P	P	P	P
4	2473004	Pedapatruni Rama Satya Supriya	P	P	P	a	P	P	P	P	a
5	2473005	Teki Satya Aruna Manga Devi	a	P	P	P	P	a	P	P	P
6	2473006	Vallipudi Pavani	P	a	P	P	P	P	P	P	P
7	2473007	Darakonda Kalpana	P	P	P	P	P	P	a	P	P
8	2473008	Kalina Durga	P	P	P	a	P	P	P	P	P
9	2473009	Kasapu Swathi	P	P	P	P	P	P	P	a	P
10	2473010	Kunche Deekshita	P	P	P	P	P	P	P	P	P
11	2473011	Lankadi Kanchana	P	P	P	P	P	P	P	P	a
12	2473012	Mallarapu Sunitha	P	P	P	P	P	P	P	P	P
13	2473013	Nakile Satya Durga Darahasini	P	P	P	P	P	P	P	P	P
14	2473014	Nurukurthi Meenakshi	P	P	P	P	P	a	P	P	P
15	2473015	Palivela Vijaya Mary	P	P	P	P	P	P	P	P	P
16	2473016	Pappala Vanaja	P	P	P	P	P	P	P	P	a
17	2473017	Singuluri Hasini	P	a	P	P	P	P	P	P	P

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