



Government Degree College, Seethanagaram

Accredited by NAAC with "B" Grade, ISO 9001:2015 Certified College

Affiliated to Aadi Kavi Nannayya University
Opp K.G.N.M .Trust, Purushottapatnam Road, Seethanagaram



DEPARTMENT OF CHEMISTRY

CERTIFICATE COURSE

ON

"BASIC & ADVANCED LABORATORY TECHNIQUES"



27-11-2021 to 06-01-2022

Submitted by

Dr.Eranki.S.R.S.Sarma

Department of Chemistry
G.D.C.Seethanagaram

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Aim, Objectives & Out Comes

Aim = what you hope to achieve.

Objective = the action(s) you will take in order to achieve the aim.

Aim:

- ❖ A certificate program is a specialized education designed to develop or strengthen specific career skills.
- ❖ A certificate program is considered continuing education in some cases because it builds on your knowledge of a particular career or industry.

Objectives:

- ❖ It serves to improve the skills of the students.
- ❖ Laboratory practice and safety.
- ❖ The major objective of studying chemistry is to apply conceptual knowledge in practical work.
- ❖ To develop an understanding of the range and uses of analytical methods in chemistry.
- ❖ To develop an understanding of the broad role of the chemist in measurement and problem solving for analytical tasks.
- ❖ To provide an understanding of chemical methods employed for elemental and compound analysis.
- ❖ You can demonstrate that you are a trained professional in your field and hold important hard skills to potential employers.

Out Comes:

- ❖ They will identify problems and generate hypotheses, develop and implement experimental methods to test their hypotheses, and analyze and interpret the resulting data.
- ❖ Explain the fundamentals of analytical chemistry and steps of a characteristic analysis.
- ❖ Compare qualitative and quantitative analyses.
- ❖ Expresses the terms such as standard solution, titration, back titration, equivalence point, end point, primary and secondary standard



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Proceedings of the Principal

Dated 26th November, 2021

Ref: Department of Chemistry –Request letter- dated 26th November,
2021-Reg.

With reference to your request letter cited above, I am pleased to give permission to conduct a Certificate Course on “**Basics and Advanced Laboratory Techniques**” for final B.Sc., students from 27-11-2021 to 06-01-2022 at 5 pm.

For this, you should maintain records properly and submitted the same after completion of the Course to the undersigned.


PRINCIPAL
Government Degree College
SEETHANAGARAM-533 287
E.G. District, (A.P.)

Copy to

Dr.E.S.R.S.Sarma,
Lecturer in Chemistry

Eligibility Criteria & Examination Pattern

Eligibility criteria:

- Only the existing final year B.Sc., students are eligible for the course.
- Registration is mandatory for the admission into the course.
- The course will be completed in 30hours.

Examination Pattern:

- 80% of attendance is compulsory for every student to write the examination.
- Total marks of the Course is 100 marks
- Theory 50 marks & Practical 50marks
- 40% is the minimum qualifying mark to pass in the examination.
- Exam would be held after completion of 30 hours.
- Duration of exam is 2 hours
- The students who are passed in the exam would only the awarded the certificate. The will not be any repletion of exam.
- Entire syllabus contains four modules.
- Study material and model question paper would be given to every student.
- Grade points given as below.

Marks	Grade
91-100	O
81-90	A
71-80	B
61-70	C
51-60	D
40-50	E
Below 40	F

Syllabus

Module-I: Terms, Symbols & Laboratory Protocols

- i) Matter Classification
- ii) A. Common Laboratory Apparatus-Uses
 - B. Laboratory Discipline
 - C. Laboratory Precautions
 - D. Safety precautions and first aid

Module-II: Analytical Analysis

- A. Determination of Melting point & Boiling point
- B. Inorganic Qualitative Analysis
- C. Quantitative Analysis

Module-III: Preparation of Standard Solution

- A. Definition of Standard solutions
- B. Concentration Methods
- C. Calculation of Equivalent mass
- D. Chemical Balance
- E. Work sheet

Module-IV: Analysis & Separation Methods

- A. Introduction
- B. Classical Separation Methods
 - i) Precipitation
 - ii) Solvent Extraction
 - iii) Crystallization
 - iv) Distillation
- C) Modern Separation Methods-
 - Chromatography
 - i) Thin Layer Chromatography
 - ii) Column Chromatography

Blue Print

Theory: 50M & Practical: 50M

Module No.	Module Name	Essay questions 10M	Short questions 5M
I	Terms,Symbols&LaboratoryProtocols	01	02
II	AnalyticalAnalysis	01	02
III	PreparationofStandardSolution	02	01
IV	Analysis&SeparationMethods	02	01
	Total Questions	06	06

Department Of Chemistry
Certificate course
Model Question Paper

Time: 2 hours

Max Marks: 50

Section-A

I. Answer any THREE of the following questions.

3x10=30M

1) Explain the different common apparatus used in laboratory.

Or

Discuss the determination of melting point?

2) Explain the any four methods of expressing concentration.

Or

Explain the principle and working of analytical balance.

3) Write note on precipitation and solvent extraction.

Or

Write the principle, working & applications of column chromatography

Section-B

II. Answer any FOUR of the following questions.

4x5=20M

1) Laboratory Precautions

2) Practical Book

3) Indicators

4) Brown Ring Test

5) Calculate the equivalent masses of $\text{H}_2\text{C}_2\text{O}_4$ and NaOH .

6) Applications of thin layer chromatography

Notice

Date: 22-11-2021

It is informed that the Department of Chemistry is planning to conduct a **Certificate Course** in Chemistry on “**Basic & Advanced Laboratory Techniques**” from **27-11-2021 to 06-01-2022 (30hours)** in the college at 5pm every day.

All the B.Sc., final year students, those who are interested to join in the course may register their names. For further details, contact Dr.E.S.R.S.Sarma, Lecturer in Chemistry, the Course Coordinator.


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DEPARTMENT OF CHEMISTRY

REGISTRATION FORM

CERTIFICATE COURSE

on

"BASIC & ADVANCED LABORATORY TECHNIQUES"

1. Name of the Student :

2. Class :

3. Group :

4. Admission No :

5. Community :

6. Purpose :

Course Coordinator

Signature of the Candidate

Enrolment of Students

Sl.No.	Regd. No.	Name of the student	Class	Program
01	191107101002	D.Ganesh	III B.Sc.,	M.P.C.
02	191107101003	G.Naga Bharathi	III B.Sc.	M.P.C.
03	191107101004	I.S.N.Varma	III B.Sc.	M.P.C.
04	191107101005	J.Deena Sai Satya	III B.Sc.	M.P.C.
05	191107101006	K.Durga Prasad	III B.Sc.	M.P.C.
06	191107101008	K.Simhadri	III B.Sc.	M.P.C.
07	191107101010	P.Pushpa Lakshmi	III B.Sc.	M.P.C.
08	191107101011	P.Satya Devi	III B.Sc.	M.P.C.
09	191107101013	T.Neeraja	III B.Sc.	M.P.C.
10	191107101014	T.Satyanarayana	III B.Sc.	M.P.C.
11	191107101015	V.Bhagya Sri	III B.Sc.	M.P.C.
12	191107101016	V.Siva Satya Sai	III B.Sc.	M.P.C.
13	191107110017	Ch.Pravallika	III B.Sc.	B.Z.C.
14	191107110019	K.Ramya Sri	III B.Sc.	B.Z.C.
15	191107110022	N.Satya Vani	III B.Sc.	B.Z.C.
16	191107110023	P.Ajay Kumar	III B.Sc.	B.Z.C.
17	191107110024	P.Mohini Sai	III B.Sc.	B.Z.C.
18	191107110025	Sk. Neeraja	III B.Sc.	B.Z.C.
19	191107110026	T.Sirisha	III B.Sc.	B.Z.C.

Inauguration

Program sheet

27th November, 2021

- Prayer
- Inaugural Speech by Dr. D. Chitti Babu, principal
- Speech by Sk. D. Madina, IQAC Coordinator
- Message by Sri.V.V. Subba Rao, HOD, Department of English
- Message by Dr.E.S.R.S.Sarma, the Course Coordinator.
- Speech by Students
- Vote of thanks by Sri.D.Raju, Lecturer in Telugu

Student Attendance

B

2021

2022

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Student

Attendance

Sr	Student Name	2/1	2/2	2/3	2/4	2/5	2/6	2/7	2/8	2/9	2/10	2/11	2/12	2/13	2/14	2/15	2/16	2/17	2/18	2/19	2/20	2/21	2/22	2/23	2/24	2/25	2/26
1	Drigamash	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	25
2	Geetika Bhatnagar	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	25
3	Ishika Varma	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	24
4	Shrishti	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	25
5	K. Divyanshu	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	28
6	J. Simhadri	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	24
7	P. Anshu	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	24
8	P. Anshu	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	27
9	S. Anshu	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	24
10	S. Anshu	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	26
11	V. Anshu	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	26
12	V. Anshu	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	23
13	Ch. Anshu	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	25
14	S. Anshu	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	25
15	N. Anshu	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	25
16	P. Anshu	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	25
17	P. Anshu	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	25
18	S. Anshu	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	24
19	T. Anshu	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	25
		P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	

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Examination Notice

Date: 05-01-2022

It is to inform that the schedule of theory & practical examination for Certificate Course as follows.

1. Practical's : 18-01-2022 at 2PM at chemistry Lab
2. Theory : 19-01-2022 at 2PM at Room No. 04

All the students should attend the examination without fail.


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Results

Sl.No.	Regd. No.	Name of the student	Class	Program	Grade Obtained
01	191107101002	D.Ganesh	III B.Sc.,	M.P.C.	A
02	191107101003	G.Naga Bharathi	III B.Sc.	M.P.C.	B
03	191107101004	I.S.N.Varma	III B.Sc.	M.P.C.	O
04	191107101005	J.Deena Sai Satya	III B.Sc.	M.P.C.	A
05	191107101006	K.Durga Prasad	III B.Sc.	M.P.C.	B
06	191107101008	K.Simhadri	III B.Sc.	M.P.C.	O
07	191107101010	P.Pushpa Lakshmi	III B.Sc.	M.P.C.	B
08	191107101011	P.Satya Devi	III B.Sc.	M.P.C.	A
09	191107101013	T.Neeraja	III B.Sc.	M.P.C.	A
10	191107101014	T.Satyanarayana	III B.Sc.	M.P.C.	A
11	191107101015	V.Bhagya Sri	III B.Sc.	M.P.C.	A
12	191107101016	V.Siva Satya Sai	III B.Sc.	M.P.C.	B
13	191107110017	Ch.Pravallika	III B.Sc.	B.Z.C.	B
14	191107110019	K.Ramya Sri	III B.Sc.	B.Z.C.	A
15	191107110022	N.Satya Vani	III B.Sc.	B.Z.C.	A
16	191107110023	P.Ajay Kumar	III B.Sc.	B.Z.C.	A
17	191107110024	P.Mohini Sai	III B.Sc.	B.Z.C.	O
18	191107110025	Sk. Neeraja	III B.Sc.	B.Z.C.	O
19	191107110026	T.Sirisha	III B.Sc.	B.Z.C.	A

Certificate



GOVERNMENT DEGREE COLLEGE, SEETHANAGARAM

ESTD - 1983

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Department of Chemistry

CERTIFICATE COURSE



This is to certify that Mr/Miss _____
s/o . d/o. _____ Class _____ has Successfully
Completed his/her Certificate Course in _____
during the Academic year 20__ - ___. He/She has secured Grade _____.

COURSE CO-ORDINATOR

IQAC CO-ORDINATOR

PRINCIPAL

Photo Gallery



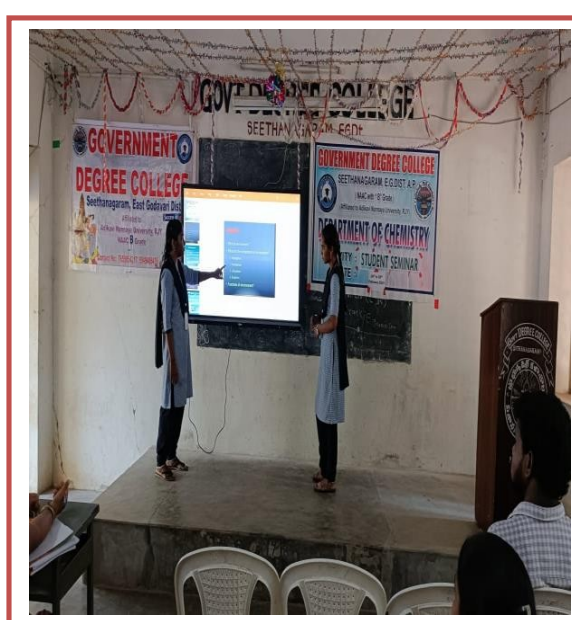
**Inaugural Speech by Dr.D.Chitti Babu
Principal**



**Speech by Dr.E.S.R.S.Sarma
Course Coordinator**



Practical bench work



Power Point Presentation

Photo Gallery



Presentation of Practical Video's



Conducted Examination



Distribution of Certificates