

Course Details

Duration	45 hours
Syllabus	3 Modules (Theory and Practical)
Timings	2 pm to 3 pm
Assessment	Assignment, Theory Exam, Practical
Certificate Criteria	80% attendance & 50% Score in the examination
Who can Join	Students from B.Sc. (Chemistry)
Start Date	5 th January 2022

NO REGISTRATION FEE

Registration Link:

<https://forms.gle/Cf7zhE8xuHEJ48YW6>

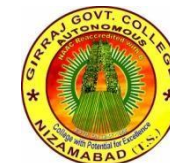
Certificate Course Committee

Patron	Dr. E.Laxminarayana, Principal(FAC)
Advisory Committee	Dr.MD.Abdur Rafeeq, Vice-Principal Dr.Y.Venu Prasad, CoE Dr.D.Adeppa, IQAC Coordinator Mr.P.V.V.Satya Varaprasad, UGC Dr.G.Sriram, Academic Coordinator K.Bharathraj, HOD Physics Dr.Dandu Swamy, PRO
Course Convenor	Dr.Md.Abdur Rafeeq HOD Chemistry
Course Coordinators	Dr.M.Sunitha Mohd.Tousif Ahmed

Members:

Dr.R.Hanmandlu E.Venkata Ramana N.Chandrakala P.Ramu	K.Sayareddy B.Madhav Rao P.Kavitha G.Sairam
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GIRRAJ GOVERNMENT COLLEGE
(AUTONOMOUS)
Re-Accredited with 'B' Grade by NAAC
NIZAMABAD, TELANGANA



Certificate Course on Analytical Techniques and Instrumentation in Chemistry



Offered by
Department of Chemistry
Girraj Government College (A)
Nizamabad – 503 002 T.S.

About the College:

The college was established in the post independent era in 1956 and was named after Girrajmalji Agarwal, one of the prominent philanthropists who helped in its inception by donations. It was taken over by the Government of Andhra Pradesh in 1959. The college is located in sprawling 29.6 acres of land on the outskirts of Nizamabad city. It is an autonomous institution accredited by NAAC with Grade B. It is affiliated to Telangana University. The college is offering 19 Under Graduate Courses and 7 Post Graduate Courses with around 5000 students' admissions both at UG and PG level. It has state-of-the-art laboratory and two libraries with huge number of books. A Regional Study Centre of Ambedkar Open University is located on its campus. The college envisions at imparting qualitative education among the students of the region which is predominantly agrarian.

About the Department

Department of Chemistry is established half a century ago in the year 1956 with undergraduate

courses, and had the impact of highly experienced and dedicated lecturers in imparting thorough knowledge and critical analysis of the subject to many students of Nizamabad and surrounding districts.

The department was updated with PG course M.Sc.(Organic Chemistry) – a self-financed course in the year 2001 with an intake of 28 students, (intake 60 students from 2019) giving more scope for students to get PG degree and also better employment opportunity.

At present the department is marching forward towards its best position having well-experienced Teaching faculty and with fully equipped labs separately for UG and PG students along with Research Lab.

The department is in forefront in providing the quality education, competitive spirit and subject knowledge. Apart from regular teaching, extension lectures, seminars, projects and Industrial trips are being arranged to fulfill the needs of the Under Graduate and Post Graduate students.

Objectives of the Course:

- To strengthen the technical skills of the students to meet the challenges to fulfill the demands of

academic, industrial and research laboratories

- It will empower the students to secure position in research laboratories, industries.

Learning Outcomes:

At the end of the course the student will be able to develop entry level skills in instrumentation maintenance and calibration

Syllabus:

Module – I: Good lab practices, lab safety, waste disposal and management, method of storing chemicals, solvents and glassware.

Basic laboratory techniques – sample preparation, stoichiometric calculations, solution preparation, method selection, gravimetric, volumetric techniques, standardization methods, use of glassware

Module – II: Use and maintenance of analytical balance, principle and instrumentation of potentiometer, P^H meters, conductivity meter, polarimeter, colorimeter, magnetic stirrer chromatographic methods, introduction or theory and problem solving methods involved in IR, NMR, Mass spectroscopy's

Module – III: Hands on experience of the instruments, laboratory visits.

No of Students enrolled:-75

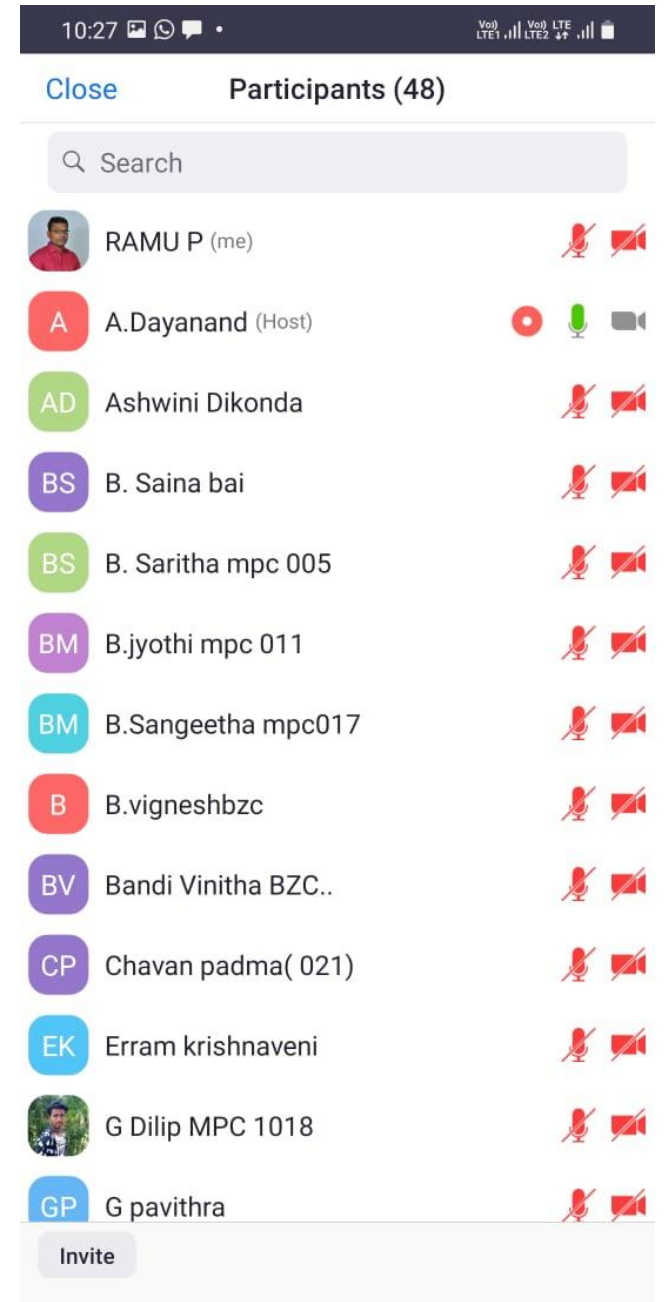
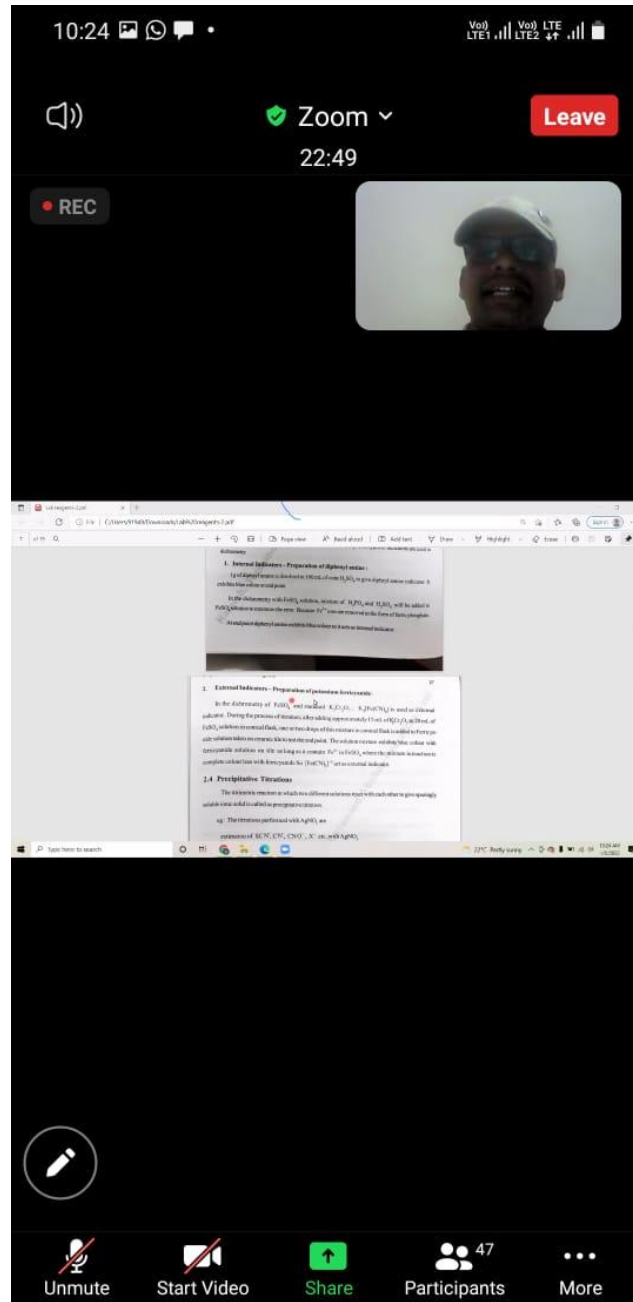
No of Students Completed Course:-56

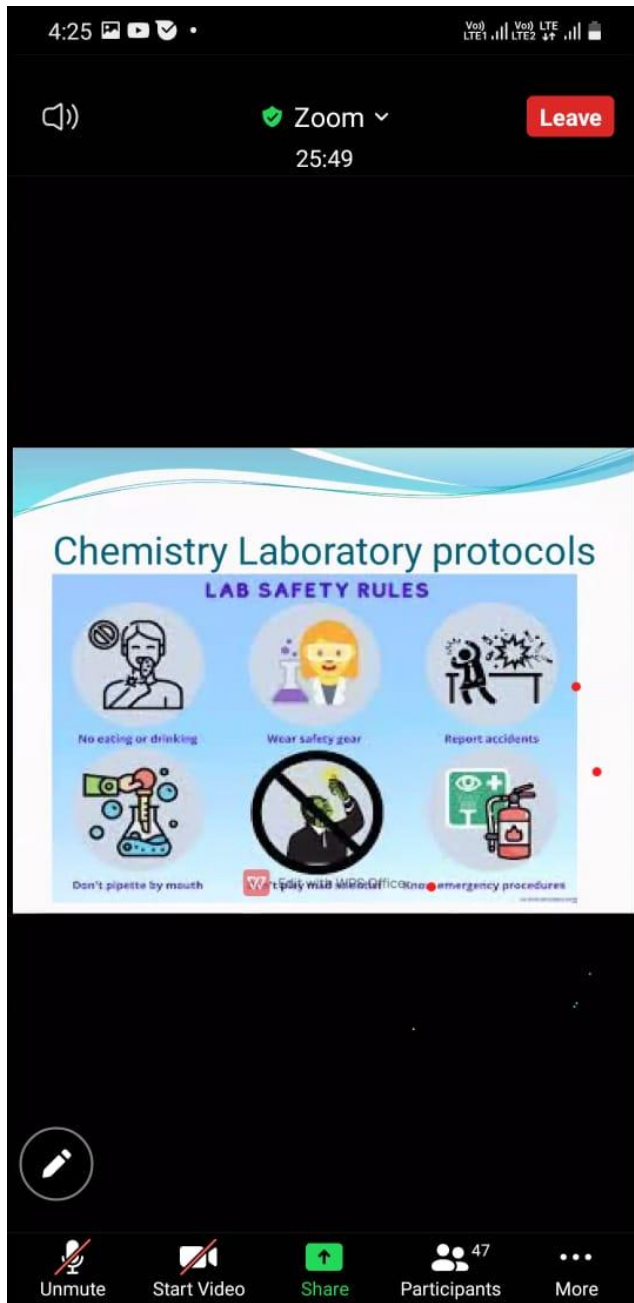


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సర్టిఫికేట్ కోర్సు ప్రారంభం

గిరిరాజ్ ప్రభుత్వ కళాశాల రసాయనశాస్త్ర విభాగం ఆధ్వర్యంలో 'అనలాటికల్ టెక్నిక్స్ అండ్ ఇన్ స్ట్రూమెంటేషన్ ఇన్ కెమిస్ట్రీ' అంశంపై సర్టిఫికేట్ కోర్సును బుధవారం ప్రారంభించారు. చదువుతో పాటు నైపుణ్యాలు పెంపొందించుకోవాల్సిన అవసరం ఎంతైనా ఉందని ప్రెసిసిపాల్ డాక్టర్ ఈ లక్ష్మీనారాయణ సూచించారు. పరిశ్రమలు, రీసెర్చ్ ల్యాబ్స్ పని చేయడానికి అవసరమయ్యే టెక్నిక్స్ స్కిల్స్ విద్యార్థులకు పెంపొందించజేసి డిగ్రీ తర్వాత ఉద్యోగాలు సాధించడంలో సర్టిఫికేట్ కోర్సు పరిజ్ఞానం ఎంతగానో దోహదపడుతుందని కోర్సు కన్వీనర్, కెమిస్ట్రీ విభాగం హెచ్ఓడి డాక్టర్ ఎం.డి. అబ్దుల్ రఫీక్ పేర్కొన్నారు.





Question Paper

University of Jammu
Department of Chemistry
Certificate course in Analytical Technology
in Chemistry
OBJECTIVE TEST

Time: 1 Hour

Max. Marks: 50

I. Multiple Choice Questions

1. The pH range of Phenolphthalein Indicator is []
a) 3.1-4.4 b) 6.8-8.4 c) 4.2-6.3 d) 8.3-10.0
2. The analyte solution taken in Conical flask is called as []
a) Titrant b) Titrant d) Indicator
3. Examples of Secondary standard solution []
a) Na_2CO_3 b) $\text{K}_2\text{Cr}_2\text{O}_7$ c) KMnO_4 d) MgSO_4
4. A primary standard solution should satisfy []
a) available in Pure form b) definite Composition
c) High relative molecular weight d) All
5. The pH at neutralization between a strong acid and strong base is []
a) 2 b) 5 c) 7 d) 9

II. Fill in the blanks

(15x1=15)

6. PPE means _____.
7. Examples of Corrosives _____.
8. Dilution law is _____.
9. The red Cabbage extract can act as _____.
10. In gravimetry the Precipitate should be washed with _____.
11. The point at which the reaction is just completed is called _____.
12. Water _____ be added to acid.

13. Three elements needed to ignite a fire are _____.

14. Manufacturer Label on the Packing is called _____.

15. Common materials used for making gloves are _____.

16. Two Common elements of a good laboratory Practices are _____ and _____.

17. In _____ Analysis the precipitate must be formed rapidly and quantitatively.

18. Example of Primary Standard Solution is _____.

19. Do not wash with a _____ for an acid spill.

20. Formula Used to calculate molarity for a solution using density Printed on the label is _____.

III. Very Short Answer Questions (VSAQ)

(5x2=10)

21. Define Standard Solution.
22. What is the Principle of Potentiometry?
23. Why salt bridge is used in Potentiometric titrations?
24. Define Co-Precipitation.
25. What is Chemical Spill?

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Girraj Government College (A), Nizamabad.		
Department of Chemistry		
Certificate Course		
Analytical Techniques and Instrumentation in Chemistry		
Examination Attendance Sheet-2021-2022		
HT.NO	Name	DATE OF EXAM:08.06.2022 SIGNATURE OF THE STUDENT
2105-5005-445-1020	Barmavath Swathi	B. Swathi
2105-5005-445-1077	Katrotth Priyanka	K. Priyanka
2105-5005-445-1136	Qudsiya Aareena	Qudsiya
2105-5005-445-1067	Tqra khamass	Tqra
2105-5005-445-1052	Gaddam pavithra	G. Pavithra
2105-5005-445-1076	Kashta Moornika	K. Moornika
2105-5005-445-1155	Sofiya Sultana	Sofiya Sultana
2105-5005-445-1123	Neha Rizwan	Neha Rizwan
2105-5005-445-1022	Bidhi. Satwanth kour.	B. Satwanth kour.
2105-5005-445-1002	P. Priyanka Reddy	P. Priyanka
2005-5005-441-018	G. Dilip	G. Dilip
2005-5005-441-019	G. Rachana	G. Rachana
1905-5005-445-053	G. Shravya	G. Shravya
1905-5005-445-097	L. Yogitha	L. Yogitha
2105-5005-445-1146	SANA TABASSUM	SANA
2105-5005-445-1101	Mariya Anyam	Mariya Anyam
2105-5005-445-1139	Ramsha Zubiya	R. Ramsha
2005-5005-441-010	Ganitha. T	Ganitha. T
2005-5005-441-008	B. Narandhar	B. Narandhar
2005-5005-441-009	B. Pooveen Kumar	B. Pooveen Kumar

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2105-5005-445-1100	M. Navya	M. Navya
1905-5005-441-056	M. Gnaneshwar	M. Gnaneshwar
1905-5005-441-031	G. Hanika	G. Hanika
2105-5005-445-1032	Ch. Deepika	Ch. Deepika
2105-5005-445-1050	E. Krishnaveni	E. Krishnaveni
2105-5005-445-1045	D. Ashwini	D. Ashwini
2105-5005-445-1055	G. Shivani	G. Shivani
2105-5005-445-1018	B. Saina bai	B. Saina
2105-5005-445-1128	P. Bhagyashri	P. Bhagyashri
2105-5005-445-1163	B. Ishwarya	B. Ishwarya
2105-5005-572-1025	Nikhat Anjum	Nikhat
2105-5005-445-1113	M. Likitha	Likitha
2105-5005-445-1118	N. Sravani	N. Sravani

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IT.NO	Name	DATE OF EXAM:08.06.2022 SIGNATURE OF THE STUDENT
2105-5005-445-1097	Manda. Thanuja	Thanuja.
2105-5005-445-1119	Nama Balanjali	N. Balanjali
1905-5005-441-035	Kacharla Madhusri	K. Madhusri.
1905-5005-441-059	Patil Teju Sampada	P. Sampada
2105-5005-721-009	Dasari Srilaxmi	D. Srilaxmi
2105-5005-445-1152	Shrik Somana begum	Somana.
2105-5005-445-1019	Bandi. Vinitha	B. Vinitha
1905-5005-441-017	Boda Sangeetha	B. Sangeetha
2105-5005-721-013	K. Sridevi	K. Sridevi
2005-5005-441-067	B. Lavanya	B. Lavanya
2005-5005-445-048	D. Manu	D. Manu.

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IT.NO	Name	DATE OF EXAM:08.06.2022 SIGNATURE OF THE STUDENT
2105-5005-445-1078	KETHAVATH. RAMU.	Ramu.
2105-5005-445-1112	Munimantkyam Laxman	Laxman.
2105-5005-445-1079	K. Chetan Sai	Chetan Sai
2105-5005-445-1161	S. Arun Kumar	Arun Kumar
2105-5005-445-1167	M. NISHANTH	M. Nishanth
2105-5005-445-1040	D. Ashwajeeth	Ashwajeeth
2105-5005-445-1038	Ch. Yogesh	Yogesh
2105-5005-445-1137	R. Pavan	Pavan
2105-5005-445-1114	Munimantkyam Ramu	M. Ramu
2105-5005-572-1019	Karthapally Devaraj	K. Devaraj
2105-5005-457-1022	M. D. Sajid	M. D. Sajid

Certificate

 **GIRRAJ GOVERNMENT COLLEGE**
(Autonomous), NIZAMABAD
NAAC Re-Accredited with "B"

Certificate

This is to certify that _____

of _____ class with Roll No: _____

has successfully completed Certificate course on *"Analytical Techniques and Instrumentation in Chemistry"*

held from 05-01-2022 to 05-06-2022 conducted by Department of Chemistry, Girraj Government College (A), Nizamabad.


Dr. P. Ram Mohan Reddy
Principal


Dr. Md. Abdur Rafeeq
HOD & Convenor


Dr. M. Sunitha
Course Coordinator


Md. Tousif Ahmed
Course Coordinator


Head Department of Chemistry
Girraj Government College (A),
NIZAMABAD. (T.S)