



बिरसा मुंडा ट्रायबल युनिवर्सिटी

Birsa Munda Tribal University

राजपिपला, जि० नर्मदा Rajpipla, Dist. Narmda

Established by Tribal Development Department, Govt. of Gujarat

School of Science

B.SC. (Chemistry) Programme

Subject Code & Subject Name: BS04SECHE2

Lab Testing & Quality Assurance

Teaching and Evaluation Scheme:

Teaching Scheme				Examination Scheme			
Credits				Component Weightage (%)			
				CCE		SEE	
L	T	P	Total	TH	PWE	TH	PWE
1	-	1	2	25	-	50	25

Programme Name	B.Sc. Chemistry
Semester	IV
Course Code	BS04SECHE2
Course Title	Lab Testing & Quality Assurance
Course Content Type (Th./Pr.)	Theory/Practical
Course Credit	2
Sessions+ Lab. Per Week	1+2*
Total Teaching/Lab. Hours	30 Hours
* 2 Laboratory = 1 Session	

Learning Objectives

- To introduce the concept of quality check and quality control in chemical industries.

Learning Outcomes

By the end of the course, the students will be able to:

- Describe role of quality control chemist
- Discuss and demonstrate analytical and separation techniques
- Carry out sample preparation
- Illustrate fundamentals of quality check
- Describe and use safety procedures.





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Detailed Contents		
UNIT	TOPIC/SUB-TOPIC	TEACHING HOURS
I	<p>Sample Preparation:</p> <ul style="list-style-type: none"> Basics of sample preparation, preservation and storage, standards and guidelines for sample handling good storage practices <p>Basics of Modern Analytical methods :</p> <ul style="list-style-type: none"> Electro analytical methods, Spectroscopic methods, Chromatographic techniques <p>Personal and fire safety:</p> <ul style="list-style-type: none"> Various features concerning safe laboratory work. The code of practice in a laboratory and personal protective devices. A brief discussion on the disposal of waste materials. Different causes of fires, classification of fires, types of fire extinguishers and their usage. 	15
Text Book(s)		
1. Skoog D.A., West D. M., Holler, F. J., Crouch S. R., Fundamentals of Analytical Chemistry 9 th edition, Cengage learning		
Reference Books		
1. Handbook of Good Laboratory Practice by UNDP/World Bank/WHO (Special Program for Research and Training in Tropical Diseases) pages-226. 2. Training Manual Good Laboratory Practice (GLP) by UNDP/WHO. 3. Quantitative Analysis 6th Edition, R.A.Day, Jr., A. L. Underwood 4. Analytical Chemistry, Dr. Alka Gupta, Pragati Prakashan		
Practical(s)		
1. Calibration of glassware's 2. Weighing of samples, accuracy of measurements 3. Preparation of TLC plates 4. Working protocols and calibration of various laboratory instruments like Oven, pH-meter, Conductivity meter, Spectrophotometer and many more.		





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L:: Lecture, **T::** Tutorial , **P::**Practical

CCE::Continuous and Comprehensive Evaluation

(CCE Theory includes Mid Semester Examination, Assignment, MCQ quizzes, Seminar, Reflective notes, class participation, case analysis and presentation, slip tests (announced/ surprised), attendance etc. or any combination of these)

PWE::Practical Work Examination

(PWE includes Laboratory practical work, project work, viva simulation exercise work etc.)

SEE::Semester End Evaluation

