SARDAR PATEL UNIVERSITY
Vallabh Vidyanagar, Gujarat
(Reaccredited with 'A' Grade by NAAC (CGPA 3.25)
Syllabus with effect from the Academic Year 2021-2022

(Bachelor of Science) (Industrial Chemistry Vocational)
(B.Sc.) (UG) Semester (II)

Course Code	US02CICV52	Title of the Course	LABORATORY
Total Credits of the Course	02 (Two)	Hours per Week	04 (Four)

Course Objectives:	In this practical course students will learn about hands on training of various mechanical operations like size reduction, solid-solid separation, mixing, filtration etc. Also, they will learn the calculations related to process parameters used in chemical industries.

Unit	Description
1.	Determination of melting point. Boiling point, surface tension, and refractive index. Determination of material balance of given compound & understanding of calculations regarding material & Energy Balance.
2.	Introduction and practical applications of Psychometric chart will do, Study of Humidification & Dehumidification, Moisture content etc.
3.	Practical concept of various unit operations like Filtration and Separation.
4.	Hand on practice on Jaw Crusher, Roll Crusher, Ball mill, Cyclone separator and Sieve Analysis.

Teaching-Learning Methodology	Hands on training of Practicals. Courses for B. Sc. Industrial Chemistry programme are delivered through classroom, laboratory work in a challenging, engaging, and inclusive manner that accommodates a variety of learning styles and tools (PowerPoint presentations, audio visual resources, e-resources, seminars, workshops, models).

Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	University Examination: Practical Examination (As per CBCS R.6.8.3) Viva-voce, Journal and Attendance.	100%

Course Outcomes: Having completed this course, the learner will be able to

1.	Learn about material balance, psychometric chart, moisture content etc.
2.	Students will learn about Unit operation Practicals like filtration, sedimentation & mechanical operations.

Suggested References:	
Sr. No.	References
1.	Unit Operations in Chemical Engineering, McCabe Smith, McGraw Hill.
2.	Chemical engineers Hand Book, Perry R. H. And Chilton C. H., McGraw Hill.
3.	Literature available any laboratory manual of mechanical operations, NPTL
4.	Chemical engineering Volume 2, Coulson and Richardson, Butterworth Heinemann Pub.
5	Introduction to Stoichiometry, K A Gavhane, Nirali Publication.

On-line resources to be used if available as reference material, Massachusetts Institute of Technology (MIT) Open course lecture available on the internet.

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