

CHEMICAL ENGINEERING LESSON PLAN FOR 5TH SEM (2025-26)

Discipline :- CHEMICAL	Semester:-5 th	Name of the Teaching Faculty Yayati Kishore Mohanta
Subject:- Entrepreneurship And Management & Smart Technology	No of Days/per Week Class Allotted :-04	Semester From:-14 TH July 2025 To:-15 TH November 2025
Course Code : TH 1		
Week	Class Day	Theory/ Practical Topics
1 st	1 st	Chapter 1: Entrepreneurship Concept /Meaning of Entrepreneurship
	2 nd	Need of Entrepreneurship
	3 rd	Characteristics, Qualities and Types of entrepreneur,
	4 th	Entrepreneur's vs. Manager
2 nd	1 st	Forms of Business Ownership: Sole proprietorship, partnership forms and others
	2 nd	Types of Industries, Concept of Start-ups
	3 rd	Entrepreneurial support agencies at National, State, District Level(Sources): DIC, NSIC,OSIC, SIDBI, NABARD, Commercial Banks, KVIC etc.
	4 th	Technology Business Incubators (TBI) and Science and Technology Entrepreneur Parks
3 rd	1 st	Functions and Barriers in entrepreneurship
	2 nd	Chapter 2: Market Survey and Opportunity Identification (Business Planning) Business Planning
	3 rd	SSI, Ancillary Units, Tiny Units, Service sector Units
	4 th	Time schedule Plan, Agencies to be contacted for Project Implementation
4 th	1 st	Assessment of Demand and supply and Potential areas of Growth
	2 nd	Identifying Business Opportunity
	3 rd	Final Product selection
	4 th	Chapter 3: Project report Preparation Preliminary project report
5 th	1 st	Detailed project report,
	2 nd	Techno economic Feasibility
	3 rd	Project Viability
	4 th	Chapter 4: Management Principles Definitions of management
6 th	1 st	Principles of management

	2nd	Functions of management (planning, organising, staffing, directing and controlling etc.)
	3rd	Level of Management in an Organisation
	4th	Chapter 5: Functional Areas of Management Production management: Functions, Activities
7th	1st	Productivity Quality control Production Planning and control
	2nd	Inventory Management
	3rd	Need for Inventory management
	4th	Models/Techniques of Inventory management
8th	1st	Financial Management
	2nd	Functions of Financial management
	3rd	Management of Working capital, Costing (only concept)
	4th	Break even Analysis
9th	1st	Brief idea about Accounting Terminologies: Book Keeping, Journal entry
	2nd	Marketing Management, Concept of Marketing and Marketing Management
	3rd	Marketing Techniques, Concept of 4P s (Price, Place, Product, Promotion)
	4th	Human Resource Management
10th	1st	Functions of Personnel Management
	2nd	Manpower Planning, Recruitment, Sources of manpower,
	3rd	Selection process, Method of Testing, Methods of Training & Development, Payment of Wages
	4th	Chapter 6: Leadership and Motivation Definition and Need/Importance
11th	1st	Qualities and functions of a leader, Manager Vs Leader
	2nd	Style of Leadership (Autocratic, Democratic, Participative)
	3rd	Definition and characteristics of motivation, Importance of motivation
	4th	Factors affecting motivation, Theories of motivation (Maslow)
12th	1st	Methods of Improving Motivation
	2nd	Importance of Communication in Business
	3rd	Types and Barriers of Communication
	4th	Chapter 7: Work Culture, TQM & Safety Human relationship and Performance in Organization
13th	1st	Relations with Peers, Superiors and Subordinates
	2nd	TQM concepts: Quality Policy, Quality Management, Quality system
	3rd	Accidents and Safety, Cause, preventive measures,
	4th	General Safety Rules , Personal Protection Equipment(PPE)
14th	1st	Chapter 8: Legislation Introduction
	2nd	Intellectual Property Rights(IPR), Patents, Trademarks, Copyrights
	3rd	Features of Factories Act 1948 with Amendment (only salient points)

	4th	Features of Payment of Wages Act 1936 (only salient points)
15th	1st	Chapter 9: Smart Technology Concept of IOT, How IOT works
	2nd	Components of IOT, Characteristics of IOT,
	3rd	Categories of IOT
	4th	Applications of IOT- Smart Cities, Smart Transportation, Smart Home, Smart Healthcare, Smart Industry, Smart Agriculture, Smart Energy Management etc

LESSON PLAN OF 5 th SEMESTER(2025-26) CHEMICAL ENGINEERING DEPARTMENT		
Discipline: Chemical	Semester: 5th	Name of the Teaching Faculty: Siddhibinayak Pradhan
Subject: Theory-2 Mass Transfer -2	No of Days per week class allotted:4	Semester From:-14TH July 2025 To:-15TH November 2025 No of Weeks :15
Week	Class days	Theory/ Practical Topic
1 st	1 st	Chapter – 1: Humidification and Dehumidification Introduction about humidification and dehumidification
	2 nd	Define temperature, wet bulb temperature and dry bulb temperature
	3 rd	The principle of wet blub temperature theory
	4 th	Illustrate humidity chart
2 nd	1 st	Different methods of measurement of Humidity
	2 nd	Practice to identify different lines, temperatures, humidity in humidity chart
	3 rd	Different methods of humidification
	4 th	Different methods of dehumidification
3 rd	1 st	The construction and working of natural cooling tower
	2 nd	The construction and working of mechanical draft cooling tower
	3 rd	Solve simple problems
	4 th	Revision of the chapter
4 th	1 st	Doubt clearing and practicing class
	2 nd	Chapter – 2: Drying Introduction to drying
	3 rd	Types of Moisture content-equilibrium, unbound, free moisture
	4 th	Showing different types of moisture content in the graph
5 th	1 st	Concept of drying rate with graphical view
	2 nd	Practicing numerical
	3 rd	The methods of removing liquids from solids
	4 th	Illustrate constant rate and falling rate period
6 th	1 st	The construction and working principle of tray dryer
	2 nd	The construction and working principle of rotary dryer, spray dryer
	3 rd	The construction and working principle of tunnel dryer, flash dryer
	4 th	The construction and working principle of dryer fluidized bed dryer

7 th	1 st	Dryer for heat sensitive materials
	2 nd	Solve simple problem
	3 rd	Solve simple problem
	4 th	Revision of the chapter
8 th	1 st	Practicing previous year questions
	2 nd	Chapter – 3: Extraction Introduction to extraction
	3 rd	Liquid extraction and leaching
	4 th	Different types of extraction
9 th	1 st	Learning concentration on the triangular diagram
	2 nd	The principle of solid liquid extraction
	3 rd	Revision of the chapter
	4 th	Define Batch leaching with example
10 th	1 st	Continuous leaching operation
	2 nd	Construction and working of Solid-Liquid extraction equipment
	3 rd	Construction and working of Solid-Liquid extraction equipment
	4 th	The principal of liquid-liquid extraction
11 th	1 st	The parameter in choice of solvent for liquid-liquid extraction
	2 nd	Revision and doubt clearing class about the chapter
	3 rd	Practice questions based on the chapter
	4 th	Construction and working principle of liquid-liquid extraction equipment
12 th	1 st	Construction and working principle of solid liquid extraction equipment
	2 nd	Solve simple problems
	3 rd	Solve simple problems
	4 th	Chapter – 4: Crystallization Introduction to crystallization
13 th	1 st	Principle of crystallization
	2 nd	Construction and working of different types of batch crystallizer
	3 rd	Construction and working of different types of continuous crystallizer
	4 th	Solve simple problems
14 th	1 st	Solve simple problems
	2 nd	Practice previous years question related to the chapter
	3 rd	Revision of the chapter-1

	4th	Revision of the chapter-2
15th	1st	Revision of the chapter-3
	2nd	Revision of the chapter-4
	3rd	Practice previous year questions
	4th	Practice previous years questions

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**CHEMICAL ENGINEERING DEPARTMENT
LESSON PLAN(2025-26)**

Discipline :- CHEMICAL	Semester:- 5th	Name of the Teaching Faculty: Satya Sankar Raj
Subject:- Chemical Process Industries – II	No of Days/per Week Class Allotted :-04	Semester From:-14 TH July 2025 To:-15 TH November 2025
Course Code : TH 3		
Week	Class Day	Theory/ Practical Topics
1st	1st	CHAPTER-1: PESTICIDES Introduction
	2nd	Pesticides, Classification
	3rd	Manufacture of DDT
	4th	DDT flow sheet description & application
2nd	1st	CHAPTER-2: PAINTS AND VARNISHES Introduction about paint, varnishes, lacquers, enamels and their components
	2nd	Constituents of paints and their characteristics
	3rd	Manufacturing process of paints and varnishes.
	4th	Failure of paints
3rd	1st	Advance technologies in paint industries
	2nd	CHAPTER-3: EXPLOSIVES Introduction about explosives
	3rd	Classification of different explosives
	4th	Manufacture of cellulose nitrate
4th	1st	Broad application of cellulose nitrate
	2nd	Manufacture nitroglycerine and dynamite
	3rd	CHAPTER-4: PLASTICS Introduction about plastics, types
	4th	Differentiate between thermoplastic and thermosetting
5th	1st	Classification of plastics
	2nd	Properties and manufacture of phenol formaldehyde and its application
	3rd	Properties and manufacture of urea formaldehyde and its application
	4th	Properties and Manufacture of polyethylene and its application
6th	1st	Properties and Manufacture of P.V.C and its application
	2nd	CHAPTER-5: SYNTHETIC FIBERS Introduction about fibre and its classification
	3rd	Properties of polyamides
	4th	Manufacture of Nylon and its application
7th	1st	Properties and Manufacture of Viscose rayon and its application
	2nd	Properties and Manufacture of Cupro ammonium rayon and its application

	3 rd	Properties and Manufacture of Acetate rayon and its application
	4 th	Properties and Manufacture of Polyester and its application
8 th	1 st	CHAPTER-6: RUBBER Introduction about rubber and its classification
	2 nd	Vulcanization of rubber
	3 rd	Natural and synthetic rubber
	4 th	Manufacture of SBR and their properties
9 th	1 st	Manufacture of Nitrile rubber and their properties
	2 nd	CHAPTER-7: SUGAR Introduction
	3 rd	Manufacture of sugar from sugarcane
	4 th	Manufacture of industrial alcohol and uses
10 th	1 st	Classification of alcoholic beverages
	2 nd	Properties of Alcohols
	3 rd	Manufacture of Beer
	4 th	Cont..
11 th	1 st	CHAPTER-8: OILS AND FATS Classify different types of oil
	2 nd	Manufacture of vegetable oil
	3 rd	Differentiate edible and essential oil
	4 th	Differentiate oil and fats
12 th	1 st	Hydrogenation of oil and application
	2 nd	Advance technologies in oil production
	3 rd	CHAPTER-9: SOAPS AND DETERGENTS Introduction on soaps and detergent
	4 th	Differentiate between soap and detergent
13 th	1 st	Properties of surfactant
	2 nd	Cleaning action of soap
	3 rd	Types of soap
	4 th	Manufacture of soap and uses
14 th	1 st	Manufacture of detergent and uses
	2 nd	Industrial application of surfactants
	3 rd	CHAPTER-10: PHARMACEUTICAL INDUSTRY Classification of pharmaceutical industry
	4 th	Major pharmaceutical industry in India
15 th	1 st	Pharmaceutical industry products
	2 nd	Properties and structure of penicillin
	3 rd	Manufacture of penicillin by fermentation
	4 th	Application of penicillin

LESSON PLAN OF 5 TH SEMESTER(2025-26) CHEMICAL ENGINEERING		
DISCIPLINE: CHEMICAL	Semester:-5TH	<u>NAME OF THE TEACHING FACULTY</u> GF
SUBJECT: CHEMICAL ENGINEERING THERMODYNAMICS	No of days per Week Allotted : 04	Semester From:-14TH July 2025 To:-15TH November 2025 No of Weeks:- 15
Week	Class/ Day	Theory/ Practical Topics
1ST	1st	Scope and limitations of Thermodynamics
	2nd	System, surrounding and boundary
	3rd	Different types of systems
	4th	Processes, state, properties
2ND	1st	Path and State functions
	2nd	Heat and Work
	3rd	Equilibrium state and phases
	4th	Zeroth law of Thermodynamics
3rd	1st	State and explain first law of Thermodynamics
	2nd	State and explain first law of Thermodynamics
	3rd	Concept of internal energy, Enthalpy, heat capacity
	4th	Concept of internal energy, Enthalpy, heat capacity
4th	1st	First law of thermodynamics for cyclic process, non-flow process, and flow process
	2nd	First law of thermodynamics for cyclic process, non-flow process, and flow process
	3rd	First law of thermodynamics for cyclic process, non-flow process, and flow process
	4th	Solve numerical on application of 1ST law of thermodynamics
5th	1st	Solve numerical on application of 1ST law of thermodynamics
	2nd	Constant volume process for ideal gases
	3rd	Constant pressure process for ideal gases
	4th	Constant temperature process for ideal gases
6th	1st	Adiabatic process for ideal gases
	2nd	Polytrophic process for ideal gases
	3rd	Solve simple problems
	4th	Solve simple problems
7th	1st	Solve simple problems

	2nd	Equation of state and ideal gas
	3rd	P-V-T behavior of pure fluid
	4th	P-V-T behavior of pure fluid
8th	1st	Concept of heat reservoir, heat engine, and heat pump
	2nd	Concept of heat reservoir, heat engine, and heat pump
	3rd	State and explain second law of thermodynamics
	4th	Concept of entropy
9th	1st	Concept of entropy
	2nd	Calculate change of entropy for various conditions
	3rd	Calculate change of entropy for various conditions
	4th	Calculate change of entropy for various conditions
10th	1st	Third law of Thermodynamics
	2nd	Solve simple problems
	3rd	Solve simple problems
	4th	Classify thermodynamic properties
11th	1st	Work function and Gibb's free energy
	2nd	Work function and Gibb's free energy
	3rd	Gibb's phase rule
	4th	Various relationships among thermodynamic properties
12th	1st	Maxwell equation
	2nd	Maxwell equation
	3rd	Clapeyron equation
	4th	Entropy-heat capacity relation
13th	1st	Differential equation for entropy
	2nd	Effect of temperature, pressure and volume on U, H and S, relationship between C_p and C_v
	3rd	Effect of temperature, pressure and volume on U, H and S, relationship between C_p and C_v
	4th	Gibb's-Helmholtz equation
14TH	1st	Fugacity co-efficient, effect of temperature and pressure on fugacity, fugacity of pure gases, solids and liquids
	2nd	Fugacity co-efficient, effect of temperature and pressure on fugacity, fugacity of pure gases, solids and liquids
	3rd	Concept of activity, Effect of pressure and temperature on activity
	4th	Concept of activity, Effect of pressure and temperature on activity

15 TH	1st	Concept of Refrigeration and liquefaction process
	2nd	Previous Year Questions discussion
	3rd	Previous Year Questions discussion
	4th	Objective Questions discussion

Discipline: Chemical		Semester: 5 th	Name of Faculty: GF	
Subject: Theory-5 Instrumentation & Chemical Analysis		No of Days per week class allotted	Semester From:-14 TH July 2025 To:-15 TH November 2025 No of Week-15	
Week	Class No	Class days	Chapter	Theory Topic
			Chapter -1 Instrument	
1 st	1	1 st	1.1	Introduction to instrumentation, Measurement, and its aim
	2	2 nd	1.2	Standards of measurements- International standard, basic standards
	3	3 rd	1.3	Functional elements of an instrument
	4	4 th	1.4	Performance characteristics of an instrument
2 nd	5	1 st	1.5	Errors in instrumentation, Sources, Units of measurement
			Chapter -2 Measurement of Characteristics	
	6	2 nd	2.1	Viscosity measurement, Principle, capillary viscometer, Efflux Cup viscometer
	7	3 rd	2.1	Redwood viscometer, falling sphere viscometer, Continuous viscometer
	8	4 th	2.2	Nature of radiant energy, Electromagnetic spectrum
3 rd	9	1 st	2.2	Phenomena related with energy: Absorption & Emission, Fluorescence
	10	2 nd	2.2	Type of Spectroscopy-Microwave, Ultraviolet and visible spectroscopy
	11	3 rd	2.2	Fundamental laws and working of a spectrometer, Colorimeter, applications
	12	4 th	2.3	Optical activity & polarimetry, Specific and molecular rotation
4 th	13	1 st	2.3	Working of polarimeter and application of polarimeter
	14	2 nd	2.4	Concept of refractometry, Snell's law, principle of refractometer
	15	3 rd	2.4	Measurement of refractive index by refractometer, application in Industry
			Chapter -3 pH and Conductivity Measurement	
	16	4 th	3.1	pH measurement working principle
5 th	17	1 st	3.1	Construction of pH electrodes and its operation
	18	2 nd	3.1	Operation of pH meter, advantages, disadvantages, and applications
	19	3 rd	3.2	Principles of measurement of electrical conductivity
	20	4 th	3.2	Operation of Conductivity meter, advantages, disadvantages, and applications
6 th			Chapter -4 Temperature Measurement	
	21	1 st	4.1	Different temperature scales and its interconversions
	22	2 nd	4.1	Basic fixed points, secondary fixed points
	23	3 rd	4.2	Methods of temperature measurement- principle and applications
	24	4 th	4.3	Measurements of temperature in liquid in glass thermometer
Week	Class No	Class days	Chapter	Theory Topic
7 th	25	1 st	4.4	Working of resistance thermometer, advantages, and disadvantages

	26	2 nd	4.4	Thermocouples, material used in thermocouples and its advantages
	27	3 rd	4.4	Working of radiation pyrometer, advantages, disadvantages, and application
	28	4 th	4.4	Working of Optical pyrometer, advantages, disadvantages, and application
8 th	29	1 st	4.4	Fiber optics temperature measurement and ultrasonic thermometers
	30	2 nd	4.4	Calibration of thermometers, miscellaneous measurement techniques
			Chapter -5 Pressure Measurement	
	31	3 rd	5.1	Different types of pressures, units, and interconversions
	32	4 th	5.2	Methods of pressure measurements
9 th	33	1 st	5.3	Elastic Pressure transducers, components in Bourdon tube Pressure Gauge
	34	2 nd	5.3	Adjustments in Bourdon tube Pressure Gauge, advantages, disadvantages
	35	3 rd	5.3	Diaphragm pressure transducers, advantages, disadvantages, and application
	36	4 th	5.3	Bellows type gauge advantages, disadvantages, and application
10 th	37	1 st	5.3	Measurement of vacuum-Capsule gauge, McLeod gauge-applications
	38	2 nd	5.3	Calibration of pressure measuring instrumentations
	39	3 rd	5.4	Maintenance of pressure measuring instruments-Inspection, care, and repair
	40	4 th	5.4	Troubleshooting of pressure measuring instruments.
			Chapter -6 Automatic Control	
11 th	41	1 st	6.1	Automatic control system and explain the application with example.
	42	2 nd	6.1	Working of a heat exchanger Control system
	43	3 rd	6.1	Working of a liquid level tank Control system
	44	4 th	6.2	Elementary idea on transfer functions for a first order system & time constant
12 th	45	1 st	6.2	Block diagram and components of Process Control system
	46	2 nd	6.2	Function of sensors and transmitters, transfer function of a control system
	47	3 rd	6.2	Working of sensor transmitter combination
	48	4 th	6.3	Types of process control system, advantages, and disadvantages
13 th	49	1 st	6.3	Working of open loop control system with examples
	50	2 nd	6.3	Working of Closed loop control system with examples
	51	3 rd	6.3	Working of Feed Forward control system with examples
	52	4 th	6.3	Working of cascade control system with examples
14 th	53	1 st	6.4	Elementary idea about different types of automatic controllers.
	54	2 nd	6.4	Ratio control system, analog and digital control system
	55	3 rd	6.5	Application based control system- sequential control system, Numerical CS
	56	4 th	6.5	I,D,PI, PD,PID Pneumatic, Hydraulic and electronic controller
Week	Class No	Class days	Chapter	Theory Topic
15 th	57	1 st	6.5	Principle of PLC, computer Aided measurement and control

	58	2 nd	6.5	PLC Architecture, PLC basic structure and programming
	59	3 rd	6.5	Role of computers in measurement and control
	60	4 th	6.5	Elements of computer aided measurement and control, architecture

Discipline: Chemical		Semester: 5 th	Name of Faculty: All faculty	
Subject: Student Centric Activity		No of Days per week class allotted-03	Semester From:-14 TH July 2025 To:-15 TH November 2025 No of Week-15	
Week	Class No	Class days		
1 st	1	1 st	September 4 th Week	Orientation Program and Mentor Mentee Meet
	2	2 nd		
	3	3 rd		
2 nd	4	1 st	October 2 nd week	Poster Making on Emerging trends in different Chemical Industry/Energy Conservation/
	5	2 nd		
	6	3 rd		
3 rd	7	1 st	October 3 rd week	Seminar by Industry Expert- latest trend in Plastic Processing- ProprietorSree Plast Limited or Functioning of State Pollution Control Board- RO Regional Office OSPCB
	8	2 nd		
	9	3 rd		
4 th	10	1 st	October 4 th week	Laboratory Maintenance- 1.Cleaning of equipment,2. Lubrication 3. Running of equipment 4.Removal of residue material 5.Pianting of parts, 6.Arranging glass ware, Chemicals 7. Minor maintenance of equipment
	11	2 nd		
	12	3 rd		
5 th	13	1 st	November 1 st week	Creativity & Idea Presentation-
	14	2 nd		
	15	3 rd		
6 th	16	1 st	November 2 nd week	Seminar by Industry Expert- Pharmaceutical Intermediate Processing-Dept of Pharmacy BU/ Roland Institute of pharmacy
	17	2 nd		
	18	3 rd		
7 th	19	1 st	November 4 th week	Field Visit or Industry visit- JK paper/ Waste Treatment plant Mahuda/SreePlast limited
	20	2 nd		
	21	3 rd		
8 th	22	1 st	December 1 st week	CV/ Interview preparation/Career Counseling Program
	23	2 nd		
	24	3 rd		
9 th	25	1 st	December 2 nd week	Laboratory Maintenance-1.Cleaning of equipment,2. Lubrication 3. Running of equipment 4.Removal of residue material 5.Pianting of parts, 6.Arranging glass ware, Chemicals 7. Minor maintenance of equipment
	26	2 nd		
	27	3 rd		
10 th	28-30	1 st - 3 rd	December 3 rd week	Seminar by Industry Expert- From IISER/ CoE BU in the latest area of research

**LESSON PLAN OF CHEMICAL ENGINEERING
DEPARTMENT WINTER 2025-26**

Discipline: Chemical	Semester: 5th	Name of Faculty: Yayati Kishore Mohanta
Subject: Practical-1 Instrumentation Laboratory	No of periods per week allotted:6	Semester From:-14 TH July 2025 To:-15 TH November 2025
Week	Experiment	Experiment Topic
1 st	1	Separation of Iron using solvent extraction technique
2 nd	2	Determine pH and conductivity of a given solution by pH-meter
3 rd	2	Determine pH and conductivity of a given solution by pH-meter
4 th	3	Determine the concentration of sugar in sugar solution by Polarimeter
5 th	3	Determine the concentration of sugar in sugar solution by Polarimeter
6 th	4	Determine the refractive index of different liquids by Abbe's Refractometer
7 th	4	Determine the refractive index of different liquids by Abbe's Refractometer
8 th	5	To determine Maximum wavelength of a solution of cobalt chloride
9 th	5	Verify Beer's Law and apply it to find the concentration of the given unknown solution by Spectrophotometer
10 th	6	To verify Beer's law of solution of KMnO ₄ and K ₂ Cr ₂ O ₇ using calorimeter
11 th	7	Demonstrate different types of pressure gauges and temperature measuring device
12 th	8	Determine the viscosity of an Oil by Red Wood Viscometer at different temperature and plotting a graph between viscosity and temperature
13 th	8	Determine the viscosity of an Oil by Red Wood Viscometer at different temperature and plotting a graph between viscosity and temperature
14 th	9	Calibration of a thermocouple
15 th	10	Demonstrate function of digital multi-meter

LESSON PLAN OF 5 TH SEMESTER (2025-26) CHEMICAL ENGINEERING DEPARTMENT		
Discipline: Chemical	Semester: 3rd	Name of The Teaching Faculty: Yayati Kishore Mohanta
Subject: Practical-3 Mass Transfer 2 Laboratory	No of Days per week class allotted:3	Semester From:-14TH July 2025 To:-15TH Nov 2025 No of Weeks: 15
Week	Practical days	Practical Topic
1 st	1 st	A. Demonstraton of operation of a Cooling Tower B. Determination of humidity, humid volume, humid heat, percentage of humidity by psychometric method.
	2 nd	
	3 rd	
2 nd	1 st	A) Demonstration of operation of the wetted wall column B) Determination of Psychometric parameter of outlet air
	2 nd	
	3 rd	
3 rd	1 st	A) Demonstrate operation of a tray dryer (Vacuum / Atmospheric type) B) Plot the rate of drying curve for a given sample of wet solid
	2 nd	
	3 rd	
4 th	1 st	Demonstrate operation of a Fluidized bed dryer
	2 nd	
	3 rd	
5 th	1 st	A) Demonstrate operation of an open pan crystallizer B) Find the yield of crystal from a given solution
	2 nd	
	3 rd	
6 th	1 st	Mid Term Viva
	2 nd	
	3 rd	
7 th	1 st	Demonstrate operation of Swanson Walker Crystallizer
	2 nd	
	3 rd	
8 th	1 st	MID TERM VIVA
	2 nd	
	3 rd	

9th	1st	Separate a solution into its component by using liquid liquid extraction metho
	2nd	
	3rd	
10th	1st	Demonstrate operation of a solid-liquid extractor
	2nd	
	3rd	
11th	1st	Demonstrate operation of spray tower
	2nd	
	3rd	
12th	1st	To determine the partition coefficient of Iodine between water and carbon tetrachlorid
	2nd	
	3rd	
13th	1st	Demonstrate operation of liquid-liquid extractor
	2nd	
	3rd	
14th	1st	END TERM VIVA
	2nd	
	3rd	
15th	1st	RECORD SUBMISSION AND VIVA BY EXTERNAL
	2nd	
	3rd	