

Swami Keshvanand Institute of Technology, Management & Gramothan, Jaipur
(An Autonomous Institute Affiliated to Rajasthan Technical University, Kota)

Teaching and Examination Scheme-2024-25

B.Tech. I Year (Semester I & II)

Sr. No.	SEM.	Course Code	Course Name	Category	Teaching Scheme			Exam Hrs.	Marks			Credit
					L	T	P		CIE	SEE	Total	
1	I	MAUL101	Engineering Mathematics-I	BSC	3	1	0	3	40	60	100	4
2	I	PHUL101/CHUL101	Engineering Physics/Engineering Chemistry	BSC	3	1	0	3	40	60	100	4
3	I	HSUL101/HSUL102	Communication Skills/Universal Human Values	HSMC	2	0	0	3	40	60	100	2
4	I	CSUL101	Computational Thinking and Programming	ESC	2	0	0	3	40	60	100	2
5	I	EEUL101	Basic Electrical & Electronics Engineering (CSE/IT/CSE(DS)/CSE(AI)/CSE(IOT)/ME/CE)	ESC	2	0	0	3	40	60	100	2
		CEUL101	Basic Civil Engineering (EE/ECE/ME)	ESC	2	0	0	3	40	60	100	
		MEUL101	Basic Mechanical Engineering (CSE/IT/CSE(DS)/CSE(AI)/CSE(IOT)/EE/ECE/CE)	ESC	2	0	0	3	40	60	100	
6	I	PHUP120/CHUP120	Engineering Physics Lab/ Engineering Chemistry Lab	BSC	0	0	2	3	60	40	100	1
7	I	HSUP120/HSUP121	Language Lab/ Universal Human Values Lab	HSMC	0	0	2	3	60	40	100	1
8	I	CSUP120	C Programming Lab	ESC	0	0	2	3	60	40	100	1
9	I	EEUP120	Basic Electrical & Electronics Engineering Lab (CSE/IT/CSE(DS)/CSE(AI)/CSE(IOT)/ME/CE)	ESC	0	0	2	3	60	40	100	1
		CEUP120	Basic Civil Engineering Lab (EE/ECE/ME)	ESC	0	0	2	3	60	40	100	
		MEUP120	Manufacturing Practice Workshop (CSE/IT/CSE(DS)/CSE(AI)/CSE(IOT)/EE/ECE/CE)	ESC	0	0	2	3	60	40	100	
10	I	MEUP121/ MEUP122	Computer Aided Engineering Graphics/Computer Aided Machine Drawing	ESC	0	0	3	3	60	40	100	1.5
11	I	XXUA100	Social Outreach, Discipline and Extra-Curricular Activities (SODECA)	SODECA	-	-	0.5	-	-	-	-	0.5
12	I	NU99.X	Audit Course	NC	-	-	-	3	40	60	100	0
									Total Credit			20

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					L	T	P		CIE	SEE	Total	
1	II	MAUL201	Engineering Mathematics-II	BSC	3	1	0	3	40	60	100	4
2	II	PHUL201/CHUL201	Engineering Physics/Engineering Chemistry	BSC	3	1	0	3	40	60	100	4
3	II	HSUL201/HSUL202	Communication Skills/Universal Human Values	HSMC	2	0	0	3	40	60	100	2
4	II	HSUL203	Innovation & Entrepreneurship	HSMC	1	0	0	3	40	60	100	1
5	II	CSUL201	Problem Solving using Object Oriented Paradigm	ESC	2	0	0	3	40	60	100	2
6	II	EEUL201	Basic Electrical & Electronics Engineering (CSE/IT/CSE(DS)/CSE(AI)/CSE(IOT)/ME/CE)	ESC	2	0	0	3	40	60	100	2
		CEUL201	Basic Civil Engineering (EE/ECE/ME)	ESC	2	0	0	3	40	60	100	
		MEUL201	Basic Mechanical Engineering (CSE/IT/CSE(DS)/CSE(AI)/CSE(IOT)/EE/ECE/CE)	ESC	2	0	0	3	40	60	100	
7	II	PHUP220/CHUP220	Engineering Physics Lab/ Engineering Chemistry Lab	BSC	0	0	2	3	60	40	100	1
8	II	HSUP220/HSUP221	Language Lab/ Universal Human Values Lab	HSMC	0	0	2	3	60	40	100	1
9	II	CSUP220	Object Oriented Programming Lab	ESC	0	0	2	3	60	40	100	1
10	II	EEUP220	Basic Electrical & Electronics Engineering Lab (CSE/IT/CSE(DS)/CSE(AI)/CSE(IOT)/ME/CE)	ESC	0	0	2	3	60	40	100	1
		CEUP220	Basic Civil Engineering Lab (EE/ECE/ME)	ESC	0	0	2	3	60	40	100	
		MEUP220	Manufacturing Practice Workshop (CSE/IT/CSE(DS)/CSE(AI)/CSE(IOT)/EE/ECE/CE)	ESC	0	0	2	3	60	40	100	
11	II	MEUP221/ MEUP222	Computer Aided Engineering Graphics/Computer Aided Machine Drawing	ESC	0	0	3	3	60	40	100	1.5
12	II	XXUA200	Social Outreach, Discipline and Extra-Curricular Activities (SODECA)	SODECA	-	-	0.5	-	-	-	-	0.5
13	I	NU99.X	Audit Course		-	-	-	3	40	60	100	0
									Total Credit			21



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Name of the Programme: B.Tech.	Year: I	Semester: I /II
Course Name: Engineering Chemistry Lab	Course Code: CHUP120/ CHUP220	Credit: 1
Max Marks: 100	CIE: 60	SEE: 40
End Term Exam Time: 3 Hrs	Teaching Scheme: P	

LIST OF EXPERIMENTS

Introduction: Objective, Scope, Outcome of the Course and Prerequisite

1. Determination of the strength of the unknown solution of FAS by titrating it with $K_2Cr_2O_7$ solution using diphenylamine as an internal indicator.
2. Determination of the strength of unknown copper sulphate solution by titrating it against sodium thiosulphate solution using starch as an indicator iodometrically.
3. Determination of % moisture, volatile matter, ash, and fixed carbon content in a given sample of coal by Proximate Analysis Method.
4. Estimation of Corrosion rate for a given sample of metal by Weight loss method.
5. Preparation and evaluation of Biodiesel from vegetable oil.
6. Determination of Viscosity of Lubricating oil by Redwood Viscometer No.1
7. Determination of Cloud & Pour Point and Flash & Fire Point of Lubricating oil.
8. Determine the total, temporary, and permanent hardness of the water sample by EDTA complexometric method.
9. Determination of the amount of Dissolved Oxygen in a given sample of water by Winkler's Method.
10. Estimation of residual chlorine in a given sample of water.

Prerequisites:

1. Mole Concept
2. Principles of Titration and Indicators
3. Acid-Base and Redox Concept
4. Drinking water parameters
5. Basic concept of Coal and Lubricant



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TEXT BOOKS

1. A Text Book on Experiments and Calculations in Engineering Chemistry: S. S. Dara, S.Chand Company Ltd., New Delhi
2. Applied Chemistry- Theory and Practice: O.P. Virmani and A. K. Narula, New AgeIndia Publishers, New Delhi.

REFERENCE BOOKS

1. Essentials of Experimental Engineering Chemistry: Shashi Chawla, Dhanpat Rai Publishing Company Ltd., New Delhi.
2. S. K. Bhasin, S.Rani, Laboratory Manual on Engineering Chemistry, Dhanpat Rai Publishing Company.