

Chemistry Laboratory CO PO PSO Mapping

CO No.	CO-PO Mapping												CO-PSO Mapping		
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	1	1	-	-	2	2	-	2	2	2	1	2	3	-
CO2	2	2	2	-	-	1	3	-	2	1	2	1	1	3	-
CO3	1	1	1	-	-	1	2	-	2	1	1	1	2	1	-
CO4	2	2	2	-	-	2	2	-	2	2	2	2	2	1	-
CO5	1	1	1	-	-	1	3	-	2	2	1	2	2	1	-
Average	1.6	1.4	1.4	-	-	1.4	2.4	-	2	1.6	1.6	1.4	1.8	1.8	-

Engineering Chemistry Theory CO PO PSO mapping

CO No.	CO Mapping with PO												CO-PSO Mapping		
CO No.	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	3	3	3	3	2	2	-	-	-	2	2	3	3	-
CO2	3	3	3	3	3	2	1	-	-	-	2	2	3	3	-
CO3	2	2	2	2	1	-	-	-	-	-	1	1	2	3	-
CO4	3	3	3	2	2	1	1	-	-	-	1	1	2	2	-
CO5	3	2	2	1	-	-	-	-	-	-	-	-	1	1	-
AVERAGE	2.80	2.60	2.60	2.20	2.25	1.67	1.33	-	-	-	1.50	1.50	2.20	2.40	-

Semester: 3rd/2nd		Subject Name: Universal Human Values											Subject Code:		
Course Outcomes															
CO1	More aware of themselves, and their surroundings (family, society, nature)														
CO2	They would become more responsible in life, and in handling problems with sustainable solutions, while keeping human relationships and human nature in mind.														
CO3	They would have better critical and analytical ability and sense of living in harmony.														
CO4	They would also become sensitive to their commitment towards what they have understood (human values, human relationship and human society).														
CO5	They would be able to apply what they have learnt to their own self in different day-to-day settings in real life, at least a beginning would be made in this direction.														
CO-PO Mapping													CO-PSO Mapping		
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	3	3	2	2	1	3	1	-	1	1
CO2	-	-	-	-	-	3	3	3	2	2	2	3	-	2	2
CO3	-	-	-	-	-	2	3	2	2	2	2	3	-	2	2
CO4	-	-	-	-	-	3	3	3	3	3	2	3	-	2	2
CO5	-	-	-	-	-	2	3	2	2	2	3	3	-	2	3
Average	-	-	-	-	-	2.6	3	2.4	2.2	2	2.4	2.6	-	1.8	2
'3'High			'2' Moderate					'1' Low				'-' No Correlation			
Overall CO Attainment									2.29						
Attainment	-	-	-	-	-	1.98	2.29	1.83	1.68	1.53	1.83	1.98	-	1.37	1.53

Semester: 3rd/4th		Subject Name: Organizational Behaviour											Subject Code: 20BTTHS703		
Course Outcomes															
CO1	Analyse individual human behaviour in the workplace as influenced by diversity, ethics, culture, reward systems, organizational design and perceptions														
CO2	Understand the different personalities and attitudes of individual, motivational theories that lead to positive organizational behaviour, emotional intelligence and self-efficacy.														

C03	Knows and identify the processes used in developing communication and decision making by resolving issues of stress and conflicts														
C04	Learns group dynamics and demonstrate skills required for working in formal and informal groups (team building)														
C05	Understands the various leadership theories and styles and the role of leaders for high performance work.														
	CO-PO Mapping												CO-PSO Mapping		
Sl. No	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C01	-	-	-	-	-	1	1	3	3	3	1	3	-	1	1
C02	-	-	-	-	-	1	1	3	3	3	1	3	-	1	1
C03	-	-	-	-	-	1	1	3	3	2	2	2	-	1	2
C04	-	-	-	-	-	1	1	3	2	3	2	3	-	2	1
C05	-	-	-	-	-	1	1	3	3	3	1	3	-	2	1
Average	-	-	-	-	-	1	1	3	2.8	2.8	1.4	2.8	-	1.4	1.2
'3' High			'2' Moderate				'1' Low			'-' No Correlation					
Overall CO Attainment									2.42						
PO Attainment	-	-	-	-	-	0.81	0.81	2.42	2.26	2.26	1.13	2.26	-	1.13	0.97

Semester: 2nd	Subject Name: Environmental Science & Engineering	Subject Code: 20BTTMC301
	Course Outcomes	
C01	Apply concepts of ecology, ecosystems, food chain and biogeochemical cycles for better understanding of functions of the environment	
C02	Understand environmental gradients, tolerance levels and environmental laws for prevention of environmental pollution.	
C03	Enhance knowledge of water and waste water treatment for prevention of water pollution.	
C04	Understand the chemistry of pollutants in the atmosphere, soil and ground water and understand principles of noise abatement.	
C05	Enhance knowledge of waste minimization technique to minimize and manage solid, hazardous wastes generated in different areas.	

Sl. No	CO-PO Mapping												CO-PSO Mapping		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	3	3	2	1	1	1	3	-	1	2
CO2	-	-	-	-	-	3	3	3	2	2	2	3	-	2	2
CO3	-	-	-	-	-	3	3	2	2	2	2	3	-	2	2
CO4	-	-	-	-	-	3	3	2	2	2	2	3	-	2	2
CO5	-	-	-	-	-	3	3	3	2	2	3	3	-	2	3
Average	-	-	-	-	-	3	3	2.4	1.8	1.8	2	3	-	1.8	2.2
'3'High			'2' Moderate					'1' Low				'-' No Correlation			
Overall CO Attainment										2.55					
Attainment	-	-	-	-	-	2.55	2.55	2.04	1.53	1.53	1.70	2.55	-	1.53	1.87

Semester: 3 rd /4 th		Subject Name: Engineering Economics and Costing										Subject Code: 20BTTHS405			
Course Outcomes															
CO1	Evaluate the economic theories, cost concepts and pricing policies														
CO2	Understand the measures of national income, the functions of banks and concepts of globalization														
CO3	Apply the concepts of financial management for project appraisal														
CO4	Understand accounting systems and analyze financial statements using ratio analysis														
CO5	Understand the impact of inflation, taxation, depreciation. Financial planning, economic basis for replacement, project scheduling, and legal and regulatory issues are introduced and applied to economic investment and project-management problems.														
Sl. No	CO-PO Mapping												CO-PSO Mapping		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	-	-	-	-	-	-	2	1	2	2	2	1	-	1	-
CO2	-	-	-	-	-	-	2	2	2	1	1	1	-	1	-
CO3	-	-	-	-	-	-	1	2	1	2	1	2	-	1	-
CO4	-	-	-	-	-	-	1	2	1	1	1	2	-	1	-
CO5	-	-	-	-	-	-	2	1	1	1	1	2	-	1	-

Average	-	-	-	-	-	-	1.6	1.6	1.4	1.4	1.2	1.6	-	1	-
'3'High	'2' Moderate					'1' Low			'-' No Correlation						
Overall CO Attainment									2.12						
PO Attainment	-	-	-	-	-	-	1.13	1.13	0.98	0.98	0.84	1.13	-	0.70	-

ENGINEERING MATHEMATICS-I

Course Outcome	Expected Mapping with Programme Outcomes (1- Weak Correlation; 2- Medium correlation; 3- Strong Correlation)														
	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
CO-1	3	2	2	1	1	×	×	×	×	×	×	2	1	1	×
CO-2	1	2	3	2	1	×	×	×	×	×	×	2	1	1	×
CO-3	3	2	3	1	1	×	×	×	×	×	×	2	1	1	×
CO-4	3	3	3	2	1	×	×	×	×	×	×	2	1	1	×
CO-5	3	3	3	3	1	×	×	×	×	×	×	2	1	1	×

ENGINEERING MATHEMATICS-II

Course Outcome	Expected Mapping with Programme Outcomes (1- Weak Correlation; 2- Medium correlation; 3- Strong Correlation)														
	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
CO-1	2	3	3	1	1	×	×	×	×	×	×	2	1	1	×
CO-2	2	2	3	1	1	×	×	×	×	×	×	2	1	1	×
CO-3	2	2	3	1	1	×	×	×	×	×	×	2	1	1	×
CO-4	2	2	2	2	1	×	×	×	×	×	×	2	1	1	×
CO-5	2	3	3	2	1	×	×	×	×	×	×	2	1	1	×

ENGINEERING MATHEMATICS-III

Course Outcome	Expected Mapping with Programme Outcomes (1- Weak Correlation; 2- Medium correlation; 3- Strong Correlation)														
	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
CO-1	2	2	3	2	1	×	×	×	×	×	×	2	1	1	×

CO-2	2	2	3	1	1	×	×	×	×	×	×	2	1	1	×
CO-3	2	3	3	2	1	×	×	×	×	×	×	2	1	1	×
CO-4	2	3	3	2	1	×	×	×	×	×	×	2	1	1	×
CO-5	2	3	3	2	1	×	×	×	×	×	×	2	1	1	×

DISCRETE MATHEMATICS

Course Outcome	Expected Mapping with Programme Outcomes (1- Weak Correlation; 2- Medium correlation; 3- Strong Correlation)														
	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
CO-1	3	3	3	3	1	×	×	×	×	×	×	2	1	1	×
CO-2	2	2	3	2	1	×	×	×	×	×	×	2	1	1	×
CO-3	2	2	2	1	1	×	×	×	×	×	×	2	1	1	×
CO-4	2	3	3	2	1	×	×	×	×	×	×	2	1	1	×
CO-5	3	3	3	2	1	×	×	×	×	×	×	2	1	1	×

Course Name: Engineering PHYSICS Course Code: 25BTCETBS202													
CO No.	Course Outcome										Highest Cognitive Level	POs	PSOs
CO1	Learn vibrations and oscillatory systems. It helps in understanding multiple oscillatory systems and complex oscillations. It adds in developing ideas of wave propagation and superposition principle										K4	1, 2, 3, 4, 5, 6, 7, 11, 12	1, 2
CO2	Know the benefits the understanding of light and its wave nature in different experimental demonstration of interference. Diffraction in solids will help in dealing with XRD and structure of materials..										K3	1, 2, 3, 4, 5, 6, 7, 11, 12	1, 2
CO3	Makea clarity of making out crystal structures and crystallography to learn about different materials and characteristics of solids										K4	1, 2, 3, 4, 5, 11, 12	1, 2
CO4	Different LASER'S like Ruby, He-Ne and S.C. Lasers will help to develop multiple ideas of its application. Principle of optical fibres will help to know new generation optical fibres in communication systems										K3	1, 2, 3, 4, 5, 6, 7, 11, 12	1, 2
CO5	Gain some fundamental knowledge about electromagnetism. It will familiarize with some basic use										K2	1, 2, 3, 4	1, 2
CO No.	CO Mapping with PO										CO-PSO Mapping		
CO No.	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO11	PO12	PSO2	PSO3	
CO1	3	3	3	3	3	2	2	-	2	2	3	-	
CO2	3	3	3	3	3	2	1	-	2	2	3	-	
CO3	2	2	2	2	1	-	-	-	1	1	3	-	
CO4	3	3	3	2	2	1	1	-	1	1	2	-	
CO5	3	2	2	1	-	-	-	-	-	-	1	-	
AVERAGE	2.80	2.60	2.60	2.20	2.25	1.67	1.33	-	1.50	1.50	2.40	-	
3-High, 2-Medium, 1-Low													
Here in the table, '3' corresponds to a high correlation, '2' corresponds to a medium correlation, and '1' corresponds to a low correlation													
	PO Attainment										PSO Attainment		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO11	PO12	PSO2	PSO3	
Average PO Mapping	2.80	2.60	2.60	2.20	2.25	1.67	1.33	-	1.50	1.50	2.40	-	
PO Attainment	2.36	2.19	2.19	1.86	1.90	1.41	1.12	-	1.27	1.27	2.02	-	
CO Attainment													
S. No.	CO's Number	Direct Attainment	Indirect Attainment	Overall Attainment									
1	CO1	2.47	2.75	2.53									
2	CO2	2.63	2.66	2.64									
3	CO3	2.58	2.48	2.56									
4	CO4	2.58	2.74	2.61									
5	CO5	2.42	2.54	2.44									
			Average	2.56									

Signature of Faculty

Signature of HoD

Signature of

ENGINEERING PHYSICS Laboratory

DEPARTMENT OF PHYSICS

(For all branches of B.Tech.)

Course Outcomes: *At the end of this course, the students will be able to:*

CO1	Know the accuracy and precision in measurements
CO2	Know how to calculate Young's modulus, rigidity modulus of a wire and to understand the mechanical properties of materials
CO3	Determine the surface tension of liquid and to understand fluid properties.
CO4	Experiment with wave nature of light in diffraction & interference through a Grating and Newton's rings.
CO5	Know the variation of $I \sim V$ / Characteristics plot of PN junction and BJT.

Mapping of COs to Pos (Low:1,Medium:2,High:3)

COs /POs	P O 1	P O 2	P O 3	P O 4	P O 5	P O 6	P O 7	P O 8	P O 9	P O 10	P O 11	P O 12	
CO1	1	1	1	1	1	1	0	0	0	0	0	0	
CO2	1	1	1	2	1	1	0	0	0	0	0	0	
CO3	2	2	2	2	1	0	0	0	0	0	0	0	
CO4	1	1	1	2	1	1	0	0	0	0	0	0	
CO5	3	3	2	2	0	0	0	0	0	0	0	0	
CO6	1	1	1	1	1	1	0	0	0	0	0	0	

LABORATORY-IN-CHARGE

DR. SHANTANU KUMAR BISWAL

