Course Name/sub code : CSS/KNC-401 Session: 2022-23 (Even Semester) Sem: IV			
S.No	**Course Outcomes**		
Students will able to		**Bloom Level**	**Knowledge Dimension**
1	**Interpret** software bugs that pose cyber security threats and their mitigation techniques.	Understand	C
2	**Explain** confidentiality policies and confinement techniques to secure the system.	Understand	C,P
3	**Demonstrate** cyberattack scenarios to web browsers and web servers and their mitigation techniques.	Understand	C,P
4	**Apply** cryptography techniques and different protocols for secure transfer of data over the network.	Apply	C,P
5	**Illustrate** Internet Security Problems and Protocols used for secure transaction.	Understand	C,P

Mapping of Course outcomes with Program Outcomes

Course:															**CO wise Target Level**
PO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO 10**	**PO 11**	**PO 12**	**PSO1**	**PSO2**	
CO1	**3**	**1**	**3**	**2**	**2**	**2**	**2**	**3**	**3**	**2**	**1**	**3**	**2**	**1**	
CO2	**2**	**3**	**1**	**3**	**3**	**2**	**1**	**3**	**2**	**2**	**1**	**3**	**1**	**2**	
CO3	**2**	**2**	**3**	**2**	**3**	**2**	**1**	**3**	**1**	**3**	**1**	**3**	**2**	**3**	
CO4	**3**	**2**	**3**	**3**	**2**	**3**	**1**	**3**	**3**	**2**	**1**	**3**	**1**	**2**	
CO5	**3**	**2**	**2**	**3**	**3**	**1**	**2**	**3**	**3**	**2**	**1**	**3**	**3**	**1**	
Target Level															

Course: B. Tech.	Year: 2nd
Semester: 4th	Subject Name (Subject Code): Communication Engg (BEC 401)

After the completion of the subject, the student will be able to:

CO No.	Statement of Course Outcome	Relevant Pos/ PSOs/ APOs	Revised Bloom's Levels (BL)	Knowledge Category (KC)
1	Analyze the communication system in the basis of type signal.	**Po-1,2,3,4,5,12, PSO/ APO-13,14**	**2**	Conceptual, Factual
2	Analyze the communication system on the basis of type of modulation	**Po-1,2,3,4,5,12, PSO/ APO-13,14**	**3**	Conceptual, Factual
3	Differentiate Deterministic and Random signals and analyze the noise in AM and FM system	**Po-1,2,3,4,5,PSO/ APO-13,14**	**4**	Conceptual
4	Analyze the pulse communication system	**Po-1,2,3,4,5,PSO/ APO-13,14**	**4**	Conceptual
5	Apply the concept of digital baseband transmission on various digital bandpass modulation techniques on the basis of carrier signals	**Po-1,2,3,4,5,12, PSO/ APO-13,14**	**4**	Conceptual

CO-PO Mapping

CO No.	Program Outcome												PSO/ APO	
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
1	**3**	**3**	**2**	**2**	**3**	**-**	**-**	**-**	**-**	**-**	**-**	**1**	**2**	**3**
2	**2**	**2**	**3**	**3**	**2**	**-**	**-**	**-**	**-**	**-**	**-**	**1**	**2**	**2**
3	**2**	**3**	**3**	**3**	**3**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**1**	**3**
4	**3**	**3**	**3**	**2**	**2**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**1**	**2**
5	**3**	**2**	**2**	**3**	**3**	**-**	**-**	**-**	**-**	**-**	**-**	**1**	**2**	**3**
PO Target	**2.6**	**2.6**	**2.6**	**2.6**	**2.6**	**-**	**-**	**-**	**-**	**-**	**-**	**0.6**	**1.6**	**2.6**

Course: B. Tech.	Year: 2nd Year
Semester: 4th	Subject Name (Subject Code): BEC-402

After the completion of the subject, the student will be able to:

CO No.	Statement of Course Outcome	Relevant Pos/ PSOs/ APOs	Revised Bloom's Levels (BL)	Knowledge Category (KC)
1	Analyze various amplifier circuits.	**1,2,3/13**	**4**	**F/C**
2	Analyze various feedback topologies.	**1,2,3/13**	**4**	**F/C**
3	Analyze sinusoidal and non-sinusoidal oscillators.	**1,2,3/13**	**4**	**F/C**
4	Analyze Current mirror and Op-amp based circuits.	**1,2,3/13**	**4**	**F/C**
5	Analyze Opamp based linear and non linear circuits.	**1,2,3/13**	**4**	**F/C**

CO-PO Mapping

CO No.	Program Outcome												PSO/ APO	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	**3**	**3**	**2**	**1**	**1**	**-**	**-**	**-**	**-**	**1**	**1**	**1**	**3**	**-**
2	**3**	**3**	**2**	**1**	**1**	**-**	**-**	**-**	**-**	**1**	**1**	**1**	**3**	**-**
3	**3**	**3**	**2**	**1**	**1**	**-**	**-**	**-**	**-**	**1**	**1**	**1**	**3**	**-**
4	**3**	**3**	**2**	**1**	**1**	**-**	**-**	**-**	**-**	**1**	**1**	**1**	**3**	**-**
5	**3**	**3**	**2**	**1**	**1**	**-**	**-**	**-**	**-**	**1**	**1**	**1**	**3**	**-**
PO Target	**3**	**3**	**2**	**1**	**1**	**-**	**-**	**-**	**-**	**1**	**1**	**1**	**3**	**-**

Course: B. Tech.	Year: Second
Semester: IV	Subject Name (Subject Code): SIGNAL SYSTEM (BEC-403)

After the completion of the subject, the student will be able to:

CO No.	Statement of Course Outcome	Relevant Pos/ PSOs/ APOs	Revised Bloom's Levels (BL)	Knowledge Category (KC)
1	Analyse different types of signals and systems.	PO1, PO2, PO3, PO4, PO5, PO6	4	Conceptual
2	Analyze linear shift-invariant (LSI) systems and its representation through differential and difference equation.	PO1, PO2, PO3, PO4, PO5, PO6, PO12, PSO1	4	Conceptual, Factual
3	Analyse continuous and discrete systems in time and frequency domain using transform domain.	PO1, PO2, PO3, PO4, PO5, PO6, PO12, PSO1	4	Conceptual
4	Analyse discrete time signals in z-domain.	PO1, PO2, PO3, PO4, PO5, PO6, PO12, PSO1	4	Conceptual
5	Apply sampling theorem to continuous time signal.	PO1, PO2, PO3, PO4, PO5, PO6, PO12, PSO1	3	Conceptual

CO No.	Program Outcome												PSO/ APO	
	1	2	3	4	5	6	7	8	9	10	11	12	1	2
1	3	3	2	2	3	2	-	-	-	-	-	-	-	-
2	2	2	3	3	2	1	-	-	-	-	-	1	2	-
3	2	3	3	3	1	2	-	-	-	-	-	1	2	-
4	3	3	3	2	2	1	-	-	-	-	-	1	2	-
5	3	2	2	2	3	2	-	-	-	-	-	1	2	-
PO Target	2.6	2.6	2.6	2.4	2.2	1.6	-	-	-	-	-	1	2	-

Course: B. Tech.	Year: 2nd
Semester: 4	Subject Name (Subject Code): Basics data structures and algorithm (BOE 406)

After the completion of the subject, the student will be able to:

CO No.	Statement of Course Outcome	Relevant Pos/ PSOs/ APOs	Revised Bloom's Levels (BL)	Knowledge Category (KC)
1.	Understand the basic representation of Array, Linked list in memory and concept of algorithm efficiency in form of time and space complexity	PO1,PO2,PO3,PO4,PO5,PO9, PO11,PO12,PSO1,PSO2	Understand	Conceptual, Procedural
2.	Understand and apply operations on stack , Queue ,Priority Queue, D-Queue using Array and Linked list.	POI,PO2,PO3,PO4,PO5,PO9, PO11,PO12,PSO1,PSO2	Apply	Conceptual, Procedural
3.	Implement and analyze fundamental algorithms of searching and sorting.	POI,PO2,PO3,PO4,PO5,PO9, PO11,PO12,PSO1,PSO2	Analyze	Conceptual, Procedural
4.	Understand and apply basic terminology of data representation in the form of binary tree, operations on trees.	POI,PO2,PO3,PO4,PO5,PO9, PO11,PO12,PSO1,PSO2	Apply	Conceptual, Procedural
5.	Understand and apply basic terminology of graph, type of graphs, graph traversing algorithms	POI,PO2,PO3,PO4,PO5,PO9, PO11,PO12,PSO1,PSO2	Apply	Conceptual, Procedural

CO-PO Matrix

CO No.	Program Outcome												PSO/ APO	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	3	3	1	2	2	-	-	-	1	-	1	2	1	2
2	3	3	1	2	2	-	-	-	1	-	1	2	1	2
3	3	3	1	3	3	-	-	-	1	-	1	2	1	2
4	2	2	1	2	2	-	-	-	1	-	1	2	1	1
5	2	2	1	2	2	-	-	-	1	-	1	2	1	1
PO Target	2.6	2.6	1	2.2	2.2				1		1	2	1	1.6

Course: B. Tech.	Year: II
Semester:4	Subject Name (Subject Code): Communication Engineering Lab (BEC 451)

After the completion of the subject, the student will be able to:

CO No.	Statement of Course Outcome	Relevant Pos/ PSOs/ APOs	Revised Bloom's Levels (BL)	Knowledge Category (KC)
1	Analyze the communication system in the basis of type signal.		2	Conceptual, Factual
2	Analyze the communication system on the basis of type of modulation.		3	Conceptual, Factual
3	Differentiate Deterministic and Random signals and analyze the noise in AM and FM system		4	Conceptual
4	Analyze the pulse communication system.		4	Conceptual
5	Apply the concept of digital baseband transmission on various digital bandpass modulation techniques on the basis of carrier signals		4	Conceptual

CO-PO Mapping

CO No.	Program Outcome												PSO/ APO	
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
1	3	3	2	2	3	-	-	-	-	-	-	1	2	3
2	2	2	3	3	2	-	-	-	-	-	-	1	2	2
3	2	3	3	3	3	-	-	-	-	-	-	-	1	3
4	3	3	3	2	2	-	-	-	-	-	-	-	1	2
5	3	2	2	3	3	-	-	-	-	-	-	1	2	3
PO Target	**2.6**	**2.6**	**2.6**	**2.6**	**2.6**	**-**	**-**	**-**	**-**	**-**	**-**	**0.6**	**1.6**	**2.6**

SIGNAL SYSTEM LAB (BEC-453)

Course Name: Signal System Lab (BEC 453)		**Semester: 4th**	
S.No	**Course Outcomes**		
Students will be able to		**Bloom Level**	**Knowledge Dimension**
1	Understand the basics operation of MATLAB.	2	Factual & Conceptual
2	Analysis the time domain and frequency domain signals.	4	Conceptual & Procedural
3	Implement the concept of Fourier series and Fourier transforms.	4	Factual & Procedural
4	Find the stability of system using pole-zero diagrams and bode diagram.	3	Conceptual & Procedural
5	Design frequency response of the system.	6	Conceptual & Procedural

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PO-13	PO-14
CO-1	2	2	1	1	1	1				2	1			
CO-2	3	1	2	2	3	2					1	1	1	1
CO-3	2	2	3	1	2	1					2			
CO-4	1	3	2	3	1	3				1	1	3	2	1
CO-5	1	1	1	2	2	2				2	1	1	3	

Course Name/code: Analog circuit Lab (BEC-452) Session:2023-24 Sem: IV Even Semester			
S.No	**Course Outcomes**		
Students will be able to		**Bloom Level**	**Knowledge Dimension**
1	Understand the characteristics of transistors.	2	Factual
2	Design and analyze various configurations of amplifier circuits	4	Conceptual
3	Design sinusoidal and non-sinusoidal oscillators.	4	Conceptual
4	Understand the functioning of OP-AMP and design OP-AMP based circuits.	4	Conceptual
5	Design ADC and DAC.	4	Conceptual

CO-PO Mapping														
Course:														
PO	**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**
CO1	**3**	**3**	**1**	**3**	**2**	**1**	**2**	**-**	**-**	**-**	**1**	**2**	**3**	
CO2	**3**	**2**	**1**	**3**	**1**	**2**	**2**	**-**	**-**	**-**	**3**	**3**	**3**	
CO3	**3**	**3**	**2**	**3**	**3**	**1**	**1**	**-**	**-**	**-**	**3**	**3**	**3**	
CO4	**2**	**3**	**1**	**2**	**3**	**1**	**1**	**-**	**-**	**-**	**1**	**3**	**3**	
CO5	**3**	**2**	**2**	**3**	**3**	**1**	**1**	**-**	**-**	**-**	**3**	**3**	**3**	
Target Level	**3**	**2.6**	**1.4**	**2.8**	**2.4**	**1.2**	**1.4**	**-**	**-**	**-**	**2.2**	**2.8**	**3**	

Course: B. Tech.	**Year: 2023-24**
Semester: VI	**Subject Name (Subject Code): Constitution of India, Law and Engineering (KNC-601)**

CO No.	**Statement of Course Outcome**	**Relevant Pos/ PSOs/ APOs**	**Revised Bloom's Levels (BL)**	**Knowledge Category (KC)**
1	Identify and explore the Basic features and modalities about the Indian constitution.	**6,7**	Remember, Understand	Remember
2	Differentiate and relate the functioning of Indian parliamentary system at the center and state level	**6,7**	Remember, Understand	Conceptual
3	Differentiate different aspects of the Indian Legal System and its related bodies.	**6,7,8**	Remember, Understand	Conceptual
4	Discover and apply different laws and regulations related to engineering practices.	**6,7,8,10**	Remember, Understand	Conceptual, Procedural
5	Correlate role of engineers with different organizations and governance models	**1, 6, 7, 8, 9, 10, 11, 12**	Remember, Understand (1,2)	Conceptual

CO-PO Mapping

CO No.	**Program Outcome**												**PSO/ APO**	
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
1	-	-	-	-	-	**1**	**1**	-	-	-	-	-	-	-
2	-	-	-	-	-	**1**	**1**	-	-	-	-	-	-	-
3	-	-	-	-	-	**2**	**1**	**1**	-	-	-	-	-	-
4	**1**	-	-	-	-	**2**	**2**	**1**	-	**1**	-	-	-	-
5	**1**	-	-	-	-	**1**	**1**	**1**	**1**	**1**	**1**	**1**	-	-
PO Target	**1**	-	-	-	-	**1.4**	**1.2**	**1**	**1**	**1**	**1**	**1**	-	-

Course: B. Tech.	**Year:3rd**
Semester: 6th	**Subject Name (Subject Code): Digital Communication (KEC-601)**

After the completion of the subject, the student will be able to:

CO No.	Statement of Course Outcome	Relevant Pos/ PSOs/ APOs	Revised Bloom's	Knowledge Category (KC)
1	Apply the concepts of probability theory for random variables and random process for digital communication.	1, 4, 6, 12,13,14	Apply	Conceptual
2	Evaluation of PSDs and Pulse shaping theory for digital communication.	1, 2, 3, 6, 11, 12, 13, 14	Analyze	Factual, Conceptual
3	Apply the concepts of digital modulation theory on various	1, 2, 3, 4, 5 , 6, 11, 12, 13, 14	Apply	Conceptual
4	Analyze the theory of Matched filter and spread spectrum for digital wireless transmission.	1,2,3, 4, 5, 6,11, 12, 13, 14	Analyze	Conceptual
5	Apply the concept of information theory for data transmission.	1,2,3,4,5,6,11,12,13,14	Apply	Conceptual

CO-PO Mapping

CO No.	Program Outcome												PSO/	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	1	-	-	2	-	1	-	-	-	-	-	1	1	1
2	1	2	2	-	-	1	-	-	-	-	1	1	2	2
3	2	2	2	2	3	2	-	-	-	-	2	3	2	2
4	2	2	2	3	2	2	-	-	-	-	2	2	2	3
5	2	3	2	3	2	3	-	-	-	-	2	1	3	2
PO	1.60	2.25	2	2	2.33	1.80	-	-	-	-	1.75	1.60	2	2

Course: B. Tech.	Year: III
Semester: VI	Subject Name (Subject Code): Data Communication Networks (KEC-063)

CO No.	Statement of Course Outcome	Relevant Pos/ PSOs/ APOs	Revised Bloom's Levels (BL)	Knowledge Category (KC)
1	Identify the issues and challenges in the architecture of a network.	1,2,3,	Understand	Conceptual
2	Analyze the services and features of various protocol layers in data layer.	1,2,3,4,5	Analysis	Conceptual and Procedural
3	Demonstrate the knowledge of multiple access to design a access technique for a	1,2,3,4,5	Analysis	Conceptual and Procedural
4	Realize protocols at different layers of a network hierarchy.	1,2,3,4,5	Analysis	Conceptual and Procedural
5	Recognize security issues in a network and various application of application layer.	1,2,3,4,5	Analysis	Conceptual and Procedural

CO-PO Mapping

CO No.	Program Outcome												PSO/ APO	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	3	3	2	3	3	-	-	-	-	-	-	-	-	-
2	3	2	2	3	3	-	-	-	-	-	-	-	-	-
3	3	2	2	3	3	-	-	-	-	-	-	-	-	-
4	3	3	3	2	2	-	-	-	-	-	-	-	-	-
5	3	2	3	2	2	-	-	-	-	-	-	-	-	-
PO	3	2.4	2.4	2.6	2.6	-	-	-	-	-	-	-	-	-

Course: B. Tech.	Year: 2023-24
Semester:VI	Subject Name (Subject Code):Antenna and wave propagation (KEC 603)

After the completion of the subject, the student will be able to:

CO No.	Statement of Course Outcome	Relevant Pos/ PSOs/ APOs	Revised Bloom's Levels (BL)	Knowledge Category (KC)
1	Understand about Rectilinear, Cylindrical and Spherical Coordinate systems and their transformations.	**1,2,3,4,5,12,14**	Understand	Conceptual
2	Understand about electrostatic and magnetostatic fields and their attributes to develop Maxwell's Equations.	**1,2,3,4,5,12,14**	Apply	Conceptual
3	Understand about the foundations of antenna with basic definitions.	**1,2,3,4,5,12,14**	Apply	Conceptual
4	Understand about design issues and parameters of antenna.	**1,2,3,4,5,12,14**	Analyze	Conceptual
5	Understand about the wave propagation and characteristics.	**1,2,3,4,5,12,14**	Analyze	Conceptual

CO-PO Mapping

CO No.	Program Outcome												PSO/ APO	
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
1	3	3	2	2	2	-	-	-	-	-	-	2	-	2
2	3	3	2	2	2	-	-	-	-	-	-	2	-	2
3	3	3	2	2	2	-	-	-	-	-	-	2	-	2
4	3	3	2	3	3	-	-	-	-	-	-	2	-	2
5	3	3	2	3	2	-	-	-	-	-	-	2	-	2
PO Target	**3**	**3**	**2**	**2.4**	**2.2**	**-**	**-**	**-**	**-**	**-**	**-**	**2**	**-**	**2**

Course: B. Tech.	Year: 3rd
Semester: 6th	Subject Name (Subject Code): DBMS (KOE067)

After the completion of the subject, the student will be able to:

CO No.	Statement of Course Outcome	Relevant Pos/ PSOs/ APOs	Revised Bloom's Levels (BL)	Knowledge Category (KC)
CO-1	Acquire the knowledge of database design methodology for implementing real life applications.	PO1, PO5, PO8,PO9,PO11,PO12,PSO1,PSO2	2	Conceptual
CO-2	Design an information model expressed in the form of ER diagram.	PO1,PO2,PO3,PO4,PO5,PO7,PO8,PO9,PO10,PO11, PO12	3	Conceptual, Procedural
CO-3	Apply real time problems of structured query language to databases.	PO1,PO2,PO5,PO8,PO9,PO10,PO11,PO12, PSO1,PSO2	3	Conceptual, Procedural
CO-4	Analyze the redundancy problem in database tables using normalization.	PO1,PO2,PO4,PO8,PO9,PO10,PO11,PO12,PSO2	4	Conceptual, Procedural
CO-5	Identify the broad range of database management issues including data integrity, security and recovery in terms of transactions.	PO1,PO2,PO4,PO8,PO11, PO12,PSO2	4	Conceptual, Procedural

CO-PO Matrix

CO No.	Program Outcome												PSO/ APO	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	3	-	-	-	2	-	-	1	1	-	1	2	1	2
2	3	1	3	2	3	-	1	1	1	2	2	2	3	2
3	3	1	-	-	3	-	-	1	1	1	2	2	3	1
4	3	2	-	3	-	-	-	1	1	1	1	2	-	2
5	3	2	-	3	-	-	-	1	-	-	1	1	-	2
PO	3	1.5	3	2.66	2.66	-	1	1	1	1.33	1.4	1.8	2.33	1.8

Course Name/code: Control Systems/ KEC-602 Session:2023-24 Sem: EVEN Semester			
S. No	**Course Outcomes**		
Students will be able to		**Bloom Level**	**Knowledge Dimension**
1	Determination of overall transfer function of a control system using block diagram, signal flow graph method & mathematical modelling of systems.	3	Conceptual, Procedural
2	Explain the concept of state variables for the representation of LTI system.	6	Conceptual, Procedural
3	Interpret the time domain response analysis for various types of inputs along with the time domain specifications	6	Conceptual, Procedural
4	Distinguish the concepts of absolute and relative stability for continuous data systems along with different methods	4	Conceptual, Procedural
5	Interpret the concept of frequency domain response analysis and their specifications.	3	Conceptual, Procedural

CO-PO Matrix															
Course:															**CO wise Target Level**
PO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO 10**	**PO 11**	**PO 12**	**PSO1**	**PSO2**	
CO1	**3**	**3**	**2**	**2**	**1**	**1**				**1**					
CO2	**2**	**1**	**3**	**3**	**1**	**1**		**2**					**1**		
CO3	**3**	**2**	**2**	**2**	**2**	**1**							**2**		
CO4	**2**	**3**	**3**	**3**	**1**	**3**		**1**							
CO5	**3**	**3**	**2**	**2**	**1**	**1**					**2**		**3**		
Target Level															

Course: B. Tech.	Year: III
Semester: VI	Subject Name (Subject Code): CAD for Electronics Lab (KEC 653B)

After the completion of the subject, the student will be able to:

CO No.	Statement of Course Outcome	Relevant Pos/ PSOs/ APOs	Revised Bloom's Levels (BL)	Knowledge Category (KC)
1	Analyze the performance of different type of inverters using PSPICE.	1, 2, 3, 4, 5, 11, 12, 13, 14	4	Conceptual, Procedural
2	Analyze the performance of the CMOS based logic gates using PSPICE.	1, 2, 3, 4, 5, 11, 12, 13, 14	4	Conceptual, Procedural
3	Analyze the performance of CMOS based memory circuits using PSPICE.	1, 2, 3, 4, 5, 11, 12, 13, 14	4	Conceptual, Procedural
4	Analyze the performance of the different MOS based amplifier configurations using PSPICE.	1, 2, 3, 4, 5, 11, 12, 13, 14	4	Conceptual, Procedural
5	Analyze the performance of different digital circuits using VHDL	1, 2, 3, 4, 5, 11, 12, 13, 14	4	Conceptual, Procedural

CO-PO Mapping

CO No.	Program Outcome													PSO/ APO
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
1	**2**	**2**	**3**	**3**	**3**	**-**	**-**	**-**	**-**	**-**	**1**	**2**	**3**	**1**
2	**2**	**2**	**3**	**3**	**3**	**-**	**-**	**-**	**-**	**-**	**1**	**2**	**3**	**1**
3	**2**	**2**	**3**	**3**	**3**	**-**	**-**	**-**	**-**	**-**	**1**	**2**	**3**	**1**
4	**2**	**2**	**3**	**3**	**3**	**-**	**-**	**-**	**-**	**-**	**1**	**2**	**3**	**1**
5	**2**	**2**	**3**	**3**	**3**	**-**	**-**	**-**	**-**	**-**	**1**	**2**	**3**	**1**
PO Target	**2**	**2**	**3**	**3**	**3**	**-**	**-**	**-**	**-**	**-**	**1**	**2**	**3**	**1**

Course: B. Tech.	Year: III
Semester: 6	Subject Name (Subject Code): Digital Communication Lab (KEC 651)

After the completion of the subject, the student will be able to:

CO No.	Statement of Course Outcome	Relevant Pos/ PSOs/ APOs	Revised Bloom's Levels (BL)	Knowledge Category (KC)
1	Apply fundamental theories of digital communication system		BL-3	Conceptual & Procedural
2	Analyze mathematical aspects of communication theory using hardware tools.		BL-4	Conceptual & Procedural
3	Apply the knowledge of linear block codes for secure data transmission.		BL-3	Conceptual & Procedural
4	Analyze different techniques in modern digital communications using MATLAB tools.		BL-3	Conceptual & Procedural
5	Measure the performance of different modulation and demodulation techniques using virtual tools.		BL-5	Conceptual & Procedural

CO-PO Mapping

CO No.	Program Outcome													PSO/ APO
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	2	2	3	3	3	-	-	-	-	3	1	2	3	-
2	2	2	3	3	3	-	-	-	-	3	1	2	3	-
3	2	2	3	3	3	-	-	-	-	3	1	2	3	-
4	2	2	3	3	3	-	-	-	-	3	1	2	3	-
5	2	2	3	3	3	-	-	-	-	3	1	2	3	-
PO Target	2	2	3	3	3	-	-	-	-	3	1	2	3	-

CONTROL SYSTEM LAB (KEC-652)

Course Name: Control System Lab (KEC 652)		**Semester: 6th**	
S.No	**Course Outcomes**		
Students will be able to		**Bloom Level**	**Knowledge Dimension**
1	Understand different toolboxes in MATLAB and analyze various parameters of a matrix using MATLAB.	2	Factual & Procedural
2	Locate poles and zeros for a given transfer function.	3	Conceptual & Procedural
3	Evaluate the various parameters of transient analysis of a control system.	5	Conceptual & Procedural
4	Evaluate the various parameters of steady state analysis of a control system.	5	Conceptual & Procedural
5	Examine the stability criteria for a control system using Bode and Nyquist plot.	4	Conceptual & Procedural

CO-PO Mapping

	PO-1	**PO-2**	**PO-3**	**PO-4**	**PO-5**	**PO-6**	**PO-7**	**PO-8**	**PO-9**	**PO-10**	**PO-11**	**PO-12**	**PO-13**	**PO-14**
CO-1	**2**	**2**	**1**	**1**	**1**	**1**				**2**	**1**			
CO-2	**3**	**1**	**2**	**2**	**3**	**2**					**1**	**1**	**1**	**1**
CO-3	**2**	**2**	**3**	**1**	**2**	**1**					**2**			
CO-4	**1**	**3**	**2**	**3**	**1**	**3**				**1**	**1**	**3**	**2**	**1**
CO-5	**1**	**1**	**1**	**2**	**2**	**2**				**2**	**1**	**1**	**3**	

Course: B. Tech.	Year: IV
Semester:VIII	RDAP (KHU801):

After the completion of the subject, the student will be able to:

CO No.	Statement of Course Outcome	Relevant Pos/ PSOs/ APOs	Revised Bloom's Levels (BL)	Knowledge Category (KC)
1	Understand the concepts , basics and importance of rural development.	2,8	Understand	Factual
2	Recognize and acquire knowledge of pre and post-independence rural development programs.	3,8	Understand	Factual
3	Understand the importance, structure, significance of Panchayati raj and rural administration.	3,8	Apply	Procedural
4	Understand about the need and importance of human resource development in rural sector.	3,8,11		Factual
5	Analyze the importance of rural industrialization and Entrepreneurship.	3,8	4	Conceptual, Procedural

CO No.	Program Outcome													PSO/ APO
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	-	-	2	-	-	-	-	3	-	-	-	-	-	-
2	-	-	1	-	-	-	-	3	-	-	-	-	-	-
3	-	-	1	-	-	-	-	3	-	-	-	-	-	-
4	-	-	2	-	-	-	-	3	-	-	2	-	-	-
5	-	-	2	-	-	-	-	3	-	-	-	-	-	-
PO Target	-	-	1.6	-	-	-	-	3	-	-	2	-	-	-

Course: B. Tech.	Year: III
Semester: VI	Subject Name (Subject Code): Quality Management(KOE 085)

After the completion of the subject, the student will be able to:

CO No.	Statement of Course Outcome	Relevant Pos/ PSOs/ APOs	Revised Bloom's Levels (BL)	Knowledge Category (KC)
1	Understand the fundamental concept of quality,quality control, quality management and total quality management and their significance in designing of products.	2,3,4,5,6,7,8,10,11,12	2	Factual
2	Understand the role of management in achieving quality, quality function and optimizing quality costs.	2,3,4,5,6,7,8,9,10,11,12	3	Factual
3	Study various stastistical techniques such as various control charts required for analysis and improvement of quality of a system.	3,4,5,6,7,8,9,10,11,12	2	Procedural
4	Understand defects and their prevention calculating reliability and improve it and concept of zero defects and quality circles.about the need and importance of human resource development in rural sector.	4,5,6,7,8,9,10,11,12	2	Factual
5	Understand ISO 9000 standards, its concept of quality management and the impact of quality on long term business success of an organization	4,5,6,7,8,9,10,11,12	4	Conceptual, Procedural

CO No.	Program Outcome												PSO/ APO	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1		1	3	1	3	1	2	3	2	1	3	3		
2		1	1	3	2	2	1	1	1	1	3	2		
3			2	1	3	1	2	2	2	1	2	3		
4				3	1	2	2	1	2	1	1	2		
5				1	3	3	1	2	1	1	3	3		
PO Target		1	2	1.8	2.4	1.8	1.6	1.8	1.6	1	1.4	2.6		

Course Name/code: ED / KOE-083	**Session: 2023-24**	**Sem: EVEN Semester**
Students will be able to:		

S. No	**Course Outcomes**	**Bloom Level**	**Knowledge Dimension**
1	Understand the theories of entrepreneurship and Entrepreneurial Development Programmes.	2	Factual
2	Create innovative business ideas and market opportunities.	5	Conceptual, Procedural
3	Understand the importance of Project Management and Project's life cycle	2	Factual, Conceptual
4	Analyze Project Finance and Project Report.	4	Conceptual, Procedural
5	Analyze Social Sector Perspectives and Social Entrepreneurship.	4	Conceptual, Procedural

CO-PO Mapping															
Course:															**CO wise**
PO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO 10**	**PO 11**	**PO 12**	**PSO1**	**PSO2**	**Target Level**
CO1	-	-	-	-	-	**1**	**1**	**2**	**2**	**-**	**3**	**1**	-	-	
CO2	-	-	-	-	-	**2**	**2**	**3**	**3**	**-**	**3**	**2**	-	-	
CO3	-	-	-	-	-	**3**	**3**	**2**	**3**	**-**	**3**	**2**	-	-	
CO4	-	-	-	-	-	**2**	**3**	**2**	**3**	**-**	**3**	**2**	-	-	
CO5	-	-	-	-	-	**2**	**3**	**3**	**2**	**-**	**3**	**3**	-	-	
Target Level	-	-	-	-	-	**2**	**2.4**	**2.4**	**2.6**	-	**3**	**2**	-	-	

Course Name/code: DSM / KOE-083 Session: 2023-24 Sem: EVEN Semester			
Students will be able to:			
S. No	**Course Outcomes**	**Bloom Level**	**Knowledge Dimension**
1	Gain knowledge about basic concepts of Digital Marketing	2	Factual
2	Identify Social Media Marketing techniques suitable for a business.	5	Conceptual,
3	Identify Multimedia Marketing and its uses in Digital Marketing.	2,3	Factual, Conceptual
4	Apply Digital Marketing in an organization to make it a Digital Success	4	Conceptual, Procedural
5	Design innovative ideas and trends to make business and marketing attractive.	5	Conceptual, Procedural

CO-PO Matrix:

	PO1	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PO13**	**PO14**
CO1	**3**	**3**	**2**	**2**	**1**	**1**								
CO2	**3**	**3**	**2**	**2**	**1**	**1**							**2**	
CO3	**3**	**3**	**2**	**2**	**1**	**1**							**2**	
CO4	**3**	**3**	**2**	**2**	**2**	**2**								
CO5	**3**	**3**	**2**	**2**	**1**	**1**							**2**	

Course Name/code: Project-I Lab(KEC-851) Session: 2023-24 Sem: EVEN Semester			
S.No.	**Course Outcomes**	**Bloom Level**	**Knowledge Dimension**
1	Identify the problem for the project through available literature survey.	2	Conceptual, Procedural
2	Analyze the problem and find the appropriate solution for the selected project	4	Conceptual, Procedural
3	Apply the knowledge of Electronics, Programming and Communication Engineering for the design of project	3	Conceptual, Procedural
4	Develop solutions for the problem by using the techniques, skills, and modern engineering tools.	6	Conceptual, Procedural
5	Function on multi-disciplinary teams through effective communication skill and team behavior.	4	Conceptual, Procedural
6	Understand the basics of engineering, finance, and management principles.	2	Conceptual, Procedural
7	Accomplish the project to meet desired needs within realistic constraints of ethics, environment, economy, and society	6	Conceptual, Procedural

CO-PO Matrix

Mapping of Course outcomes with Program Outcomes														
Course														
PO	**PO**	**PO**	**PO**	**PO**	**PO**	**PO**	**PO**	**PO**	**PO**	**PO**	**PO**	**PO**	**PSO**	**PSO**
CO1	**2**	**3**	**1**	**2**	**1**	**1**	**2**	**2**	**2**	**2**	**2**	**1**	**1**	**1**
CO2	**2**	**3**	**3**	**2**	**2**	**2**	**2**	**1**	**2**	**2**	**2**	**2**	**2**	**2**
CO3	**3**	**2**	**2**	**2**	**2**	**2**	**1**	**2**	**2**	**2**	2	**2**	**3**	**2**
CO4	**2**	**2**	**3**	**2**	**2**	**2**	**1**	**1**	**2**	**2**	2	**2**	**3**	**3**
CO5	**2**	**2**	**3**	**2**	**2**	**2**	**1**	**1**	**3**	**3**	2	**3**		**3**
CO6	**2**	**2**	**2**	**2**	**1**	**1**	**1**	**2**	**2**	**2**	2	**2**		**3**
CO7	**2**	**2**	**2**	**2**	**2**	**3**	**3**	**3**	**2**	**2**	**2**	**3**		
Target	**2.1**	**2.2**	**2.2**	**2.0**	**1.7**	**1.8**	**1.5**	**1.7**	**2.1**	**2.1**	**2.0**	**2.1**	**2.25**	**2.33**