Even Sem_8

Course Name: Electronic Switching (REC 080) Session:2020-21 Sem: Even Semester	
S.No	Course Outcomes
Students will able to	
1	Describe and apply fundamentals of telecommunication systems and associated technologies.
2	Solve problems and design simple systems related to tele-traffic and trunking efficiency.
3	Understand and explain the reasons for switching, and the relative merits of the possible switching modes, e.g. packet and circuit switching.
4	Understand the principles of the internal design and operation of telecommunication switches, and the essence of the key signalling systems that are used in telecommunication networks.
5	To understand the basics of Data Communication Engineering devices. Design of Banyan Network Switch

Mapping of CO's with Bloom's Level, Target Level Bloom's						
Course	**BL1**	**BL2**	**BL3**	**BL4**	**BL5**	**BL6**
CO1	BL1	BL2	BL3	BL4	BL5	BL6
CO2	1	1	1	1	1	1
CO3	3	2	2	2	1	2
CO4	2	2	2	2	3	2
CO5	2	3	3	1	2	3
AVG.	2	1	2	1	1	1

Mapping of Course outcomes with Program Outcomes															
Course:															**CO wise Target Level**
PO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	
CO1	1	2	1	1	2	2	1	2	2	1	1	1	1	3	
CO2	2	2	2	2	1	1	1	1	1	1	2	2	2	2	
CO3	3	3	2	2	3	1	2	1	1	2	1	1	1	2	
CO4	2	1	2	1	1	3	1	1	3	1	1	2	3	1	
CO5	1	1	3	2	1	1	2	2	1	1	3	1	1	1	
Target Level															

Course Name: Wireless and Mobile Communication (REC-085) Session:2020-21 Sem: VIII	
S.No.	**Course Outcomes**
Students will be able to	
1	**Understand the concepts and techniques of mobile radio communication fundamentals like reflection, diffraction, scattering and fading and also cellular design concepts and apply them in wireless communication**
2	**Understand the concepts and design techniques of channel modeling and fading models.**
3	**Understand Vocoders, diversity, spread spectrum modulation and equalization design concepts and apply them in wireless communication.**
4	**Understand and design multiplexing techniques and RAKE receiver in mobile and wireless communication.**
5	**Design a 3g AND 4g wireless communication system to meet desired needs within realistic constraints.**

Mapping of CO's with Bloom's Level, Target Level Bloom's						
Course	**BL1**	**BL2**	**BL3**	**BL4**	**BL5**	**BL6**
CO1	3	2	2	1	**2**	**1**
CO2	1	2	3	3	2	2
CO3	2	3	1	2	1	2
CO4	1	2	2	1	3	3
CO5	3	2	1	1	2	1
AVG.	2	2.2	1.8	1.6	2	1.8

Mapping of Course outcomes with Program Outcomes															
Course: Wireless and Mobile Communication															**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**	**1**	**2**	**1**		**1**	**1**	**2**	**3**	**2**	
CO2	**2**	**2**		**3**	**1**		**2**				**3**	**3**	**2**	**3**	
CO3	**3**	**3**	**2**	**3**	**3**	**1**	**1**				**3**	**3**	**2**	**3**	
CO4	**2**	**3**	**1**	**2**	**3**	**1**	**1**				**1**	**3**	**2**	**2**	
CO5	**3**	**2**	**2**	**3**	**3**	**1**	**1**				**3**	**3**	**2**	**2**	
Target Level															

Course Name: Machine Learning (ROE-083) Session:2020-21 Sem: EVEN Semester	
S.No	**Course Outcomes**
Students will able to	
1	Understand the various searching techniques, constraint satisfaction problem and example problems- game playing techniques.
2	Apply these techniques in applications which involve perception, reasoning and learning
3	Explain the role of agents and how it is related to environment and the way of evaluating it and how agents can act by establishing goals.
4	Acquire the knowledge of real world Knowledge representation.
5	Use different machine learning techniques to design AI machine and enveloping applications for real world problems

Mapping of CO's with Bloom's Level, Target Level Bloom's						
Course	**BL1**	**BL2**	**BL3**	**BL4**	**BL5**	**BL6**
CO1	**3**	**3**	**2**	**2**	**3**	**2**
CO2	**2**			**3**		**1**
CO3	**1**	**1**	**2**		**3**	
CO4	**1**	**3**	**1**	**3**	**2**	**3**
CO5		**1**	**3**	**1**	**3**	**2**
AVG.	**1.4**	**1.6**	**1.6**	**1.8**	**2.2**	**1.6**

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	**1**	**3**	**2**	**-**	**1**	**1**	**2**	**1**	**3**	**2**	**-**	**1**	**1**	**1**	
CO2	**2**	**3**	**3**	**2**	**-**	**-**	**-**	**3**	**-**	**-**	**1**	**-**	**1**	**-**	
CO3	**2**	**2**	**3**	**3**	**2**	**-**	**2**	**-**	**3**	**-**	**-**	**-**	**2**	**1**	
CO4	**-**	**3**	**2**	**1**	**2**	**2**	**-**	**-**	**2**	**2**	**-**	**-**	**-**	**1**	
CO5	**3**	**3**	**3**	**2**	**3**	**3**	**2**	**2**	**-**	**-**	**-**	**1**	**2**	**3**	
Target Level															

Course Name: Project LAB -REC-852	Session:2020-21	Sem: Odd Semester
S.No	**Course Outcomes**	
Students will able to		
1	Apply knowledge of fundamentals of Electronics, Programming and Communication Engineering to the analysis and design of a given problem.	
2	Identify and formulate the problem or project and find its solution which is practically feasible.	
3	Use the techniques, skills, and modern engineering tools such as logic works, VHDL, Cadence, MAT Lab necessary for engineering practice.	
4	Function on multi-disciplinary teams through effective communication and team behavior.	
5	Accomplish the project to meet desired needs within realistic constraints of environment, economy and manufacturability.	

Mapping of CO's with Bloom's Level, Target Level Bloom's						
Course	**BL1**	**BL2**	**BL3**	**BL4**	**BL5**	**BL6**
CO1	**3**	**3**	**2**	**2**	**3**	**2**
CO2	**2**	**3**		**3**		**1**
CO3	**1**	**1**	**2**	**3**	**3**	**3**
CO4	**1**	**3**	**1**	**3**	**2**	**3**
CO5	**3**	**1**	**3**	**1**	**3**	**2**
AVG.	**2**	**2.2**	**1.6**	**2.4**	**2.2**	**2.2**

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	**1**	**3**	**2**	**-**	**1**	**1**	**2**	**1**	**3**	**2**	**3**	**1**	**1**	**1**	
CO2	**2**	**3**	**3**	**2**	**-**	**-**	**-**	**3**	**-**	**-**	**1**	**-**	**1**	**-**	
CO3	**2**	**2**	**3**	**3**	**2**	**2**	**2**	**-**	**3**	**-**	**-**	**3**	**2**	**1**	
CO4	**-**	**3**	**2**	**1**	**2**	**2**	**1**	**-**	**2**	**2**	**2**	**2**	**-**	**1**	
CO5	**3**	**3**	**3**	**2**	**3**	**3**	**2**	**2**	**-**	**-**	**1**	**1**	**2**	**3**	
Target Level															

EVEN_6

Course Name: Digital Communication (KEC-601) Session:2020-21 Sem: Even Semester 6th	
S.No	**Course Outcomes**
Students will able to	
1	Understand the error performance of digital communication and analyse various types of signals with their probabilistic models.
2	Design the basic building block of digital communication system and analyse various digital modulation schemes.
3	To investigate digital receiver with noise analysis and to examine the channel characteristics for digital modulation techniques.
4	Understand the concept of spread spectrum communication system and to discuss the design of digital optimum receiver.
5	Apply knowledge of information system to analyse error control coding techniques.

Mapping of CO's with Bloom's Level, Target Level Bloom's						
Course	**BL1**	**BL2**	**BL3**	**BL4**	**BL5**	**BL6**
CO1	2	3	1	2	-	-
CO2	1	1	2	3	2	3
CO3	2	2	1	1	1	3
CO4	3	3	1	1		3
CO5	1	1	3	3	2	2
AVG.	1.8	2	2	2	1	2.2

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	3	1	3	2	-	-	-	-	-	-	1	3	2	
CO2	2	3	1	3	2	-	2	-	-	-	-	1	2	3	
CO3	2	2	2	3	3	-	-	-	-	-	-	1	2	3	
CO4	1	1	2	3	3	-	2	3	3	1	2	1	2	2	
CO5	1	1	3	1	1	2	3	1	-	-	2	2	2	2	
Target Level															

Course Name: Control Systems (KEC-602) Session:2020-21 Sem: Even Semester 6th	
S.No	**Course Outcomes**
Students will able to	
1	Apply knowledge of basic components of control system to the analysis and design of physical systems such as electrical networks, sensors, mechanical systems, etc.
2	Identify state variables and analyze the response of various control systems in time domain to obtain their steady-state error.
3	Improved transient response of the system in terms of overshoots, settling time and rise time.
4	Use routh-hurwitz criterion to determine the stability of linear control system to design practical stable physical systems necessary for engineering practice.
5	To design a practical control system in frequency domain with the help of Nyquist stability criterion, relative stability, bode plot etc., to meet desired requirements in realistic environment.

Mapping of CO's with Bloom's Level, Target Level Bloom's						
Course	**BL1**	**BL2**	**BL3**	**BL4**	**BL5**	**BL6**
CO1	3	1	2	1	-	-
CO2	1	2	3	3	2	-
CO3	2	3	1	-	1	2
CO4	2	2	-	2	3	3
CO5	3	2	2	2	-	1
AVG.	2.2	2	1.8	2	2	2

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	3	3	2	-	2	-	-	1	-	-	-	3	2	
CO2	3	3	3	3	1	-	1	-	-	-	-	1	2	3	
CO3	3	3	3	3	2	3	1	-	3	-	-	2	2	3	
CO4	3	3	3	3	2	-	1	-	2	-	-	2	2	2	
CO5	3	3	3	3	3	2	2	-	2	2	2	2	2	2	
Target Level															

Course Name: Antenna and Wave Propagation (KEC-603) Session:2020-21 Sem: Even Semester 6th	
S.No	**Course Outcomes**
Students will able to	
1	Understand the basics of coordinate systems and del operators.
2	Identify, formulate and analyze Electrostatic fields and Magnetostatic fields.
3	Apply knowledge of basic components of the antenna, working and fundamental parameters of antenna.
4	Identify formulate and analyze different types of antenna and various antenna arrays.
5	Understand the atmospheric effects on radio wave propagation so as to identify radio communication link which is more efficient and effective.

Mapping of CO's with Bloom's Level, Target Level Bloom's						
Course	**BL1**	**BL2**	**BL3**	**BL4**	**BL5**	**BL6**
CO1	3	1	2	1	-	-
CO2	1	2	3	3	2	-
CO3	2	3	1	-	1	2
CO4	2	2	-	2	3	3
CO5	3	2	2	2	-	1
AVG.	2.2	2	1.8	2	2	2

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	2	3	2	2	2	1	-	-	-	-	2	3	2	
CO2	3	3	3	3	1	2	1	-	-	-	-	3	2	3	
CO3	3	2	3	3	2	3	1	-	-	-	-	2	2	3	
CO4	3	3	3	3	2	2	1	-	-	-	-	2	2	2	
CO5	3	2	3	3	3	2	1	-	-	-	-	2	2	2	
Target Level															

Course Name: Data Communication Networks (KEC-063) Session:2020-21 Sem: Even Semester 6th	
S.No	**Course Outcomes**
Students will able to	
1	Understand knowledge of basic concepts of data communication, OSI Model, TCP/IP model and Multiplexing.
2	Understand and analyze the various techniques of error correction and detection and functions of data link layer and switching.
3	Identify Multiple Access technique like ALOHA, Controlled Access, Channelization and IEEE Standards in order to have sustainable development of data communication.
4	Understand various routing algorithm, subnet masks and IP addresses to fulfill networking requirements.
5	Understand and apply the concept of cryptography and network security for secure data communication system

Mapping of CO's with Bloom's Level, Target Level Bloom's						
Course	**BL1**	**BL2**	**BL3**	**BL4**	**BL5**	**BL6**
CO1	1	3	1	1	1	
CO2	1	3	1	1	1	2
CO3	1	3	1	1	1	2
CO4	1	3	1	1	1	2
CO5	1	3	1	1	1	2
AVG.	1	3	1	1	1	1.6

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	2	2	3	3	1	2	-	-	-	1	-	1	3	2	
CO2	1	1	2	3	3	1	-	-	-	-	-	1	2	3	
CO3	3	2	1	2	1	1	-	-	-	-	-	1	2	3	
CO4	1	2	3	3	1	1	-	-	-	-	-	1	2	2	
CO5	2	2	2	3	1	1	-	-	-	-	-	1	2	2	
Target Level															

Course Name: Constitution of India (KNC-601) Session:2020-21 Sem: Even Semester 6th	
S.No	**Course Outcomes**
Students will able to	
1	Identify and explore the basic features and modalities about Indian constitution.
2	Differentiate and relate the functioning of Indian parliamentary system at the center and state level.
3	Differentiate different aspects of Indian Legal System and its related bodies.
4	Discover and apply different laws and regulations related to engineering practices.
5	Correlate role of engineers with different organizations and governance models.

Mapping of CO's with Bloom's Level, Target Level Bloom's						
Course	**BL1**	**BL2**	**BL3**	**BL4**	**BL5**	**BL6**
CO1	3	3	-	-	-	-
CO2	1	3	3	2	3	-
CO3	2	3	1	-	1	2
CO4	2	2	3	-	-	-
CO5	3	3	3	3	-	1
AVG.	2.2	2.8	2	1	0.8	0.6

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	-	-			-	2	1	-	-	-	-	-	-		
CO2	-	-	-	-	-	-	1	-	-	-	-	-	-	-	
CO3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CO4	2	2	2	2	2	2	2	2	-	-	2	2	-	-	
CO5	1	-		-	-	-	-	2	2	2	2	2	-	-	
Target Level															

Course Name: Control System Lab(KEC-652) Sem: Even Semester 6th	Session:2020-21
S.No	**Course Outcomes**
Students will able to	
1	Classify different tools in MATLAB along with the basic matrix operations used in MATLAB.
2	Evaluate the poles and zeros on s-plane along with transfer function of a given system..
3	Construct state space model of a linear continuous system
4	Evaluate the various specifications of time domain response of a given system.
5	Appraise the steady state error of a given transfer function.

Mapping of CO's with Bloom's Level, Target Level Bloom's						
Course	**BL1**	**BL2**	**BL3**	**BL4**	**BL5**	**BL6**
CO1	1	3	1	1	1	
CO2	1	3	1	1	1	2
CO3	1	3	1	1	1	2
CO4	1	3	1	1	1	2
CO5	1	3	1	1	1	2
AVG.	1	3	1	1	1	1.6

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	2	2	3	3	1	2	-	-	-	1	-	1	3	2	
CO2	1	1	2	3	3	1	-	-	-	-	-	1	2	3	
CO3	3	2	1	2	1	1	-	-	-	-	-	1	2	3	
CO4	1	2	3	3	1	1	-	-	-	-	-	1	2	2	
CO5	2	2	2	3	1	1	-	-	-	-	-	1	2	2	
Target Level															

Course Name: CAD for Electronics Lab(KEC-652) Sem: Even Semester 6th	Session:2020-21
S.No	**Course Outcomes**
Students will able to	
1	Design and analyze the performance of different type of inverters.
2	Design and analyze the performance of the basic logic gates using CMOS inverter circuit.
3	Design and analyze the performance of the memory based digital circuits using CMOS inverter circuit
4	Analyze the performance of the different configuration of MOS amplifier circuits.
5	Design and analyze the performance of BCD to Excess-3 code using VHDL program module

Mapping of CO's with Bloom's Level, Target Level Bloom's						
Course	**BL1**	**BL2**	**BL3**	**BL4**	**BL5**	**BL6**
CO1	3	1	2	1	-	-
CO2	1	2	3	3	2	-
CO3	2	3	1	-	1	2
CO4	2	2	-	2	3	3
CO5	3	2	2	2	-	1
AVG.	2.2	2	1.8	2	2	2

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	2	2	3	3	1	2	-	-	-	1	-	1	3	2	
CO2	1	1	2	3	3	1	-	-	-	-	-	1	2	3	
CO3	3	2	1	2	1	1	-	-	-	-	-	1	2	3	
CO4	1	2	3	3	1	1	-	-	-	-	-	1	2	2	
CO5	2	2	2	3	1	1	-	-	-	-	-	1	2	2	
Target Level															

Even Sem_4

Course Name: Communication Engineering (KEC-401)	
S. No.	**Course Outcomes**
Students will be able to	
1	Identify the communication system on the basis of type signals and its properties with an explanation of the modulation system.
2	Understand the communication system on the basis of type of modulation.
3	Evaluate the behaviour of random variables and identification of the noise in AM and FM system
4	Analyze the pulse communication system
5	Evaluate and apply the concept of digital baseband transmission on various digital bandpass modulation techniques on the basis of carrier signals

Mapping of CO's with Bloom's Level, Target Level Bloom's						
Course	**BL1**	**BL2**	**BL3**	**BL4**	**BL5**	**BL6**
CO1	3	2	1	1		
CO2	1	3	3	3	2	
CO3	2	2	1		3	2
CO4	1	2		2	1	1
CO5	3	2		1		3
AVG.	2	2.1	1.66	1.75	2	2

Mapping of Course outcomes with Program Outcomes															
Course:Electronics Devices															**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**	**2**	**1**	**2**	**2**	**2**	**1**	**1**	
CO2	**1**	**2**	**1**	**1**	**3**	**2**	**2**	**2**	**3**	**2**	**2**	**2**	**2**	**2**	
CO3	**2**	**2**	**2**	**2**	**1**	**3**	**2**	**3**	**2**	**2**	**2**	**3**	**1**	**2**	
CO4	**1**	**2**	**2**	**3**	**2**	**1**	**3**	**1**	**2**	**1**	**3**	**1**	**2**	**2**	
CO5	**3**	**1**	**2**	**2**	**1**	**2**	**1**	**2**	**2**	**2**	**1**	**2**	**1**	**1**	
Target Level															

Course Name: Signal Systems (KEC-403)	Session:2020-21	Sem: Even Semester
S.No	**Course Outcomes**	
Students will able to		
1	Apply the knowledge of signals and transformation of signals to understand fundamental properties of linear systems, causal system, stable system and their significance	
2	Understand the use of signals and basic system building blocks and their roles for design of complex system with difference and differential equation	
3	Identify and apply the role of Fourier series or Fourier transform, Laplace transform, DTFT and DFT and further be able to use the properties and apply them to the analysis of ideal filtering, amplitude modulation and sampling	
4	Understand the Z Transform and its properties, as well the analysis and design implications, of interconnections of LTI systems (parallel, series (cascade), and feedback) in the time and transform domains	
5	Understand and Develop mathematical skills to Convert analog signals to discrete signal and solve problems involving modulation and sampling with its reconstruction.	

Mapping of CO's with Bloom's Level, Target Level Bloom's						
Course	**BL1**	**BL2**	**BL3**	**BL4**	**BL5**	**BL6**
CO1	3	3	2	2	3	2
CO2	1	1	3	2	2	3
CO3	1	2	1	3	1	1
CO4	3	1	2	2	2	1
CO5	2	3	1	2	2	1
AVG.	2	2	1.8	2.1	2	1.6

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	3	2	1	2	3	2	2	1	1	1	1	2	1	
CO2	3	3	1	1	3	2	1	1	1	1	1	1	2	2	
CO3	3	3	2	2	3	2	1	1	1	1	1	1	2	2	
CO4	3	1	2	1	1	2	1	1	0	1	1	1	2	2	
CO5	3	2	3	2	2	3	1	1	1	1	0	1	1	2	
Target Level															

Course Name: Analog Circuits (KEC-402) Session:2020-21 Sem: Even Semester	
S. No	**Course Outcomes**
Students will able to	
1	Identify the applications of diodes and basic knowledge of transistors.
2	Understand the high frequency response of single and multistage transistors and feedback topologies.
3	Design and analyze various RC and LC oscillators.
4	Understand the basics of current mirror and differential amplifiers.
5	Design and analyze the various applications of operational amplifiers, Schmitt trigger and active filters.

Mapping of CO's with Bloom's Level, Target Level Bloom's						
Course	**BL1**	**BL2**	**BL3**	**BL4**	**BL5**	**BL6**
CO1	2	3	3	3	2	
CO2	2	3	3	3		
CO3	2	3	3	3		1
CO4	2	3	3	3	3	2
CO5	2	3	2	2	2	3
AVG.	2	3	2.8	2.8	1.4	1.2

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	3	2	3	3						2	2	2		
CO2	3	3	2	3							2	2	2	1	
CO3	3	3	2	3	3						3	3	2	2	
CO4	3	3	2	3	3						2	2	3	1	
CO5	3	3	2	3	1						2	2	3	2	
Target Level															

Course Name: HVPE (KVE-401)	Session:2020-21	Sem: EVEN
S.No.	**Course Outcomes**	
Students will be able to		
1	Understand the essential complementarily between 'VALUES" and 'SKILLS'	
2	Understand how to ensure continuity of happiness and prosperity which are the basic aspirations of all human beings.	
3	to develop appropriate technologies and management patterns to create harmony in professional and personal life.	
4	Learn the value-based living in a natural way.	
5	Understand practically the importance of trust, mutually satisfying **human** behavior and enriching interaction with nature.	

Mapping of CO's with Bloom's Level, Target Level Bloom's						
Course	**BL1**	**BL2**	**BL3**	**BL4**	**BL5**	**BL6**
CO1	**3**	**2**	**2**	**2**	**2**	**2**
CO2	**3**	2	3	3	2	2
CO3	**3**	3	1	3	3	3
CO4	**3**	2	3	1	3	3
CO5	**3**	2	2	1	2	2
AVG.	**3**	2.2	2.2	1.6	2.4	2.4

Mapping of Course outcomes with Program Outcomes															
Course: Human Values & Professional Ethics															**CO wise Target Level**
PO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO 10**	**PO 11**	**PO 12**	**PSO1**	**PSO2**	
CO1	**-**	**-**	**-**	**-**	**-**	**-**	**2**	**2**	**3**	**2**	**-**	**2**	**3**	**2**	
CO2	**-**	**-**	**-**	**-**	**-**	**-**	**2**	**2**	**2**	**3**	**-**	**2**	**2**	**3**	
CO3	**-**	**-**	**-**	**-**	**-**	**-**	**3**	**3**	**2**	**3**	**-**	**3**	**2**	**3**	
CO4	**-**	**-**	**-**	**-**	**-**	**-**	**2**	**2**	**2**	**2**	**-**	**2**	**2**	**2**	
CO5	**-**	**-**	**-**	**-**	**-**	**-**	**2**	**2**	**2**	**2**	**-**	**2**	**2**	**2**	
Target Level															

Course Name: Signal and Systems Lab (KEC403)	Session:2020-21	Sem: Even Semester
S.No	**Course Outcomes**	
Students will able to		
1	Implement various matrix operations in MATLAB.	
2	Use Signal System toolbox to various elementary signal analysis.	
3	Visualize various time domain and frequency-domain problems (using plots), accurately.	
4	Relate the changes in magnitude, phase and stability of system with change in different parameters.	
5	Study different convolution methods.	

Mapping of CO's with Bloom's Level, Target Level Bloom's						
Course	**BL1**	**BL2**	**BL3**	**BL4**	**BL5**	**BL6**
CO1	**1**	**1**	**1**	**1**	**1**	**1**
CO2	3	2	2	2	1	2
CO3	2	2	2	2	3	2
CO4	1	3	3	1	2	3
CO5	1	2	1	2	1	1
AVG.	1.6	2	1.8	1.6	1.6	1.8

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	**1**	**2**	**1**		**2**	**1**		**1**	**2**		**1**		**2**		
CO2	**1**	**3**	**2**	**1**	**2**	**1**	**1**					**1**		**3**	
CO3	**3**	**1**	**3**	**2**	**3**	**1**	**1**		**2**		**1**		**1**		
CO4	**1**	**1**	**2**			**3**	**1**				**1**			**2**	
CO5	**1**	**1**		**2**		**1**	**2**	**2**	**1**		**1**	**1**	**1**	**1**	
Target Level															

Course Name: Communication Engineering Lab(KEC-451)	
S. No.	**Course Outcomes**
Students will be able to	
1	Analyze and compare different analog modulation schemes for their modulation factor and power
2	Study pulse amplitude modulation.
3	Analyze different digital modulation schemes and can compute the bit error performance.
4	Study and simulate the Phase shift keying.
5	Design a front end BPSK modulator and demodulator.

Mapping of CO's with Bloom's Level, Target Level Bloom's						
Course	**BL1**	**BL2**	**BL3**	**BL4**	**BL5**	**BL6**
CO1	3	2	1	1		
CO2	1	3	3	3	2	
CO3	2	2	1		3	2
CO4	1	2		2	1	1
CO5	3	2		1		3
AVG.	2	2.1	1.66	1.75	2	2

Mapping of Course outcomes with Program Outcomes															
Course:Electronics Devices															**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**	**2**	**1**	**2**	**2**	**2**	**1**	**1**	
CO2	**1**	**2**	**1**	**1**	**3**	**2**	**2**	**2**	**3**	**2**	**2**	**2**	**2**	**2**	
CO3	**2**	**2**	**2**	**2**	**1**	**3**	**2**	**3**	**2**	**2**	**2**	**3**	**1**	**2**	
CO4	**1**	**2**	**2**	**3**	**2**	**1**	**3**	**1**	**2**	**1**	**3**	**1**	**2**	**2**	
CO5	**3**	**1**	**2**	**2**	**1**	**2**	**1**	**2**	**2**	**2**	**1**	**2**	**1**	**1**	
Target Level															

Course Name: Analog Ckt LAB (KEC-452)	Session:2020-21	Sem: EVEN Semester
S.No	**Course Outcomes**	
Students will able to		
1	Apply knowledge of electronic and components to analyze and understand the characteristics and performance of various electronic circuits.	
2	Identify various parameters and formulate applications based on Op-Amp.	
3	Use Field effect transistors and Bipolar transistors as an amplifier and their various configurations to design practical projects, necessary for engineering practice.	
4	Design a practical electronics system with the help of components such as two stage amplifiers, power amplifiers, differential amplifiers, oscillators etc., to meet desired needs in realistic constraints.	
5	Function on multi-disciplinary teams through various electronic circuit experiments and projects.	

Mapping of CO's with Bloom's Level, Target Level Bloom's						
Course	**BL1**	**BL2**	**BL3**	**BL4**	**BL5**	**BL6**
CO1	**2**	**3**	**1**	**2**	**1**	**2**
CO2	1	2	1	3	1	2
CO3	3	1	2	0	3	1
CO4	2	1	3	2	2	3
CO5	1	3	2	3	2	1
AVG.	1.8	2	1.8	2	1.8	1.8

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	1	1	1	1	1	2	1	1	1	1	**3**	**2**	
CO2	2	3	3	3	1	1	1	1	2	1	1	1	**2**	**3**	
CO3	1	2	1	1	3	3	3	1	1	1	1	2	**2**	**3**	
CO4	1	1	3	1	1	1	1	3	1	3	2	1	**2**	**2**	
CO5	2	1	1	1	1	1	1	3	3	2	2	3	**2**	**2**	
Target Level															

ODD_7

Course Name: Data Communication Networks (REC-701) 2020-21 (Odd Sem)	
S.No.	**Course Outcomes**
Students will be able to	
1	**Define and describe the fundamentals of Data Communications and Networks**
2	**Understand the various fundamentals and techniques for error correction and detection, switching functions and data link layer.**
3	**Evaluation of the Multiple Access Technique and its application in order to have sustainable development of data communication.**
4	**Analyze models and functions of routing algorithms, subnet masks and IP addresses to fulfill network requirements.**
5	**Evaluate and apply the concepts and modern engineering tools such as cryptography and network security for secure data communication system**

Mapping of CO's with Bloom's Level, Target Level Bloom's						
Course	**BL1**	**BL2**	**BL3**	**BL4**	**BL5**	**BL6**
CO1	**3**	**2**	**2**	**1**		
CO2	1	2	3	3	2	
CO3	2	3	1	1	1	2
CO4	1	2		1	3	3
CO5	3	2		1		1
AVG.	2	2.1	2	1.4	2	2

Mapping of Course outcomes with Program Outcomes															
Course:DCN															**CO wise Target Level**
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	2	3	3	-	3	2	3	1	-	-	-	3	**1**	**1**	
CO2	2	3	3	2	3	2	2	1	-	-	-	3	**1**	**1**	
CO3	2	3	3	-	3	2	2	1	-	-	-	3	**1**	**1**	
CO4	2	3	3	-	3	2	2	1	-	-	-	3	**1**	**1**	
CO5	2	3	3	-	3	3	2	1	-	-	-	3	**1**	**1**	
Target Level															

Course Name: Information Theory and Coding (REC-071) 2020-21(Odd)	
S.No.	**Course Outcomes**
Students will be able to	
1	**Define and describe the fundamentals of information theory and basics of communication systems.**
2	**Understand the mathematical fundamentals to solve engineering problems in the area of digital communications.**
3	**Evaluation of the concepts of information theory, channel coding and source coding and to optimize the channel performance.**
4	**Analyze the mathematical functions on multi – disciplinary teams through projects.**
5	**Evaluate and apply application of digital communication system using different error control techniques within realistic constraints.**

Mapping of CO's with Bloom's Level, Target Level Bloom's						
Course	**BL1**	**BL2**	**BL3**	**BL4**	**BL5**	**BL6**
CO1	**3**	**2**	**2**	**1**		
CO2	1	2	3	3	2	
CO3	2	3	1	1	1	2
CO4	1	2		1	3	3
CO5	3	2		1		1
AVG.	2	2.1	2	1.4	2	2

Mapping of Course outcomes with Program Outcomes															
Course: ITC															**CO wise Target Level**
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	**2**	**3**	**1**	**3**	**2**	**-**	**-**	**-**	**-**	**-**	**-**	**1**	**1**	**1**	
CO2	**3**	**2**	**1**	**2**	**2**	**-**	**2**	**-**	**-**	**-**	**-**	**1**	**1**	**1**	
CO3	**2**	**3**	**2**	**3**	**3**	**-**	**-**	**-**	**-**	**-**	**-**	**1**	**1**	**1**	
CO4	**1**	**1**	**2**	**3**	**2**	**-**	**2**	**3**	**2**	**1**	**2**	**1**	**1**	**1**	
CO5	**1**	**1**	**3**	**1**	**1**	**2**	**3**	**1**	**-**	**-**	**-**	**2**	**1**	**1**	
Target Level															

Course Name: VLSI Design (REC-702) Session:2020-21 Sem: ODD Semester	
S.No	**Course Outcomes**
Students will able to	
1	Understand various VLSI design methodologies and fabrication techniques required for modern VLSI circuits.
2	Apply basic concepts of MOSFETs to analyze the working of various MOS based invertors.
3	Realize and implement various Boolean functions using CMOS invertors
4	Understand the working and design of different types of semiconductor memories to meet needs related to storage of large data in very small area thus helping in economical and manufacturability context.
5	Design of low power CMOS logic circuits to optimize the energy consumption and thus helping in societal and environmental context in order to have sustainable development.

Mapping of CO's with Bloom's Level, Target Level Bloom's						
Course	**BL1**	**BL2**	**BL3**	**BL4**	**BL5**	**BL6**
CO1	**3**	**3**	**2**	**2**	**3**	**2**
CO2	**2**	**3**		**3**		**1**
CO3	**1**	**1**	**2**			
CO4	**1**	**3**	**1**	**3**	**2**	**3**
CO5	**3**	**1**	**3**		**3**	**2**
AVG.	**2**	**2.2**	**1.6**	**1.6**	**1.6**	**1.6**

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	**1**	**3**	**2**	**-**	**1**	**1**	**2**	**1**	**3**	**2**	**-**	**1**	**1**	**1**	
CO2	**2**	**3**	**3**	**2**	**-**	**1**	**-**	**3**	**-**	**-**	**1**	**-**	**1**	**-**	
CO3	**2**	**2**	**3**	**-**	**2**	**1**	**2**	**-**	**3**	**-**	**1**	**2**	**2**	**1**	
CO4	**-**	**3**	**-**	**1**	**2**	**2**	**-**	**-**	**2**	**2**	**-**	**2**	**-**	**1**	
CO5	**3**	**3**	**3**	**2**	**3**	**3**	**2**	**2**	**-**	**-**	**-**	**1**	**2**	**3**	
Target Level															

Course Name: Optical Communication (REC-075) (2020-21)	
S.No.	**Course Outcomes**
Students will be able to	
1	To Understand the basic elements of optical fiber transmission link, fiber modes configurations and structures.
2	To understand the different classifications for optical fibers types, differentiate among the losses and calculate the number of guided modes in different optical fibers.
3	Description of different optical sources with calculation of various power efficiencies.
4	Description of different optical detectors with calculation of power efficiencies of various detectors.
5	Design an optical power link and analyze the power budget analysis with understanding of Homodyne and heterodyne detection.

Mapping of CO's with Bloom's Level, Target Level Bloom's						
Course	**BL1**	**BL2**	**BL3**	**BL4**	**BL5**	**BL6**
CO1	2	3	2	1		
CO2	2	3	3	3	1	
CO3	3	3	3	1		2
CO4	3	3	3	2	2	2
CO5	3	2		3	2	3
AVG.	2.6	2.8	2.2	2	1.6	2.3

Optical Communication (REC-075)

CO	**PO**												PSO-1	PSO-2
	PO-1	**PO-2**	**PO-3**	**PO-4**	**PO-5**	**P0-6**	**PO-7**	**PO-8**	**PO-9**	**PO-10**	**PO-11**	**PO-12**		
CO-1	-	3	3	1	-	3	3	2	1	1	2	-	2	2
CO-2	3	3	3	1	2	1	3	-	2	3	-	-	1	3
CO-3	2	1	3	3	2	-	2	3	-	-	-	2	2	3
CO-4	3	2	-	3	2	2	-	1	-	-	-	2	2	1
CO-5	2	1	2	3	3	-	2	3	-	-	-	1	3	2

Course Name: Optical Communication Lab (REC 751)	Session:2020-21	Sem: Odd Semester
S.No	Course Outcomes	
Students will able to		
1	Understand the establishment of analog link and digital link using Optical Fiber.	
2	Identify Propagation loss in optical fiber and bending loss in optical fiber.	
3	Measurement of measure Numerical Aperture in optical fiber.	
4	Understand Time Division Multiplexing of signals using optical fiber	
5	Understand the Voice Digitization: A Law using optical fiber link and Electromagnetic	

Mapping of CO's with Bloom's Level, Target Level Bloom's						
Course	**BL1**	**BL2**	**BL3**	**BL4**	**BL5**	**BL6**
CO1	1	1			2	3
CO2	1	1			2	3
CO3	1	1			2	3
CO4	1	1			2	3
CO5	1	1			2	3
AVG.	1	1			2	3

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	1	2	3	3	1	2	-	-	-	-	-	1	2	2	
CO2	1	1	2	3	3	1	-	-	-	-	-	1	3	2	
CO3	3	2	1	2	1	2	-	-	-	-	-	1	2	2	
CO4	1	2	3	3	1	1	-	-	-	-	-	1	3	2	
CO5	2	2	2	3	2	2	-	-	-	-	-	1	2	2	
Target Level															

Course Name: ECD Lab (REC752)	Session:2020-21	Sem: Odd Semester
S.No	**Course Outcomes**	
Students will able to		
1	Analyze, simulate and test the various op-amp based analog circuits.	
2	Simulate the given circuit using ideal elements and analyze the deviation in result due to non-idealities in practical circuits.	
3	Design a complete electronic circuit system using a top-down approach which starts from system specifications.	
4	Relate physical observations and measurements involving electrical circuits to theoretical principles.	
5	Understand and compare the performance of circuits using discrete components as well as op-amp ICs.	

Mapping of CO's with Bloom's Level, Target Level Bloom's						
Course	**BL1**	**BL2**	**BL3**	**BL4**	**BL5**	**BL6**
CO1	**3**	**3**	**2**	**2**	**3**	**2**
CO2	**2**	**3**		**3**		**1**
CO3	**1**	**1**	**2**	**3**	**3**	**3**
CO4	**1**	**3**	**1**	**3**	**2**	**3**
CO5	**3**	**1**	**3**	**1**	**3**	**2**
AVG.	**2**	**2.2**	**1.6**	**2.4**	**2.2**	**2.2**

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	**1**	**3**	**2**	**-**	**1**	**1**	**2**	**1**	**3**	**2**	**3**	**1**	**1**	**1**	
CO2	**2**	**3**	**3**	**2**	**-**	**-**	**-**	**3**	**-**	**-**	**1**	**-**	**1**	**-**	
CO3	**2**	**2**	**3**	**3**	**2**	**2**	**2**	**-**	**3**	**-**	**-**	**3**	**2**	**1**	
CO4	**-**	**3**	**2**	**1**	**2**	**2**	**1**	**-**	**2**	**2**	**2**	**2**	**-**	**1**	
CO5	**3**	**3**	**3**	**2**	**3**	**3**	**2**	**2**	**-**	**-**	**1**	**1**	**2**	**3**	
Target Level															

Course Name: Project LAB -REC754	Session:2020-21	Sem: Odd Semester
S.No	**Course Outcomes**	
Students will able to		
1	Apply knowledge of fundamentals of Electronics, Programming and Communication Engineering to the analysis and design of a given problem.	
2	Identify and formulate the problem or project and find its solution which is practically feasible.	
3	Use the techniques, skills, and modern engineering tools such as logic works, VHDL, Cadence, MAT Lab necessary for engineering practice.	
4	Function on multi-disciplinary teams through effective communication and team behavior.	
5	Accomplish the project to meet desired needs within realistic constraints of environment, economy and manufacturability.	

Mapping of CO's with Bloom's Level, Target Level Bloom's						
Course	**BL1**	**BL2**	**BL3**	**BL4**	**BL5**	**BL6**
CO1	**3**	**3**	**2**	**2**	**3**	**2**
CO2	**2**	**3**		**3**		**1**
CO3	**1**	**1**	**2**	**3**	**3**	**3**
CO4	**1**	**3**	**1**	**3**	**2**	**3**
CO5	**3**	**1**	**3**	**1**	**3**	**2**
AVG.	**2**	**2.2**	**1.6**	**2.4**	**2.2**	**2.2**

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	**1**	**3**	**2**	**-**	**1**	**1**	**2**	**1**	**3**	**2**	**3**	**1**	**1**	**1**	
CO2	**2**	**3**	**3**	**2**	**-**	**-**	**-**	**3**	**-**	**-**	**1**	**-**	**1**	**-**	
CO3	**2**	**2**	**3**	**3**	**2**	**2**	**2**	**-**	**3**	**-**	**-**	**3**	**2**	**1**	
CO4	**-**	**3**	**2**	**1**	**2**	**2**	**1**	**-**	**2**	**2**	**2**	**2**	**-**	**1**	
CO5	**3**	**3**	**3**	**2**	**3**	**3**	**2**	**2**	**-**	**-**	**1**	**1**	**2**	**3**	
Target Level															

Course Name: Industrial Training Viva (REC-753)	Session:2020-21	Sem: Odd Semester
S.No	**Course Outcomes**	
Students will able to		
1	Adapt readily to real life working environment and practice the right work attitude.	
2	Apply knowledge learnt, gain new skills and be aware of current technologies.	
3	Provide opportunities for organization to assess them as prospective employees	
4	Explain industrial problems and suggest possible solutions	
5	Present a proper report, both orally and in writing on their work experience.	

Mapping of CO's with Bloom's Level, Target Level Bloom's						
Course	**BL1**	**BL2**	**BL3**	**BL4**	**BL5**	**BL6**
CO1	**3**	**3**	**2**	**2**	**3**	**2**
CO2	**2**	**3**		**3**		**1**
CO3	**1**	**1**	**2**	**3**	**3**	**3**
CO4	**1**	**3**	**1**	**3**	**2**	**3**
CO5	**3**	**1**	**3**	**1**	**3**	**2**
AVG.	**2**	**2.2**	**1.6**	**2.4**	**2.2**	**2.2**

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	**1**	**3**	**2**	**-**	**1**	**1**	**2**	**1**	**3**	**2**	**3**	**1**	**1**	**1**	
CO2	**2**	**3**	**3**	**2**	**-**	**-**	**-**	**3**	**-**	**-**	**1**	**-**	**1**	**-**	
CO3	**2**	**2**	**3**	**3**	**2**	**2**	**2**	**-**	**3**	**-**	**-**	**3**	**2**	**1**	
CO4	**-**	**3**	**2**	**1**	**2**	**2**	**1**	**-**	**2**	**2**	**2**	**2**	**-**	**1**	
CO5	**3**	**3**	**3**	**2**	**3**	**3**	**2**	**2**	**-**	**-**	**1**	**1**	**2**	**3**	
Target Level															

Odd Sem_5

Course Name: Digital Signal Processing (KEC-503) **Session:2020-21** **Sem: Odd Semester 5th**	
S.No	**Course Outcomes**
Students will able to	
1	Understand, Identify, formulate and solve engineering problems related to the FIR (Finite Impulse Response) & IIR (Infinite Impulse Response) Filters and various realizations
2	Evaluate the Analog Filters as Butterworth and Chebyshev, Design of Digital Butterworth and Chebyshev Filters required for Electronics Engineering practice.
3	Analyze the various windowing techniques required for designing of filter for Electronics Engineering practices.
4	Applying knowledge of Fourier & Discrete Fourier Transform to the analysis and design complex signals & systems and Analyze the Fast Fourier Transform both in time & frequency domain
5	Understanding and analyze the Multi rate digital signal processing and its application for engineering practices.

Mapping of CO's with Bloom's Level, Target Level Bloom's						
Course	BL1	BL2	BL3	BL4	BL5	BL6
CO1	3	3	2	2	3	2
CO2	1	1	3	2	2	3
CO3	1	2	1	3	1	1
CO4	3	1	2	2	2	1
CO5	2	3	1	2	2	1
AVG.	2	2	1.8	2.1	2	1.6

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	3	3	3	1	1	0	0	0	0	3	3	2	3	
CO2	3	3	3	2	1	1	0	0	0	0	2	3	3	2	
CO3	3	3	3	2	1	2	0	0	0	0	1	2	2	2	
CO4	3	3	3	1	1	2	0	0	0	0	1	3	2	2	
CO5	3	2	2	1	1	1	0	0	0	0	0	0	2	2	
Target Level															

Course Name: MICROPROCESSORS & MICROCONTROLLERS (KEC-502) Session: 2020-21 Semester: Odd	
S. No.	**Course Outcomes**
At the end of this course students will demonstrate the ability to	
1	Demonstrate the basic architecture of 8085.
2	Illustrate the programming model of microprocessors & write program using 8085 microprocessor.
3	Demonstrate the basics of 8086 Microprocessor and interface different external Peripheral Devices like timer, USART etc. with Microprocessor (8085/8086).
4	Compare Microprocessors & Microcontrollers, and comprehend the architecture of 8051 microcontroller
5	Illustrate the programming model of 8051 and implement them to design projects on real time problems.

Mapping of CO's with Bloom's Level, Target Level Bloom's						
Course	**BL1**	**BL2**	**BL3**	**BL4**	**BL5**	**BL6**
CO1	**3**	**2**				
CO2	2	2	3	3	2	
CO3	2	2	3	3	2	2
CO4		2	3	3	3	3
CO5		2	3	3	3	3
AVG.	1.4	2	2.4	2.4	2	1.6

Mapping of Course outcomes with Program Outcomes															
Course: MP & MC															**CO wise Target Level**
PO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO 10**	**PO 11**	**PO 12**	**PSO1**	**PSO2**	
CO1	1	1			2							1	1	1	
CO2	2	2	1	2								1	2	2	
CO3	3	2	3	2	1							1	3	2	
CO4	1	3	3	2	1	2	2	3	1			2	1	3	
CO5	2	2	2	3	2	2	2	2	1			3	2	2	
Target Level															

Course Name: Integrated Circuits (KEC 501)	**Session: 2020-21**	**Sem: Odd**
Students will be able to:		
1	Explain complete internal analysis of Op-Amp 741-IC.	
2	Examine and design Op-Amp based circuits and basic components of ICs such as various types of filter	
3	Implement the concept of Op-Amp to design Op-Amp based non-linear applications and wave-shaping circuits.	
4	Analyze and design basic digital IC circuits using CMOS technology	
5	Describe the functioning of application specific ICs such as 555 timer, VCO IC 566 and PLL.	

Mapping of CO's with Bloom's Level, Target Level Bloom's						
Course	BL1	BL2	BL3	BL4	BL5	BL6
CO1	3	3	2	1	1	1
CO2	2	2	1	2	1	3
CO3	1	1	2	3	2	2
CO4	2	2	3	1	2	1
CO5	1	1	2	1	2	1
AVG.	1.8	1.8	2	1.6	1.6	1.6

Mapping of Course outcomes with Program Outcomes															
Course															
PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO11	PO12	PSO1	PSO2	CO Wize Target Level
CO1	3	2	3	3	3	0	2	1	2	0	2	2	1	1	
CO2	2	3	2	2	2	0	0	2	2	0	1	1	1	1	
CO3	2	3	2	2	2	0	0	0	0	0	2	1	1	1	
CO4	3	3	3	3	3	2	0	0	0	0	2	2	1	1	
CO5	3	3	3	3	1	2	0	0	0	0	2	2	1	1	
Target level															

Course Name: VLSI Technology (KEC-053) Session:2020-21 Sem: Odd Semester 5th	
S.No	**Course Outcomes**
Students will able to	
1	Interpret the basics of crystal growth, wafer preparation and wafer cleaning.
2	Evaluate the process of Epitaxy and oxidation.
3	Differentiate the lithography, etching and deposition process.
4	Analyze the process of diffusion and ion implantation
5	Express the basic process involved in metallization and packaging

Mapping of CO's with Bloom's Level, Target Level Bloom's						
Course	**BL1**	**BL2**	**BL3**	**BL4**	**BL5**	**BL6**
CO1	2	3	2	1	1	1
CO2	2	2	3	3	2	1
CO3	1	3	2	1	1	2
CO4	2	2	1	2	1	1
CO5	1	2	2	2	3	2
AVG.	1.6	2.4	2	1.8	1.6	1.4

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	1	2	-	-	1	2	-	-	3	**1**	
CO2	1	3	2	3	1	-	1	2	-	1	-	1	2	3	
CO3	3	1	2	3	2	3	1	3	3	-	2	2	**1**	**2**	
CO4	2	3	1	3	2	-	1	2	2	-	-	2	2	**1**	
CO5	3	2	1	3	3	2	2	-	2	2	2	2	2	2	
Target Level															

Course Name: Electronic Switching (REC 080)	Session:2020-21	Sem: v Semester
S.No	**Course Outcomes**	
Students will able to		
1	Describe and apply fundamentals of telecommunication systems and associated technologies.	
2	Solve problems and design simple systems related to tele-traffic and trunking efficiency.	
3	Understand and explain the reasons for switching, and the relative merits of the possible switching modes, e.g. packet and circuit switching.	
4	Understand the principles of the internal design and operation of telecommunication switches, and the essence of the key signalling systems that are used in telecommunication networks.	
5	To understand the basics of Data Communication Engineering devices. Design of Banyan Network Switch	

Mapping of CO's with Bloom's Level, Target Level Bloom's

Course	BL1	BL2	BL3	BL4	BL5	BL6
CO1	**1**	**1**	**1**	**1**	**1**	**1**
CO2	3	2	2	2	1	2
CO3	2	2	2	2	3	2
CO4	2	3	3	1	2	3
CO5	2	1	2	1	1	1
AVG.	2	1.8	2	1.4	1.6	1.8

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	**1**	**2**	**1**	**1**	**2**	**2**	**1**	**2**	**2**	**1**	**1**	**1**	**1**	**3**	
CO2	**2**	**2**	**2**	**2**	**1**	**1**	**1**	**1**	**1**	**1**	**2**	**2**	**2**	**2**	
CO3	**3**	**3**	**2**	**2**	**3**	**1**	**2**	**1**	**1**	**2**	**1**	**1**	**1**	**2**	
CO4	**2**	**1**	**2**	**1**	**1**	**3**	**1**	**1**	**3**	**1**	**1**	**2**	**3**	**1**	
CO5	**1**	**1**	**3**	**2**	**1**	**1**	**2**	**2**	**1**	**1**	**3**	**1**	**1**	**1**	
Target Level															

Course Name: Constitution of India (KNC-501)	Session:2020-21	Sem: Even Semester 6th
S.No	**Course Outcomes**	
Students will able to		
1	Identify and explore the basic features and modalities about Indian constitution.	
2	Differentiate and relate the functioning of Indian parliamentary system at the center and state level.	
3	Differentiate different aspects of Indian Legal System and its related bodies.	
4	Discover and apply different laws and regulations related to engineering practices.	
5	Correlate role of engineers with different organizations and governance models.	

Mapping of CO's with Bloom's Level, Target Level Bloom's						
Course	**BL1**	**BL2**	**BL3**	**BL4**	**BL5**	**BL6**
CO1	3	3	-	-	-	-
CO2	1	3	3	2	3	-
CO3	2	3	1	-	1	2
CO4	2	2	3	-	-	-
CO5	3	3	3	3	-	1
AVG.	2.2	2.8	2	1	0.8	0.6

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	-	-			-	2	1	-	-	-	-	-	-		
CO2	-	-	-	-	-	-	1	-	-	-	-	-	-	-	
CO3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CO4	2	2	2	2	2	2	2	2	-	-	2	2	-	-	
CO5	1	-		-	-	-	-	2	2	2	2	2	-	-	
Target Level															

Course Name: Integrated Circuits LAB (KEC 551)	**Session: 2020-21**	**Sem: Odd**
Students will be able to:		
1	Identify the various applications of analog voltage multiplier IC MPY634KP	
2	Design and applications of negative feedback.	
3	Identify the various linear and non linear applications of operational amplifier.	
4	Identify the various linear and non linear applications of operational amplifier.	
5	learn to determine capture range, lock in range and free running frequency of PLL and will be able to understand and design voltage regulation methods.	

Mapping of CO's with Bloom's Level, Target Level Bloom's

Course	BL1	BL2	BL3	BL4	BL5	BL6
CO1	2	3	3	3	2	3
CO2	1	3	3	2	2	-
CO3	2	2	2	3	-	1
CO4	2	2	3	2	3	2
CO5	3	3	2	2	-	-
AVG.	2	2.6	2.6	2.4	1.4	1.2

Mapping of Course outcomes with Program Outcomes

Course

PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO11	PO12	PSO1	PSO2	CO Wize Target Level
CO1	3	3	2	3	3						2	2	2	1	
CO2	3	3	2	3	2						2	2	2	1	
CO3	3	3	2	3	3						3	3	2	2	
CO4	3	3	2	3	3						2	2	3	1	
CO5	3	3	2	3	1						2	2	3	2	
Target level															

Course Name: B. Tech. (Electronics and Communication Engineering) **Course Name:** Digital Signal Processing Lab (KEC-553-A) **Session:2020-21** **Sem: Odd Semester 5th**	
S. No. :	Course Outcome
Student will be able to	
1	Understand the handling of discrete/digital signals using MATLAB/Scilab.
2	Implement and understand the basic operations of Signal processing
3	Analyse the spectral parameter of window functions
4	Design IIR, and FIR filters for band pass, band stop, low pass and high pass filters.
5	Design the signal processing algorithm using MATLAB/Scilab.

Mapping of CO's with Bloom's Level, Target Level Bloom's						
Course	BL1	BL2	BL3	BL4	BL5	BL6
CO1	3	3	2	2	3	2
CO2	1	1	3	2	2	2
CO3	1	2	1	2	1	1
CO4	3	1	2	2	2	1
CO5	2	3	1	2	2	1
AVG.	2	2	1.8	2	2	1.4

Mapping of Course outcomes with Program Outcomes															
Course:															CO wise
PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO 11	PO 12	PSO1	PSO2	Target Level
CO1	3	3	3	3	1	1	0	0	0	0	3	3	2	2	
CO2	3	2	3	2	2	1	0	0	0	0	2	3	3	2	

CO3	3	3	3	2	1	1	0	0	0	0	1	2	2	2	
CO4	3	3	2	1	1	2	0	0	0	0	1	1	2	2	
CO5	3	2	3	1	1	1	0	0	0	0	0	0	2	2	
Target Level															

Course Name: MICROPROCESSORS & MICROCONTROLLERS LAB (KEC-552) Session: 2020-21 Semester: Odd

S. No.	Course Outcomes
At the end of this course students will demonstrate the ability to	
1	Use techniques, skills, modern engineering tools, instrumentation and software/hardware appropriately to list and demonstrate arithmetic and logical operations on 8-bit data using microprocessor 8085.
2	Examine 8085 & 8086 microprocessor and its interfacing with peripheral devices.
3	State various conversion techniques using 8085 & 8086 and generate waveforms using 8085.
4	Implement programming concept of 8051 Microcontroller.
5	Design concepts to Interface peripheral devices with Microcontroller so as to design Microcontroller based projects.

Mapping of CO's with Bloom's Level, Target Level Bloom's

Course	BL1	BL2	BL3	BL4	BL5	BL6
CO1	**3**	**2**				
CO2	2	2	3	3	2	
CO3	2	2	3	3	2	2
CO4		2	3	3	3	3
CO5		2	3	3	3	3
AVG.	1.4	2	2.4	2.4	2	1.6

Mapping of Course outcomes with Program Outcomes

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

ODD_3

Course Name: Network Analysis and Synthesis (KEC-303) Session:2020-21 Sem: Even Semester	
S.No	Course Outcomes
Students will able to	
1	Understand and Apply knowledge of node, mesh and matrix approach for the analysis of networks.
2	Identify and formulate engineering problems related to the networks using network theorems.
3	Create and analyse Trigonometric and exponential Fourier series to calculate the various parameters of the networks.
4	List and understand Laplace transform and apply it to solve complex networks with and without initial conditions.
5	Analyze and evaluate two and four port networks and study the behavior of different filters.

Mapping of CO's with Bloom's Level, Target Level Bloom's						
Course	**BL1**	**BL2**	**BL3**	**BL4**	**BL5**	**BL6**
CO1	BL1	BL2	BL3	BL4	BL5	BL6
CO2	2	3	3			
CO3	3	3	3	3	2	3
CO4	1	3	3	2	2	3
CO5	3	3	2	2	2	
AVG.	3	2	2	2		

Mapping of Course outcomes with Program Outcomes															
Course:															**CO wise Target Level**
PO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	
CO1	3	3	2	3	3						2	2	3	2	
CO2	3	3	2	3							2	2	2	3	
CO3	3	3	2	3	3						3	3	2	3	
CO4	3	3	2	3	3						2	2	2	2	
CO5	3	3	2	3	1						2	2	2	2	
Target Level															

Course Name: Electronic Devices(KEC-301)	Session:2020-21	Sem: Even Semester
S.No	Course Outcomes	
Students will able to		
1	Understand the fundamentals of electronics devices.	
2	Use mathematical fundamental models to design semiconductor junctions.	
3	Understand the carrier transport in semiconductors and design resistors.	
4	Use mathematical model of MOS and BJT to design circuits.	
5	Analyze and find application of special purpose diodes.	

Mapping of CO's with Bloom's Level, Target Level Bloom's						
Course	**BL1**	**BL2**	**BL3**	**BL4**	**BL5**	**BL6**
CO1	BL1	BL2	BL3	BL4	BL5	BL6
CO2	2	3	3			
CO3	3	3	3	3	2	3
CO4	1	3	3	2	2	3
CO5	3	3	2	2	2	
AVG.	3	2	2	2		

Mapping of Course outcomes with Program Outcomes															
Course:															**CO wise Target Level**
PO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	
CO1	3	3	2	3	3						2	2	3	2	
CO2	3	3	2	3							2	2	2	3	
CO3	3	3	2	3	3						3	3	2	3	
CO4	3	3	2	3	3						2	2	2	2	
CO5	3	3	2	3	1						2	2	2	2	
Target Level															

Course Name: Digital System Design (KEC-302) Session:2020-21 Sem: Odd Semester	
S. No	**Course Outcomes**
Students will able to	
1	Understand basics of number system and codes, minimization techniques.
2	Design and analyze the combinational circuits.
3	Design and analyze the sequential circuits, basics of FSM.
4	Understand the logic families and programmable logic devices.
5	Identify the various ADC & DAC.

Mapping of CO's with Bloom's Level, Target Level Bloom's						
Course	**BL1**	**BL2**	**BL3**	**BL4**	**BL5**	**BL6**
CO1	3	3	1	1	3	2
CO2	1	2	3	3	1	
CO3	1		2	3		3
CO4	3	3	3	1	1	2
CO5	1	1		3	3	2
AVG.	1.8	2.25	2.25	2.2	2	2.25

Mapping of Course outcomes with Program Outcomes															
Course:NAS															**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**	**3**	**3**	**1**	**1**	**0**	**0**	**0**	**0**	**3**	**3**	**2**	**2**	
CO2	**3**	**3**	**3**	**2**	**1**	**1**	**0**	**0**	**0**	**0**	**2**	**3**	**1**	**3**	
CO3	**3**	**3**	**3**	**2**	**1**	**2**	**0**	**0**	**0**	**0**	**1**	**2**	**2**	**1**	
CO4	**3**	**3**	**3**	**1**	**1**	**2**	**0**	**0**	**0**	**0**	**1**	**3**	**2**	**2**	
CO5	**3**	**3**	**2**	**1**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	
Target Level															

Course Name: Digital System Design Lab (KEC352 Session:2020-21	Sem: Even Semester
S.No	**Course Outcomes**
Students will able to	
1	Understand the fundamental properties of linear systems, causal system, stable system and their significance
2	Use signals and basic system building blocks and their roles for design of complex system
3	Identify the role of Fourier series or Fourier transform, Z-transform, and further be able to use the properties and apply them to the analysis of ideal filtering, amplitude modulation and sampling
4	Understand the properties, as well the analysis and design implications, of interconnections of LTI systems(parallel, series (cascade), and feedback) in the time and transform domains
5	Develop mathematical skills to solve problems involving convolution, filtering, modulation and sampling

Mapping of CO's with Bloom's Level, Target Level Bloom's						
Course	**BL1**	**BL2**	**BL3**	**BL4**	**BL5**	**BL6**
CO1	**2**	**3**	**1**	**3**		
CO2	1	2	2	2	2	
CO3	2	2	1		1	3
CO4	1		2	2	3	2
CO5	2	1		1	2	3
AVG.	2	1.7	2	1.6	2	2.6

Mapping of Course outcomes with Program Outcomes															
Course:															**CO wise Target Level**
PO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	
CO1	3	2	2	1	1	2	-	-	-	-	-	1	**3**	**2**	
CO2	1		-	2	-	-	-	-	-	-	-	1	**2**	**3**	
CO3	1	3	3	-	-	3	-	-	-	-	-	1	**2**	**3**	
CO4	3	1	2	-	1	-	-	-	-	-	-	1	**3**	**2**	
CO5	3	2	2	-	1	-	-	-	-	-	-	1	**2**	**2**	
Target Level															

Course Name: MINI PROJECT OR INTERNSHIP ASSESSMENT (KEC-354) Sem: Odd Semester	Session:2020-21
S.No	**Course Outcomes**
Students will able to	
1	To understand the requirements of Industry, in which internship undertaken.
2	To analyze the basic hierarchy structure of the company.
3	To understand and analyze the company profile and its product portfolio.
4	To understand and analyze the human resource requirement of company.
5	To create innovation in the existing structure of company and its product.

Mapping of CO's with Bloom's Level, Target Level Bloom's

Course	BL1	BL2	BL3	BL4	BL5	BL6
CO1	**2**	**3**	**1**	**2**	**1**	**2**
CO2	1	2	1	3	1	2
CO3	3	1	2	0	2	1
CO4	2	1	3	2	2	3
CO5	1	3	1	3	2	1
AVG.	1.8	2	1.6	2	1.6	1.8

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	2	3	3	3	3	2	2	2	1	1	1	1	**3**	**2**	
CO2	2	2	1	1	2	1	1	2	1	1	1	2	**2**	**3**	
CO3	3	3	3	1	1	1	1	2	1	1	1	2	**2**	**3**	
CO4	2	2	1	1	2	1	1	2	1	1	2	3	**2**	**2**	
CO5	3	2	2	2	2	1	2	2	1	1	2	1	**2**	**2**	
Target Level															

Course Name: NAS Lab (KEC-353)	Session:2020-21	Sem: Odd Semester
S.No	**Course Outcomes**	
Students will able to		
1	Understand basics of electrical circuits with nodal and mesh analysis.	
2	Appreciate electrical network theorems.	
3	Analyse RLC circuits.	
4	Determine the stability of an electrical circuit.	
5	Design network filters	

Mapping of CO's with Bloom's Level, Target Level Bloom's						
Course	**BL1**	**BL2**	**BL3**	**BL4**	**BL5**	**BL6**
CO1	**3**	**3**	**2**	**2**	**3**	**2**
CO2	**2**	**3**		**3**		**1**
CO3	**1**	**1**	**2**	**3**	**3**	**3**
CO4	**1**	**3**	**1**	**3**	**2**	**3**
CO5	**3**	**1**	**3**	**1**	**3**	**2**
AVG.	**2**	**2.2**	**1.6**	**2.4**	**2.2**	**2.2**

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	**1**	**3**	**2**	**-**	**1**	**1**	**2**	**1**	**3**	**2**	**3**	**1**	**1**	**1**	
CO2	**2**	**3**	**3**	**2**	**-**	**-**	**-**	**3**	**-**	**-**	**1**	**-**	**1**	**-**	
CO3	**2**	**2**	**3**	**3**	**2**	**2**	**2**	**-**	**3**	**-**	**-**	**3**	**2**	**1**	
CO4	**-**	**3**	**2**	**1**	**2**	**2**	**1**	**-**	**2**	**2**	**2**	**2**	**-**	**1**	
CO5	**3**	**3**	**3**	**2**	**3**	**3**	**2**	**2**	**-**	**-**	**1**	**1**	**2**	**3**	
Target Level															

Course Name: KEC351 Electronics Devices Lab	Session:2018-19	Sem: Even Semester
S.No	**Course Outcomes**	
Students will able to		
1	Apply knowledge of basic electronics and components to understand various electronic instruments.	
2	Identify and formulate various applications based on P-N junction diode and Zener diode in the area of basic electronics.	
3	Use BJT and FET characteristics to design practical projects, necessary for engineering practice.	
4	Design a practical electronics system with the help of components such as BJT, FET, SCR, DIAC, TRIAC etc., to meet desired needs in realistic constraints.	
5	Function on multi-disciplinary teams through basic electronic experiments and projects.	

Mapping of CO's with Bloom's Level, Target Level Bloom's						
Course	**BL1**	**BL2**	**BL3**	**BL4**	**BL5**	**BL6**
CO1	**2**	**3**	**1**	**3**		
CO2	1	2	2	2	2	
CO3	2	2	1		1	3
CO4	1		2	2	3	2
CO5	2	1		1	2	3
AVG.	2	1.7	2	1.6	2	2.6

Mapping of Course outcomes with Program Outcomes															
Course:															**CO wise Target Level**
PO	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**	
CO1	3	2	2	1	1	2	-	-	-	-	-	1	**3**	**2**	
CO2	1		-	2	-	-	-	-	-	-	-	1	**2**	**3**	
CO3	1	3	3	-	-	3	-	-	-	-	-	1	**2**	**3**	
CO4	3	1	2	-	1	-	-	-	-	-	-	1	**3**	**2**	
CO5	3	2	2	-	1	-	-	-	-	-	-	1	**2**	**2**	
Target Level															

First Year

Course Name: Emerging Domain in Electronics Engineering (KEC101T/ECE201T) **Session:** 2020-21 **Semester:** Odd (1st)		
	Course Outcome	**Bloom's Level**
At the end of this course, the students will be able to:		
CO1	**Remember** and **Understand** the concept of PN Junction Diodes, BJT, FET and MOSFET, ICs and OPAMP, numbers systems Boolean Functions and logic gates, components of IoT, principles of sensors and fundamentals of Communication system.	BL1 & BL2
CO2	**i. Apply** the concept of Number system and Boolean Functions to minimise them using K-Map. **ii. Analyse** and implement Boolean functions using Basic and universal gates.	BL3 & BL4
CO3	**i. Apply** the concept of Diodes and Transistors to study rectifiers, clippers clampers, regulators and amplifiers. **ii. Analyse** the circuits based on diodes, BJTs and FETs.	BL3 & BL4
CO4	**i. Apply** the concept of OPAMP to study the operation of amplifiers, summers, differentiators, integrators etc. **ii. Analyse** the circuits based on OPAMPs.	BL3 & BL4
CO5	**Compare** and D**esign** different types of circuits based on Diodes, Transistors and OPAMPs.	BL5

Mapping of CO's with Bloom's Level, Target Level Bloom's						
Course	**BL1**	**BL2**	**BL3**	**BL4**	**BL5**	**BL6**
CO1	3	3	-	-	-	-
CO2	2	2	3	3	-	-
CO3	2	2	3	3	-	-
CO4	2	2	3	3	-	-
CO5	1	1	2	2	3	-
AVG.	2	2	2.2	2.2	0.6	0.0

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	3	3	2	2	-	-	-	-	-	-	2	**1**	**1**	
CO2	3	3	3	2	2	1	1	-	-	-	-	2	**1**	**2**	
CO3	3	3	3	2	2	1	1	-	-	-	-	3	**1**	**2**	
CO4	3	3	3	2	2	1	1	-	1	-	-	3	**2**	**1**	
CO5	2	2	2	3	3	3	3	1	2	2	2	3	**1**	**1**	

Target Level	**2.5**														