

**Session 2021-22**

**Odd Sem**

**CO Statement and CO-PO Mapping**

<b>Course Name/code Basic Data Structure and Algorithm/KOE035</b>		<b>Session:2021-22</b>	
<b>Sem: III Odd Semester</b>			
<b>S.No</b>	<b>Course Outcomes</b>		
<b>Students will be able to</b>		<b>Bloom Level</b>	<b>Knowledge Dimension</b>
<b>1</b>	<b>Analyze the time and space complexity of an algorithm</b>	<b>4</b>	<b>Procedural</b>
<b>2</b>	<b>Understand and implement fundamental algorithms (including sorting algorithms, graph algorithms, and dynamic programming)</b>	<b>3</b>	<b>Procedural</b>
<b>3</b>	<b>Discuss various algorithm design techniques for developing algorithms</b>	<b>2</b>	<b>Procedural</b>
<b>4</b>	<b>Discuss various searching, sorting and graph traversal algorithms</b>	<b>3</b>	<b>Conceptual, Procedural</b>
<b>5</b>	<b>Understand operation on Queue, Priority Queue, D-Queue</b>	<b>2</b>	<b>Conceptual, Procedural</b>

<b>Mapping of Course outcomes with Program Outcomes</b>														
<b>Course:</b>														
<b>PO</b>	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>	<b>PO6</b>	<b>PO7</b>	<b>PO8</b>	<b>PO9</b>	<b>PO 10</b>	<b>PO 11</b>	<b>PO 12</b>	<b>PSO1</b>	<b>PSO2</b>
<b>CO1</b>	<b>2</b>	<b>2</b>					<b>3</b>	<b>-</b>	<b>-</b>			<b>2</b>	<b>1</b>	
<b>CO2</b>	<b>3</b>	<b>2</b>					<b>3</b>	<b>-</b>	<b>-</b>			<b>2</b>	<b>-</b>	
<b>CO3</b>	<b>3</b>	<b>3</b>		<b>2</b>			<b>3</b>	<b>-</b>	<b>-</b>			<b>3</b>	<b>-</b>	
<b>CO4</b>	<b>3</b>	<b>3</b>		<b>2</b>			<b>3</b>	<b>-</b>	<b>-</b>			<b>3</b>	<b>2</b>	
<b>CO5</b>	<b>2</b>	<b>-</b>				<b>1</b>	<b>3</b>	<b>-</b>	<b>-</b>			<b>3</b>	<b>2</b>	
<b>Target Level</b>	<b>2.60</b>	<b>2.50</b>		<b>2</b>		<b>1</b>	<b>3</b>					<b>2.60</b>	<b>1.67</b>	

<b>Course Name/code: Technical Communication/KAS 301</b>				<b>Session:2021-22</b>	
<b>Sem: III Odd Semester</b>					
<b>S.No</b>	<b>Course Outcomes</b>				
<b>Students will be able to</b>			<b>Bloom Level</b>	<b>Knowledge Dimension</b>	
1	Analyze the nature and objective of Technical Communication relevant for the workplace as Engineers.			BL 4 (Analyze)	K1, K2
2	Utilize the technical writing for the purposes of Technical Communication and its exposure in various dimensions.			BL 3 (Apply)	K2, K3
3	Imbibe presentation strategies inputs by presentation skills to enhance confidence in facing diverse audience in required situations at workplace.			BL 3 (Apply)	K2, K3, K4
4	Analyze the application of the technical communication to promote their competence for various media like Report generation, Resume design, GD and Interview etc.			BL 5 (Evaluate)	K4
5	Evaluate voice-dynamics and select appropriate cues for their own efficacy as fluent & efficient communicators.			BL 5 (Evaluate)	K2, K3

#### Mapping of Course outcomes with Program Outcomes

<b>Course:</b>														
<b>PO</b>	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>	<b>PO6</b>	<b>PO7</b>	<b>PO8</b>	<b>PO9</b>	<b>PO 10</b>	<b>PO 11</b>	<b>PO 12</b>	<b>PSO1</b>	<b>PSO2</b>
<b>CO1</b>									2	3		3		
<b>CO2</b>									2	3		3		
<b>CO3</b>									2	3		3		
<b>CO4</b>									2	3		3		
<b>CO5</b>									2	3		3		
<b>Target Level</b>									2	3		3		

<b>Course Name/code: HVPE/ KVE301</b>		<b>Session: 2021-22</b>	
<b>Sem: III Odd Semester</b>			
<b>S.No</b>	<b>Course Outcomes</b>		
	<b>Students will be able to</b>	<b>Bloom Level</b>	<b>Knowledge Dimension</b>
1	Understand the essential complementarily between ‘VALUES’ and ‘SKILLS’.	2	Factual
2	Understand how to ensure sustained happiness and prosperity.	2	Factual, Conceptual
3	Apply understanding of values and human reality to develop a holistic perspective towards life, and profession.	3	Conceptual, Procedural
4	Analyze harmony in nature and existence, and work out their mutually fulfilling participation in the nature.	4	Conceptual, Procedural
5	Analyze ethical and unethical practices to actualize a harmonious environment wherever they work.	4	Conceptual, Procedural

<b>Mapping of Course outcomes with Program Outcomes</b>														
<b>Course:</b>														
<b>PO</b>	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>	<b>PO6</b>	<b>PO7</b>	<b>PO8</b>	<b>PO9</b>	<b>PO 10</b>	<b>PO 11</b>	<b>PO 12</b>	<b>PSO1</b>	<b>PSO2</b>
<b>CO1</b>	-	-	-	-	-	1	1	2	2	-	-	3	-	-
<b>CO2</b>	-	-	-	-	-	2	2	3	3	-	-	3	-	-
<b>CO3</b>	-	-	-	-	-	3	3	2	3	-	-	3	-	-
<b>CO4</b>	-	-	-	-	-	2	3	2	3	-	-	3	-	-
<b>CO5</b>	-	-	-	-	-	2	3	3	2	-	-	3	-	-
<b>Target Level</b>	-	-	-	-	-	2	2.4	2.4	2.6	-	-	3	-	-

Course Name/code: Electronic Devices (KEC-301)		Session:2021-22	
Sem: III Odd Semester			
S.No	Course Outcomes		
Students will be able to		Bloom Level	Knowledge Dimension
1	Understand the concepts of semiconductor physics to formulate Energy band gap.	2	Conceptual, Procedural
2	Understand Energy band gap diagram and mathematical model of semiconductor junctions	2	Conceptual, Procedural
3	Apply the concept of Carrier transport in semiconductors.	3	Conceptual, Procedural
4	Apply the mathematical model of MOS transistor for realizing electronic circuits.	3	Conceptual, Procedural. Fundamental Design Principle
5	Understand the mathematical model and working of special purpose diodes.	2	Conceptual, Procedural

Mapping of Course outcomes with Program Outcomes														
Course:														
PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO 11	PO 12	PSO1	PSO2
CO1	3	3		1					2				1	-
CO2	3	3		1					2			2	-	-
CO3	3	3		1					2			3	-	-
CO4	3	3		1					2			3	2	-
CO5	3	3		1					2			3	2	-
Target Level	3	3		1					2			2.75	1.67	-



Course Name/code: Network Analysis and Synthesis/ KEC303		Session: 2021-22	
Sem: III Odd Semester			
S.No	Course Outcomes		
	Students will be able to	Bloom Level	Knowledge Dimension
1	Understand basics electrical circuits with nodal and mesh analysis.	2	Conceptual, Factual
2	Apply network theorems on electrical circuit.	3	Conceptual, Factual
3	Analyse electrical circuits using Fourier series and transform.	4	Conceptual
4	Analyse steady state and transient state using Laplace Transform.	4	Conceptual
5	Analysis of various parameter for two port network and filter.	4	Conceptual

Mapping of Course outcomes with Program Outcomes														
Course:														
PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO 11	PO 12	PSO1	PSO2
CO1	3	3	2	2	3	-	-	-	-	-	-	1	2	-
CO2	2	2	3	3	2	-	-	-	-	-	-	1	2	1
CO3	2	3	3	3	3	-	-	-	-	-	-	-	1	-
CO4	3	3	3	2	2	-	-	-	-	-	-	-	1	1
CO5	3	2	2	3	3	-	-	-	-	-	-	1	2	-
Target Level	2.6	2.6	2.6	2.6	2.6	-	-	-	-	-	-	1	1.6	1

Course Name/code: Electronics Devices Lab/KEC-351		Session:2021-22	
Sem: III Odd Semester			
S.No	Course Outcomes		
Students will be able to		Bloom Level	Knowledge Dimension
1	Understand working of basic electronics lab equipment.	2	Conceptual,
2	Understand working of PN junction diode and its applications.	3	Conceptual
3	Understand characteristics of Zener diode.	2	Procedural
4	Design a voltage regulator using Zener diode.	5	Conceptual
5	Understand working of BJT, FET, MOSFET and apply the concept in designing of amplifiers.	3	Conceptual

**Mapping of Course outcomes with Program Outcomes**

Course:	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO11	PO12	PSO1	PSO2
<b>CO1</b>	3	3	2	2	3	1	-	-	-	-	-	-	3	-
<b>CO2</b>	3	2	3	3	2	1	-	-	-	-	-	-	3	-
<b>CO3</b>	2	3	3	3	3	-	-	-	-	-	-	1	3	-
<b>CO4</b>	3	3	3	2	2	-	-	-	-	-	-	1	3	-
<b>CO5</b>	3	3	2	3	3	1	-	-	-	-	-	1	3	-
<b>Target Level</b>	2.8	2.8	2.6	2.6	2.6	1	-	-	-	-	-	1	3	-





<b>Course Name/code: Networks Analysis and Synthesis (KEC-353)</b>		<b>Session:2021-22</b>		
<b>Sem: III Odd Semester</b>				
<b>S.No</b>	<b>Course Outcomes</b>			
<b>Students will be able to</b>			<b>Bloom Level</b>	
			<b>Knowledge Dimension</b>	
1	Understand basics of electrical circuits with nodal and mesh analysis.		2	Conceptual
2	Analyze electrical network theorems.		4	Procedural
3	Analyze RLC circuits.		4	Procedural
4	Analyze the stability of an electrical circuit.		4	Procedural
5	Apply the network analysis to design network filters.		4	Procedural

<b>Mapping of Course outcomes with Program Outcomes</b>														
<b>Course:</b>														
<b>PO</b>	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>	<b>PO6</b>	<b>PO7</b>	<b>PO8</b>	<b>PO9</b>	<b>PO 10</b>	<b>PO 11</b>	<b>PO 12</b>	<b>PSO1</b>	<b>PSO2</b>
<b>CO1</b>	3	2	1	2	3	-	-	-	1	2	-	1	1	-
<b>CO2</b>	3	2	1	2	3	-	-	-	1	2	-	1	1	-
<b>CO3</b>	3	2	1	2	3	-	-	-	1	2	-	1	2	-
<b>CO4</b>	3	2	1	2	3	-	-	-	1	2	-	1	2	-
<b>CO5</b>	3	2	1	2	3	-	-	-	1	2	-	1	-	-
<b>Target Level</b>	3	2	1	2	3	--	--	-	1	2	-	1	1.5	-

Course Name/code : Mini Project/Internship/ KEC-354		Session:2021-22	
Sem: III Odd Semester			
S.No	Course Outcomes		
Students will be able to		Bloom Level	Knowledge Dimension
1	Analyze the real-life-working environment & practices followed in the Industry.	4	Factual
2	Critically examine the Idea behind the job undertaken with detailed analysis.	4	Conceptual
3	Identify the mechanism behind job management with importance of the spirit of team working.	4	Factual
4	Successfully complete the MOOC courses.	2	Factual
5	Analyze the Research papers from Nalanda econsortium.	4	Factual

Mapping of Course outcomes with Program Outcomes														
Course:														
PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO 11	PO 12	PSO1	PSO2
CO1	-	2	-	2	-	2	-	-	2	2	-	1	-	-
CO2	-	-	-	2	-	2	-	-	2	2	2	1	-	-
CO3	-	-	-	2	-	2	-	-	2	2	2	1	-	-
CO4	-	-	-	-	-	-	-	-	-	-	-	1	-	-
CO5	-	-	-	2	-	-	-	-	-	1	-	1	-	-
Target Level	-	2	-	2	-	2	-	-	2	1.75	2	1	-	-

<b>Course Name/code: Integrated Circuits (KEC-501)</b>										<b>Session:2021-22</b>				
<b>Sem: V Odd Semester</b>														
<b>S.No</b>		<b>Course Outcomes</b>												
<b>Students will be able to</b>										<b>Bloom Level</b>		<b>Knowledge Dimension</b>		
1		Analyze complete internal analysis of Op-amp 741-IC								4		Conceptual, Procedural		
2		Examine Op-amp based circuits & basic components of ICs such as various types of filters								4		Conceptual, Procedural, Fundamental Design Principles		
3		Implement the concept of Op-Amp to design Op-amp based non - linear applications and wave shaping circuits								3		Conceptual, Procedural		
4		Analyze basic digital IC circuits using CMOS technology								4		Conceptual, Procedural, Fundamental Design Principles		
5		Analyze the functioning of application specific ICs such as 555 timer, VCO IC 566 and PLL.								4		Conceptual, Procedural		

<b>Mapping of Course outcomes with Program Outcomes</b>														
<b>Course:</b>														
<b>PO</b>	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>	<b>PO6</b>	<b>PO7</b>	<b>PO8</b>	<b>PO9</b>	<b>PO 10</b>	<b>PO 11</b>	<b>PO 12</b>	<b>PSO1</b>	<b>PSO2</b>
<b>CO1</b>	3	3	2	1	1	-	-	-	2	1	-	1	1	1
<b>CO2</b>	3	3	2	1	1	-	-	-	1	2	-	1	1	1
<b>CO3</b>	3	3	2	1	1	-	-	-	1	1	-	1	1	1
<b>CO4</b>	3	3	2	1	1	-	-	-	1	1	-	1	1	1
<b>CO5</b>	3	3	2	1	1	-	-	-	1	1	-	1	1	1
<b>Target Level</b>	3	3	2	1	1				1.2	1.2		1	1	1

Course Name/code: <b>Microprocessors and Microcontrollers</b>		Session:2021-22	
Sem: V Odd Semester (KEC 502)			
S.No	Course Outcomes		
Students will be able to		Bloom Level	Knowledge Dimension
1	Understand the basic architecture of 8085 and interfacing devices	2	Conceptual
2	Apply the programming model of 8085 to write programs	3	Conceptual, Procedural
3	Understand the basic architecture of 8086 and different peripheral Devices	2	Conceptual
4	Understand the architecture of 8051 microcontroller	2	Conceptual
5	Apply the assembly programming to program interrupts, timers, serial ports in 8051	2	Conceptual

Mapping of Course outcomes with Program Outcomes														
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	1	1	2	3	1	1	-	-	-	-	-	1	2	-
CO2	2	2	3	2	3	1	-	-	-	-	-	1	3	-
CO3	1	1	1	1	1	1	-	-	-	-	-	1	2	2
CO4	1	1	2	2	2	1	-	-	-	-	-	1	2	-
CO5	2	3	3	3	3	2	-	-	-	-	-	1	2	-
Target Level	1.4	1.6	2.2	2.2	2	1.2						1	2.2	2

Course Name/code: Digital Signal Processing/ KEC-503		Session:2021-22	
Sem: V Odd Semester			
S. No	Course Outcomes		
Students will be able to		Bloom Level	Knowledge Dimension
1	Design different types of realizations of digital systems (IIR and FIR) and their utilities	3	Conceptual, Procedural
2	Design of digital IIR filters.	6	Conceptual, Procedural
3	Design of digital FIR filters.	6	Conceptual, Procedural
4	Computation of DFT, FFT & its Inverse transform.	4	Conceptual, Procedural
5	Implementation of Decimation & Interpolation with its applications.	3	Conceptual, Procedural

Mapping of Course outcomes with Program Outcomes														
Course:														
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	3	3	2	3	1	1	-	-	-				1	-
CO3	2	2	2	2	2	1	-	-	-				2	-
CO4	3	3	2	3	1	3	-	-	-		2		-	-
CO5	1	3	2	2	1	1	-	-	-				3	-
Target Level	2.4	2.8	2	2.4	1.2	1.4	-	-	-		1.5		1..2	-

Course Name/code: VLSI Technology/ KEC-053		Session:2021-22	
Sem: V Odd Semester			
S.No	Course Outcomes		
Students will be able to		Bloom Level	Knowledge Dimension
1	Understand the basics of crystal growth, wafer preparation, wafer cleaning and correlate it with SSI, MSI, LSI and VLSI.	2	Factual
2	Analyze the epitaxy and oxidation process.	4	Conceptual
3	Analyze the lithography, etching and deposition process.	4	Conceptual
4	Analyze the process of diffusion and ion implantation process.	4	Conceptual
5	Outline the basic process involved in metallization and packaging.	4	Conceptual

Mapping of Course outcomes with Program Outcomes														
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	2	2	-	-	-	1	2	-	2	2	2
CO2	2	3	1	2	1	-	-	-	1	2	-	2	2	-
CO3	2	2	1	2	2	-	-	-	1	2	-	2	-	2
CO4	3	2	1	3	1	-	-	-	1	2	-	2	1	2
CO5	3	3	1	3	2	-	-	-	1	2	-	2	1	-
Target Level	2.6	2.6	1	2.4	1.6	--	-	-	1	2	-	2	1.5	2

Course Name/code : Electronic Switching/KEC-055		Session:2021-22	
Sem:V ODD Semester			
S.No	Course Outcomes		
Students will able to		Bloom Level	Knowledge Dimension
1	Understand fundamentals of telecommunication systems and associated technologies.	understand	Factual, Conceptual, Fundamental Design Principles
2	Analysis of Digital Switching in multidimensional space.	Analyze	Conceptual, Procedural
3	Analyze different parameter for improvement of switching system in tele communication.	Analyze	Factual, Conceptual, Fundamental Design Principles
4	Analyze the principles of the internal design and operation of telecommunication switches, and the essence of the key signalling systems.	Analyze	Conceptual, Procedural
5	Apply signalling system in application of tele communication as Packet switching and ATM.	Apply	Conceptual, Procedural

Mapping of Course outcomes with Program Outcomes														
Course:														
PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO 11	PO 12	PSO1	PSO2
CO1	1	-	-	2	-	1	-	-	3	1	-	2	1	1
CO2	1	2	1	-	-	1	-	-	2	2	1	2	2	2
CO3	2	3	2	3	1	2	-	-	2	2	1	2	2	2
CO4	2	2	2	3	1	2	-	-	2	2	2	2	2	2
CO5	2	2	3	3	2	3	-	-	3	2	2	3	3	3
Target Level	1.6	2.25	2	2.75	1.33	1.8	-	-	2.4	1.8	1.5	2.2	2	2



Course Name/code: Integrated Circuit Lab (KEC-551)		Session:2021-22	
Sem: V Odd Semester			
S.No	Course Outcomes		
Students will be able to		Bloom Level	Knowledge Dimension
1	Demonstrate different non-linear applications of operational amplifiers such as log, antilog amplifiers and voltage comparators.	3	Factual
2	Analyze different linear applications of operational amplifiers such as filters.	4	Procedural
3	Demonstrate the function of waveforms generator using op-Amp.	3	Procedural
4	Analyze multivibrator and oscillator circuits using IC555 and IC566 and perform measurements of frequency and time.	4	Procedural
5	Demonstrate the Schmitt trigger, Voltage Controlled Oscillator and Ramp generator based on IC555 and IC566.	3	Procedural

Mapping of Course outcomes with Program Outcomes														
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	2	1	2	3	-	-	-	1	2	-	1	1	-
CO2	3	2	1	2	3	-	-	-	1	2	-	1	1	-
CO3	3	2	1	2	3	-	-	-	1	2	-	1	2	2
CO4	3	2	1	2	3	-	-	-	1	2	-	1	-	2
CO5	3	2	1	2	3	-	-	-	1	2	-	1	-	1
Target Level	3	2	1	2	3	--	--	-	1	2	-	1	1.3	1.6

<b>Course Name/code: Microprocessor &amp; Microcontroller Lab (KEC-552) Session:2021-22</b>			
<b>Sem: V Odd Semester</b>			
<b>S. No</b>	<b>Course Outcomes</b>		
<b>Students will be able to</b>		<b>Bloom Level</b>	<b>Knowledge Dimension</b>
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.		Remember, understand Conceptual
2	Examine 8085 & 8086 microprocessor and its interfacing with peripheral devices.		Analyze Conceptual
3	State various conversion techniques using 8085 & 8086 and generate waveforms using 8085.		Apply Conceptual, Procedural
4	Implement programming concept of 8051 Microcontroller.		Apply Conceptual, Procedural
5	Design concepts to Interface peripheral devices with Microcontroller so as to design Microcontroller based projects.		Create Conceptual, Procedural

**Mapping of Course outcomes with Program Outcomes**

<b>Course:</b>														
<b>PO</b>	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>	<b>PO6</b>	<b>PO7</b>	<b>PO8</b>	<b>PO9</b>	<b>PO 10</b>	<b>PO 11</b>	<b>PO 12</b>	<b>PSO1</b>	<b>PSO2</b>
<b>CO1</b>	2	2	1	2	2						2	2	2	-
<b>CO2</b>	2	2	1	3	3						2	2	-	-
<b>CO3</b>	2	2		3	3						2	2	-	3
<b>CO4</b>	2	2	1	3	3						2	2	3	-
<b>CO5</b>	2	2	1	3	3		2				3	3	3	-
<b>Target Level</b>	2	2	1	2.8	2.8		2				2.2	2.2	2.6	3

Course Name/code: Digital Signal Processing (DSP) Lab/ KEC-553		Session:2021-22	
Sem: V ODD Semester			
S. No	Course Outcomes		
Students will be able to		Bloom Level	Knowledge Dimension
1	Create and visualize various discrete/digital signals using MATLAB/Scilab.	3	Conceptual, Procedural
2	Implement and test the basic operations of Signal processing	6	Conceptual, Procedural
3	Examine and analyse the spectral parameters of window functions	6	Conceptual, Procedural
4	Design IIR and FIR filters for band pass, band stop, low pass and high pass filters.	4	Conceptual, Procedural
5	Design the signal processing algorithms using MATLAB/Scilab.	3	Conceptual, Procedural

**Mapping of Course outcomes with Program Outcomes**

Course:														
PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO 11	PO 12	PSO1	PSO2
CO1	2	2	1	1	1	1	-	-	-	2	1			
CO2	3	1	2	2	3	2	-	-	-		1	1	1	1
CO3	2	2	3	1	2	1	-	-	-		2			
CO4	1	3	2	3	1	3	-	-	-	1	1	3	2	1
CO5	1	1	1	2	2	2	-	-	-	2	1	1	3	
Target Level	1.8	1.8	1.8	1.8	1.8	1.8	-	-	-	1.6	1.2	1.6	2	1

Course Name/code : Mini Project/Internship/ KEC-554		Session:2021-22	
Sem: Odd Semester			
S.No	Course Outcomes		
Students will be able to		Bloom Level	Knowledge Dimension
1	Analyze the real-life-working environment & practices followed in the Industry.	4	Factual
2	Critically examine the Idea behind the job undertaken with detailed analysis.	4	Conceptual
3	Identify the mechanism behind job management with importance of the spirit of team working.	4	Factual
4	Successfully complete the MOOC courses.	2	Factual
5	Analyze the Research papers from Nalanda econsortium.	4	Factual

Mapping of Course outcomes with Program Outcomes														
Course:														
PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO 11	PO 12	PSO1	PSO2
CO1	-	2	-	2	-	2	-	-	2	2	-	1	-	-
CO2	-	-	-	2	-	2	-	-	2	2	2	1	-	-
CO3	-	-	-	2	-	2	-	-	2	2	2	1	-	-
CO4	-	-	-	-	-	-	-	-	-	-	-	1	-	-
CO5	-	-	-	2	-	-	-	-	-	1	-	1	-	-
Target Level	-	2	-	2	-	2	-	-	2	1.75	2	1	-	-

**Course Name/code : Indian Tradition, Culture and Society (KNC 502) Session:2021-22**  
**Sem: V Even**

S.NO	COURSE OUTCOME		
Students will be able to	BL LEVEL	Knowledge Dimension	
CO 1	To identify the roots and details of some of the contemporary issues faced by our nation and try to locate possible solutions to these challenges by digging deep into our past.	2	Remembering Understanding
CO 2	To understand the importance of our surroundings and encourage the students to contribute towards sustainable development.	1	Understanding Applying
CO 3	To make aware of holistic life styles of Yogic-science and wisdom capsules in Sanskrit literature that are important in modern society with rapid technological advancements and societal disruptions.	1	Applying, Analyzing
CO 4	To sensitize towards issues related to 'Indian' culture, tradition and its composite character.	3	Applying, Analyzing
CO 5	To acquaint with Indian Knowledge System, Indian perspective of modern scientific world-view and basic principles of Yoga and holistic health care system.	4	Evaluating Creating

	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
CO-1						2				2		1		
CO-2						2				2		1		
CO-3						2				2		1		
CO-4						2				2		1		
CO-5						2				2		1		
Target Level						2				2		1		

Course Name/code: PM&E/ KHU 701		Session: 2021-22	
Sem: ODD Semester			
S.No	Course Outcomes		
Students will be able to		Bloom Level	Knowledge Dimension
1	Understand the theories of entrepreneurship and Entrepreneurial Development Programmes.	2	Factual
2	Create and exploit 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

Mapping of Course outcomes with Program Outcomes														
Course:														
PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO 11	PO 12	PSO1	PSO2
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: VLSI DESIGN/ KEC 072		Session:2021-22	
Sem: Odd Semester			
S.No	Course Outcomes		
Students will be able to		Bloom Level	Knowledge Dimension
1	Understand the basics of CMOS logic circuits and various steps involved in the design of Integrated circuits	2	Conceptual & Procedural
2	Analyze delay models, logical effort of path and various types of power dissipation	4	Conceptual & Procedural
3	Analyze the concept of Dynamic, Domino CMOS logic	4	Conceptual & Procedural
4	Analyze power logic circuits and different semiconductor memories used in present day technology.	4	Conceptual & Procedural
5	Analyze faults in digital circuits, Fault Models and various Testing Methodologies.	4	Conceptual & Procedural

Mapping of Course outcomes with Program Outcomes														
Course:														
PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2	2	2	2	-	-	-	-	1	1	1	3	-
CO2	3	3	2	2	3	-	-	-	-	1	1	1	3	-
CO3	2	2	2	2	2	-	-	-	-	1	1	1	3	-
CO4	2	2	2	2	2	-	-	-	-	1	1	1	3	-
CO5	3	3	2	2	3	-	-	-	-	1	1	1	3	-
Target Level	2.4	2.4	2	2	2.4	-	-	-	-	1	1	1	3	-

Course Name/code: Wireless & Mobile Communication/KEC076		Session:2021-22	
Sem: VII ODD Semester			
S.No	Course Outcomes		
Students will be able to		Bloom Level	Knowledge Dimension
1	Understand the cellular concept to get insight of mobile radio communication and its evolution.	2	Conceptual
2	Analyse the working of vocoders and spread spectrum modulation for mobile radio communication.	4	Conceptual
3	Analyse the Equalization techniques of noise rejection and various multiple access techniques.	4	Conceptual, Procedural
4	Understand the various 2g and 3g standards of mobile communication with proper block diagram.	2	Conceptual, procedural
5	Apply the basic concepts of mobile communication to get insight of networking in mobile communication.	3	Conceptual

Mapping of Course outcomes with Program Outcomes														
Course:														
PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO 11	PO 12	PSO1	PSO2
CO1	3	3	2	1	1	-	-	-	-	1	-	1	1	2
CO2	3	3	3	1	1	-	-	-	-	1	-	1	2	3
CO3	3	3	2	2	2	-	-	-	-	1	-	1	2	3
CO4	3	3	3	3	3	-	-	-	-	2	-	2	3	3
CO5	3	2	1	2	1	2	-	-	-	1	-	2	2	3
Target Level	3	2.8	2.2	1.8	1.6	2	-	-	-	1.2	-	1.4	2	2.8



<b>Sem:VII ODD Semester</b>			
<b>S. No</b>	<b>Course Outcomes</b>		
<b>Students will be able to</b>		<b>Bloom Level</b>	<b>Knowledge Dimension</b>
1	Understand fundamentals of Well-defined learning problems and Designing a Learning System.		understand Factual, Conceptual, Fundamental Design Principles
2	Analysis of Decision tree learning algorithm and Artificial Neural Networks.		Analyze Conceptual, Procedural
3	Analyze different parameter for Estimating Hypotheses Accuracy and Bayesian belief networks.		Analyze Factual, Conceptual, Fundamental Design Principles
4	Analyze the principles of Computational Learning Theory and Instance-Based Learning.		Analyze Conceptual, Procedural
5	Apply Genetic Algorithms for Hypothesis space search and Genetic Programming.		Apply Conceptual, Procedural

<b>Mapping of Course outcomes with Program Outcomes</b>														
<b>Course:</b>														
<b>PO</b>	<b>PO 1</b>	<b>PO 2</b>	<b>PO 3</b>	<b>PO 4</b>	<b>PO 5</b>	<b>PO 6</b>	<b>PO 7</b>	<b>PO 8</b>	<b>PO 9</b>	<b>PO 10</b>	<b>PO 11</b>	<b>PO 12</b>	<b>PSO 1</b>	<b>PSO 2</b>
<b>CO1</b>	1	-	-	2	-	1	-	-	3	1	-	2	1	1
<b>CO2</b>	1	2	1	-	-	1	-	-	2	2	1	2	2	2
<b>CO3</b>	2	3	2	3	1	2	-	-	2	2	1	2	2	2
<b>CO4</b>	2	2	2	3	1	2	-	-	2	2	2	2	2	2
<b>CO5</b>	2	2	3	3	2	3	-	-	3	2	2	3	3	3
<b>Target Level</b>	1.6	2.2	2	2.7	1.3	1.8	0	0	2.4	1.8	1.5	2.2	2	2

<b>Course Name/code: VLSI DESIGN Lab/ KEC 751 B</b>		<b>Session:2021-22</b>
		<b>Sem: Odd Semester</b>
<b>S.No</b>	<b>Course Outcomes</b>	

Students will be able to		Bloom Level	Knowledge Dimension
1	Designing of logic gates.	6	Conceptual & Procedural
2	Implementation of combinational and sequential circuits using CMOS logic.	4	Conceptual & Procedural
3	Analyze amplifier circuits.	4	Conceptual & Procedural
4	Design sequential circuits such as flip flop	6	Conceptual & Procedural
5	Do the layout designing for physical analysis of the MOS transistor and MOS based circuits.	6	Conceptual & Procedural

#### Mapping of Course outcomes with Program Outcomes

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	PS O1	PS O2
CO1	2	2	2	2	2	-	-	-	-	1	1	1	2	-
CO2	3	3	2	2	3	-	-	-	-	1	1	1	3	-
CO3	2	2	2	2	2	-	-	-	-	1	1	1	3	-
CO4	2	2	2	2	2	-	-	-	-	1	1	1	3	-
CO5	3	3	2	2	3	-	-	-	-	1	1	1	3	-
Target Level	2.4	2.4	2	2	2.4	-	-	-	-	1	1	1	2.8	-

**Even Sem**

**Session 2021-22**

**CO Statement and CO-PO Mapping**

Course Name/code: Technical Communication (KAS 401)		Session:2021-22	
Sem: IV Even Semester			
S.No	Course Outcomes		
Students will be able to		Bloom Level	Knowledge Dimension
1	Analyze the nature and objective of Technical Communication relevant for the workplace as Engineers.	BL 4 (Analyze)	K1, K2
2	Utilize the technical writing for the purposes of Technical Communication and its exposure in various dimensions.	BL 3 (Apply)	K2, K3
3	Imbibe presentation strategies inputs by presentation skills to enhance confidence in facing diverse audience in required situations at workplace.	BL 3 (Apply)	K2, K3, K4
4	Create a vast know-how of the application of the technical communicate to promote their competence for Report generation, Resume design, GD and Interview etc.	BL 6 (Create)	K2, K3, K4
5	Evaluate voice-dynamics and select appropriate cues for their own efficacy as fluent & efficient communicators.	BL 5 (Evaluate)	K2, K3

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

Course Name/code: Mathematics IV (KAS-402)		Session:2021-22	
Sem: IV Even Semester			
S.No	Course Outcomes		
Students will be able to		Bloom Level	Knowledge Dimension
1	Apply the methods for solving Linear and non-linear partial differential equation.	3	Procedural
2	Apply the method of separation of variables to solve Heat, Wave, Laplace equations and Transmission line	3	Procedural
3	Evaluate moments, skewness, kurtosis and moment generating function and linear and non linear regression.	5	Procedural
4	To solve probability problems apply Binomial, Poisson's and Normal distribution including sampling theory along with test of significance	3	Conceptual, Procedural
5	Analyze statistical data samples , hypothesis testing and control chart .	4	Conceptual, Procedural

Mapping of Course outcomes with Program Outcomes														
Course:														
PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO 11	PO 12	PSO1	PSO2
CO1	3	2	1	2	3	3	1	-	-	2	3	2	2	_
CO2	3	1	1	2	3	2	1	-	-	1	3	2	2	_
CO3	3	3	2	2	3	3	1	-	-	2	3	2	1	2
CO4	3	2	1	2	3	3	1	-	-	2	3	2	1	1
CO5	3	2	1	3	3	3	1	-	-	3	3	3	2	_
Target Level	3	2	1.2	2.2	3	2.8	1			2	3	2.2	1.6	1.5

<b>Course Name/code: Communication Engineering (KEC-401)</b>		<b>Session:2021-22</b>	
<b>Sem: IV Even Semester</b>			
<b>S. No</b>	<b>Course Outcomes</b>		
<b>Students will be able to</b>		<b>Bloom Level</b>	<b>Knowledge Dimension</b>
1	Apply the knowledge of signals and systems for different types of amplitude modulation systems	BL-3	Factual, Conceptual
2	Analyze frequency domain analysis for angle modulation systems.	BL-4	Conceptual
3	Evaluate the impact of AWGN Additive White Gaussian Noise for different analog modulation.	BL-5	Conceptual, Procedural
4	Integrate the concept of analog to digital baseband modulation techniques.	BL-5	Conceptual, Procedural
5	Apply the concept of digital baseband transmission to relate it with bandpass transmission techniques.	BL-3	Conceptual

<b>Mapping of Course outcomes with Program Outcomes</b>														
<b>Course:</b>														
<b>PO</b>	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>	<b>PO6</b>	<b>PO7</b>	<b>PO8</b>	<b>PO9</b>	<b>PO 10</b>	<b>PO 11</b>	<b>PO 12</b>	<b>PSO1</b>	<b>PSO2</b>
<b>CO1</b>	3	3	2	1	1	-	-	-	-	1	-	1	1	2
<b>CO2</b>	3	3	3	1	2	-	-	-	-	2	-	1	2	-
<b>CO3</b>	3	3	2	2	1	-	-	-	-	1	-	1	2	-
<b>CO4</b>	3	3	3	2	2	-	-	-	-	2	-	1	-	-
<b>CO5</b>	3	2	1	1	1	-	-	-	-	1	-	1	2	-
<b>Target Level</b>	3	2.8	2.2	1.4	1.4	-	-	-	-	1.4	-	1	1.75	2

Course Name/code: Analog Circuits/KEC-402		Session:2021-22	
Sem: IV Even Semester			
S.No	Course Outcomes		
Students will be able to		Bloom Level	Knowledge Dimension
1	Analyze various diode and amplifier circuits.	4	Conceptual & Procedural
2	Analyze various power amplifier circuits and feedback topologies	4	Conceptual & Procedural
3	Analyze sinusoidal and non-sinusoidal oscillators.	4	Conceptual & Procedural
4	Analyze Current mirror and Differential amplifier circuits	4	Conceptual & Procedural
5	Analyze Opamp based amplifiers and filters	4	Conceptual & Procedural

Mapping of Course outcomes with Program Outcomes														
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	PS O1	PS O2
CO1	3	3	2	1	1	-	-	-	-	1	1	1	3	-
CO2	3	3	2	1	1	-	-	-	-	1	1	1	3	-
CO3	3	3	2	1	1	-	-	-	-	1	1	1	3	-
CO4	3	3	2	1	1	-	-	-	-	1	1	1	3	-
CO5	3	3	2	1	1	-	-	-	-	1	1	1	3	-
Target Level	3	3	2	1	1	-	-	-	-	1	1	1	3	-

Course Name/code: Signals and Systems/ KEC403		Session:2021-22	
Sem: IV Even Semester			
S.No	Course Outcomes		
Students will be able to		Bloom Level	Knowledge Dimension
-	Analyse different types of signals and systems.	4	Conceptual
2	Understand linear shift-invariant (LSI) systems and system representation through differential and difference equation.	2	Conceptual, Factual
3	Analyse continuous and discrete systems in time and frequency domain using transform domain.	4	Conceptual
4	Analyse discrete time signals in z-domain.	4	Conceptual
5	Apply sampling theorem to continuous time signal.	3	Conceptual

Mapping of Course outcomes with Program Outcomes														
Course:														
PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO 11	PO 12	PSO1	PSO2
CO-	3	3	2	2	3	2	-	-	-	-	-	-		-
CO2	2	2	3	3	2	1	-	-	-	-	-	1	2	-
CO3	2	3	3	3	1	2	-	-	-	-	-	1	2	-
CO4	3	3	3	2	2	1	-	-	-	-	-	1	2	3
CO5	3	2	2	2	3	2	-	-	-	-	-	1	2	-
Target Level	2.6	2.6	2.6	2.4	2.2	1.6	-	-	-	-	-	1	2	3



Course Name/code: Communication Engineering Lab/ KEC-451										Session:2021-22				
Sem: IV Even Semester														
S. No	Course Outcomes													
Students will be able to										Bloom Level	Knowledge Dimension			
1	Analyze different analog modulation schemes for their modulation factor and power									3	Conceptual, Procedural			
2	Study pulse amplitude modulation									6	Conceptual, Procedural			
3	Analyze different digital modulation schemes to compute the bit error performance									6	Conceptual, Procedural			
4	Study of Phase shift keying.									4	Conceptual, Procedural			
5	Design a front end BPSK modulator and demodulator									3	Conceptual, Procedural			

Mapping of Course outcomes with Program Outcomes														
Course:														
PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO 11	PO 12	PSO1	PSO2
CO1	2	3	2		1	1	-	-	-	2	1			
CO2	3		2	2	1	1	-	-	-		1	1	2	
CO3		3	2		2	1	-	-	-		2			
CO4	1	3	2	1	1	3	-	-	-	1	1	3	1	
CO5	3		2	2	1	1	-	-	-	2	1	1	1	
Target Level	2.2	3	2	1.6	1.2	1.4	-	-	-	1.6	1.2	1.6	1.3	

<b>Course Name/code: Analog circuit Lab (KEC-452)</b>			<b>Session:2021-22</b>	
<b>Sem: IV Even Semester</b>				
<b>S.No</b>	<b>Course Outcomes</b>			
<b>Students will be able to</b>			<b>Bloom Level</b>	<b>Knowledge Dimension</b>
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

**Mapping of Course outcomes with Program Outcomes**

<b>Course:</b>														
<b>PO</b>	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>	<b>PO6</b>	<b>PO7</b>	<b>PO8</b>	<b>PO9</b>	<b>PO 10</b>	<b>PO 11</b>	<b>PO 12</b>	<b>PSO1</b>	<b>PSO2</b>
<b>CO1</b>	3	3	1	3	2	1	2	-	-	-	1	2	3	
<b>CO2</b>	3	2	1	3	1	2	2	-	-	-	3	3	3	
<b>CO3</b>	3	3	2	3	3	1	1	-	-	-	3	3	3	
<b>CO4</b>	2	3	1	2	3	1	1	-	-	-	1	3	3	
<b>CO5</b>	3	2	2	3	3	1	1	-	-	-	3	3	3	
<b>Target Level</b>	3	2.6	1.4	2.8	2.4	1.2	1.4	-	-	-	2.2	2.8	3	

Course Name/code: Signal System LAB/ KEC453										Session:2021-22				
Sem: IV EVEN Semester														
S.No	Course Outcomes													
Students will be able to										Bloom Level	Knowledge Dimension			
1	Understand the basic functions of MATLAB.									2	Conceptual, Factual			
2	Analyse various operations on signals using MATLAB.									4	Conceptual			
3	Implement the concept of Fourier series and Fourier transforms.									3	Procedural			
4	Analyse the stability of system using pole-zero and bode diagram.									4	Conceptual			
5	Analyse the electrical circuit using SIMULINK.									4	Conceptual			

Mapping of Course outcomes with Program Outcomes														
Course:														
PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO 11	PO 12	PSO1	PSO2
CO1	3	3	2	2	3	1	-	-	-	-	-	-	2	-
CO2	3	2	3	3	2	1	-	-	-	-	-	-	2	-
CO3	2	3	3	3	3	-	-	-	-	-	-	1	1	-
CO4	3	3	3	2	2	-	-	-	-	-	-	1	1	2
CO5	3	3	2	3	3	1	-	-	-	-	-	1	2	-
Target Level	2.8	2.8	2.6	2.6	2.6	1	-	-	-	-	-	1	1.6	2

Course Name/code: Digital Communication/KEC-601		Session:2021-22	
Sem: VI Even Semester			
S.No	Course Outcomes		
Students will be able to		Bloom Level	Knowledge Dimension
1	Formulate basic statistics involved in communication theory	2	Factual, Conceptual, Functional Design principles
2	Demonstrate the concepts involved in digital communication	3	Conceptual, Procedural
3	Explain the concepts of digital modulation schemes.	4	Conceptual, Procedural, Functional Design Principles
4	Analyze the performance of digital communication systems.	4	Conceptual, Procedural
5	Apply the concept of information theory in digital systems.	3	Conceptual, Procedural

Mapping of Course outcomes with Program Outcomes														
Course:														
PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO 11	PO 12	PSO1	PSO2
CO1	3	3	2	2	3	2	-	-	-	-	-	-	3	-
CO2	2	2	3	3	2	1	-	-	-	-	-	1	3	-
CO3	2	3	3	3	1	2	-	-	-	-	-	1	3	-
CO4	3	3	3	2	2	1	-	-	-	-	-	1	3	-
CO5	3	2	2	2	3	2	-	-	-	-	-	1	3	-
Target Level	2.6	2.6	2.6	2.4	2.2	1.6	-	-	-	-	-	1	3	-

Course Name/code: Control Systems/ KEC-602 Sem: VI Even Semester		Session:2021-22		
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

Mapping of Course outcomes with Program Outcomes														
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	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	2.6	2.4	2.4	2.4	1.2	1.4		1.5		1	2		2	-

Course Name/code: Antenna & Wave Propagation/KEC-603		Session:2021-22	
Sem: VI Even Semester			
S.No	Course Outcomes		
Students will be able to		Bloom Level	Knowledge Dimension
1	Analyze coordinate system and vector calculus	4	Conceptual & Procedural
2	Analyze static electric field and magnetic field and current	4	Conceptual & Procedural
3	Analyze antenna fundamentals and radiation mechanism of the antenna	4	Conceptual & Procedural
4	Analyze and design different types of basic antennas	4	Conceptual & Procedural
5	Analyze the basic concepts of ground, space, sky wave propagation mechanism	4	Conceptual & Procedural

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



Course Name/code: Data Communication Networks/KEC-063		Session:2021-22	
Sem: VI Even Semester			
S.No	Course Outcomes		
Students will be able to		Bloom Level	Knowledge Dimension
1	Understand the basic concepts in design of Data communication networks	2	Conceptual
2	Understand the various aspects of physical layer and data link layer	2	Conceptual
3	Understand the various multiple Access technique and various IEEE standards	2	Factual
4	Understand the various protocols, IP addresses utilized in network layer and connecting devices	2	Conceptual
5	Analyze the protocols utilized in transport layer and application layer	3	Conceptual

Mapping of Course outcomes with Program Outcomes														
Course:														
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	-
CO2	1	2	2	3	3	1	-	-	-	-	-	1	2	-
CO3	3	2	2	2	1	1	-	-	-	-	-	1	2	-
CO4	2	2	3	3	2	1	-	-	-	-	-	1	2	2
CO5	2	2	2	3	1	1	-	-	-	-	-	1	2	-
Target Level	2	2	2.4	2.8	1.6	1.2				1		1	2.2	2



Course Name/code : COI/ KNC-601		Session:2021-22	
Sem: Odd Semester			
S.No	Course Outcomes		
Students will able to		Bloom Level	Knowledge Dimension
1	Identify and explore the Basic features and modalities about the Indian constitution.	Remember, Understand (1,2)	Conceptual
2	Differentiate and relate the functioning of Indian parliamentary system at the center and state level	Remember, Understand (1,2)	Conceptual
3	Differentiate different aspects of the Indian Legal System and its related bodies.	Remember, Understand (1,2)	Conceptual
4	Discover and apply different laws and regulations related to engineering practices.	Remember, Understand (1,2)	Conceptual, Procedural
5	Correlate role of engineers with different organizations and governance models	Remember, Understand (1,2)	Conceptual

Course Code:	Programme Outcome (PO)												PSO	
	1	2	3	4	5	6	7	8	9	10	11	12	1	2
CO-1	-	-	-	-	-	1	1	-	-	-	-	-	-	-
CO-2	-	-	-	-	-	1	1	-	-	-	-	-	-	-
CO-3	-	-	-	-	-	2	1	1	-	-	-	-	-	-
CO-4	1	-	-	-	-	2	2	1	-	1	-	-	-	-
CO-5	1	-	-	-	-	1	1	1	1	1	1	1	-	-
Target Level	1	-	-	-	-	1.4	1.2	1	1	1	1	1	-	-

Course Name/code: Digital Communication Lab (KEC-651)		Session:2021-22	
Sem: VI Even Semester			
S. No	Course Outcomes		
Students will be able to		Bloom Level	Knowledge Dimension
1	Apply fundamental theories of digital communication system in practical aspect.	BL-3	Conceptual
2	Analyze mathematical aspects of communication theory using hardware tools.	BL-4	Conceptual
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-4	Conceptual, Procedural
5	Measure the performance of different modulation and demodulation techniques using virtual tools.	BL-5	Conceptual

Mapping of Course outcomes with Program Outcomes														
Course:														
PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO 11	PO 12	PSO1	PSO2
CO1	3	3	1	2	1	-	-	-	-	1	-	1	2	-
CO2	3	3	3	2	2	-	-	-	-	-	-	1	2	-
CO3	3	3	3	3	1	-	-	-	-	-	-	1	3	-
CO4	3	3	2	3	2	-	-	-	-	-	-	1	2	2
CO5	3	2	1	3	1	-	-	-	-	1	-	1	3	-
Target Level	3	2.8	2	2.6	1.4	-	-	-	-	1	-	1	2.4	2

Course Name/code : Control system Lab/KEC-652		Session:2021-22	
Sem:VI EVEN Semester			
S.No	Course Outcomes		
Students will be able to		Bloom Level	Knowledge Dimension
1	Demonstrate different tools in MATLAB along with the basic matrix operations used in MATLAB.	Apply	Factual, Conceptual, Procedural
2	Evaluate the poles and zeros on s-plane along with transfer function of a given system.	Evaluate	Conceptual, Procedural
3	Evaluate the various specifications of time domain response of a given system.	Evaluate	Conceptual, Procedural
4	Analyze the steady state error of a given transfer function.	Analyze	Conceptual, Procedural
5	Examine the relative stability of a given transfer function using various methods such as root locus, Bode plot and Nyquist plot.	Analyze	Conceptual, Procedural

Mapping of Course outcomes with Program Outcomes														
Course:														
PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO 11	PO 12	PSO1	PSO2
CO1	1	2	2	2	3	1	-	-	3	1	2	2	1	2
CO2	1	3	1	-	3	1	-	-	2	2	1	2	2	-
CO3	2	3	2	3	3	2	-	-	2	2	1	2	2	-
CO4	2	2	2	3	3	1	-	-	2	2	2	2	3	-
CO5	2	3	3	3	3	1	-	-	3	2	2	3	3	-
Target Level	1.6	2.6	2	2.2	3	1.2	0	0	2.4	1.8	1.6	2.2	2.2	2

Course Name/code: Cad for Electronics Lab/KEC-653B		Session: 2021-22	
Sem: VI Even Semester			
S.No	Course Outcomes		
Students will be able to		Bloom Level	Knowledge Dimension
1	Analyze the performance of different type of inverters using PSPICE.	4	Conceptual & Procedural
2	Analyze the performance of the CMOS based logic gates using PSPICE.	4	Conceptual & Procedural
3	Analyze the performance of CMOS based memory circuits using PSPICE.	4	Conceptual & Procedural
4	Analyze the performance of the different MOS based amplifier configurations using PSPICE.	4	Conceptual & Procedural
5	Analyze the performance of different digital circuits using VHDL	4	Conceptual & Procedural

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

Course Name/code: RD / KHU 801		Session: 2021-22	
Sem:VIII Even Semester			
S.No	Course Outcomes		
Students will able to		Bloom Level	Knowledge Dimension
1	Understand the concepts , basics and importance of rural development.	2	Factual
2	Recognize and acquire knowledge of pre and post-independence rural development programs.	3	Factual
3	Understand the importance, structure, significance of Panchayati raj and rural administration.	2	Procedural
4	Understand about the need and importance of human resource development in rural sector.	2	Factual
5	Analyze the importance of rural industrialization and Entrepreneurship.	4	Conceptual, Procedural

Mapping of Course outcomes with Program Outcomes														
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	PS O1	PS O2
CO1	1	1	-	-	-	3	-	2	3	-	-	2	-	-
CO2	-	1	-	-	-	3	-	1	1	-	-	1	-	-
CO3	-	1	-	-	-	3	-	1	2	-	-	2	-	-
CO4	-	2	-	-	-	3	1	2	2	-	-	2	-	-
CO5	1	2	-	-	1	3	2	2	2	-	2	3	-	-
Target Level	0.4	1.4	-	-	0.2	3	0.6	1.6	2	-	0.4	2	-	-

<b>Course Name / Code: Entrepreneurship Development / KOE-083</b>		<b>Session: 2021-22</b>	
<b>Sem: VIII Even Semester</b>			
<b>S. No</b>	<b>Course Outcomes</b>		
	<b>Students will be able to</b>	<b>Bloom Level</b>	<b>Knowledge Dimension</b>
<b>1</b>	Understand the theories of entrepreneurship and Entrepreneurial Development Programmes.	2	Factual
<b>2</b>	Understand the importance of Project Management and Project's life cycle.	5	Conceptual, Procedural
<b>3</b>	Analyze the concept of Accountancy and Preparation of balance sheets.	4	Conceptual, Procedural
<b>4</b>	Understand the importance of Project Planning and control	4	Conceptual, Procedural
<b>5</b>	Analyze Social Sector Perspectives and Social Entrepreneurship regarding laws concerning entrepreneur.	4	Conceptual, Procedural

<b>Mapping of Course outcomes with Program Outcomes</b>														
<b>Course:</b>														
<b>PO</b>	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>	<b>PO6</b>	<b>PO7</b>	<b>PO8</b>	<b>PO9</b>	<b>PO 10</b>	<b>PO 11</b>	<b>PO 12</b>	<b>PSO1</b>	<b>PSO2</b>
<b>CO1</b>	-	-	-	-	-	<b>1</b>	<b>1</b>	<b>2</b>	<b>2</b>	-	<b>3</b>	<b>1</b>	-	-
<b>CO2</b>	-	-	-	-	-	<b>2</b>	<b>2</b>	<b>3</b>	<b>3</b>	-	<b>3</b>	<b>2</b>	-	-
<b>CO3</b>	-	-	-	-	-	<b>3</b>	<b>3</b>	<b>2</b>	<b>3</b>	-	<b>3</b>	<b>2</b>	-	-
<b>CO4</b>	-	-	-	-	-	<b>2</b>	<b>3</b>	<b>2</b>	<b>3</b>	-	<b>3</b>	<b>2</b>	-	-
<b>CO5</b>	-	-	-	-	-	<b>2</b>	<b>3</b>	<b>3</b>	<b>2</b>	-	<b>3</b>	<b>3</b>	-	-
<b>Target Level</b>	-	-	-	-	-	<b>2</b>	<b>2.4</b>	<b>2.4</b>	<b>2.6</b>	-	<b>3</b>	<b>2</b>	-	-

<b>Course Name/code Digital and Social Marketing/KOE-094</b>		<b>Session:2021-22</b>	
<b>Sem: VIII (Even Semester)</b>			
<b>S.No</b>	<b>Course Outcomes</b>		
<b>Students will be able to</b>		<b>Bloom Level</b>	<b>Knowledge Dimension</b>
<b>1</b>	<b>Learn about basics of Digital Marketing other than Traditional Marketing.</b>	<b>3</b>	<b>Conceptual, Procedural</b>
<b>2</b>	<b>Learn about different social media platforms and their use as a tool for marketing.</b>	<b>4</b>	<b>Procedural</b>
<b>3</b>	<b>Learn about different fields and tools used for Digital marketing.</b>	<b>3</b>	<b>Conceptual, Procedural</b>
<b>4</b>	<b>Learn about the business management in digital marketing.</b>	<b>2</b>	<b>Procedural</b>
<b>5</b>	<b>Learn about the innovative global trends and new tools in future.</b>	<b>3</b>	<b>Conceptual, Procedural</b>

<b>Mapping of Course outcomes with Program Outcomes</b>														
<b>Course:</b>														
<b>PO</b>	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>	<b>PO6</b>	<b>PO7</b>	<b>PO8</b>	<b>PO9</b>	<b>PO 10</b>	<b>PO 11</b>	<b>PO 12</b>	<b>PSO1</b>	<b>PSO2</b>
<b>CO1</b>	2	1	1	2	2	2	1	-	2	3	3	2	1	3
<b>CO2</b>	3	-	2	1	3	1	2	3	2	-	2	3	-	-
<b>CO3</b>	3	-	3	-	1	-	3	2	-	-	1	-	-	-
<b>CO4</b>	1	3	-	3	-	1	-	1	1	-	-	3	1	-
<b>CO5</b>	3	2	3	1	3	-	-	-	2	-	1	2	2	3
<b>Target Level</b>	<b>2.40</b>	<b>2.00</b>	<b>2.25</b>	<b>1.75</b>	<b>2.25</b>	<b>1.33</b>	<b>2.00</b>	<b>2.00</b>	<b>1.75</b>	<b>3.00</b>	<b>1.75</b>	<b>2.50</b>	<b>1.33</b>	<b>3.00</b>

Course Name/code Human Values in Vedic Darsana/KOE099		Session:2021-22	
Sem: VIII Even Semester			
S.No	Course Outcomes		
Students will be able to		Bloom Level	Knowledge Dimension
1	Students should have knowledge of Vedic Darśana literature and Nyaya Darśana.	2	Conceptual/Factual
2	Students should have knowledge of Vaisheshik Darśana (Philosophy of Matter)	2	Factual/Conceptual/ Metacognitive
3	Students should have introductory knowledge of Sankhya and Yoga Darśana (Philosophy of Spirituality)	2	Conceptual /Metacognitive/Procedural
4	Students should have introductory knowledge of Upaniṣad and Vedanta Darśana (Philosophy of God)	2	Conceptual / Metacognitive
5	Students should know the Purpose for a Human Being based on the Vedic Darśana	4	Conceptual /Metacognitive

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



<b>Course Name / Code: Project / KEC-854</b>		<b>Session: 2021-22</b>	
<b>Sem: VIII Even Semester</b>			
<b>S. No</b>	<b>Course Outcomes</b>		
<b>Students will be able to</b>		<b>Bloom Level</b>	<b>Knowledge Dimension</b>
<b>1</b>	Apply knowledge of fundamentals of Electronics, Programming and Communication Engineering to the analysis and design of a given problem.	3	Conceptual, Procedural
<b>2</b>	Identify and formulate the problem or project and find its solution which is practically feasible.	3	Conceptual, Procedural
<b>3</b>	Use the techniques, skills, and modern engineering tools such as logic works, VHDL, Cadence, MAT Lab necessary for engineering practice	3	Conceptual, Procedural
<b>4</b>	Function on multi-disciplinary teams through effective communication and team behavior.	5	Conceptual, Procedural
<b>5</b>	Accomplish the project to meet desired needs within realistic constraints of environment, economy and manufacturability	6	Conceptual, Procedural

<b>Mapping of Course outcomes with Program Outcomes</b>														
<b>Course:</b>														
<b>PO</b>	<b>PO1</b>	<b>PO2</b>	<b>PO3</b>	<b>PO4</b>	<b>PO5</b>	<b>PO6</b>	<b>PO7</b>	<b>PO8</b>	<b>PO9</b>	<b>PO 10</b>	<b>PO 11</b>	<b>PO 12</b>	<b>PSO1</b>	<b>PSO2</b>
<b>CO1</b>	1	3	2	-	1	2	2	1	3	2	3	1	1	1
<b>CO2</b>	2	3	3	2	-	-	-	3	-	-	1	-	1	-
<b>CO3</b>	2	2	3	1	2	2	2	-	3	-	-	3	2	1
<b>CO4</b>	-	3	2	3	2	1	1	-	2	2	2	2	-	1
<b>CO5</b>	3	3	3	2	3	2	2	2	1	-	1	1	2	3
<b>Target Level</b>	2	2.80	2.60	2	2	1.75	1.75	2	2.25	2	1.75	1.75	1.50	1.50