KKR & KSR INSTITUTE OF TECHNOLOGY & SCIENCES
AUTONOMOUS

UG-Computer Science and Engineering

2021-22

(COURSE OUTCOMES)

KKR & KSR Institute of Technology and Sciences			
Approved by AICTE, New Delhi and Permanent Affiliation from JNTUK, Kakinada, Accredited with "A" Grade by NAAC & NBA			
Department of Computer Science and Engineering			
Subject	**Course**	**Course outcome**	**Level**
MFCS	C211.1	Demonstrate skills in solving mathematical problems.	TL2: Understand
	C211.2	Comprehend mathematical principles and logic.	TL3: Application
	C211.3	Demonstrate knowledge of mathematical modelling and proficiency in using mathematical software	TL2: Understand
	C211.4	Manipulate and analyze data numerically and/or graphically using appropriate software	TL4: Analysis
	C211.5	Communicate effectively mathematical ideas/results verbally or in writing.	TL6: Creation
SE	C212.1	Students will be able to decompose the given project in various phases of a lifecycle.	L2: Understand
	C212.2	Students will be able to choose appropriate process model depending on the user requirements.	L6: Create
	C212.3	Students will be able perform various life cycle activities like Analysis, Design, Implementation, Testing and Maintenance.	Evaluate (Level 3)
	C212.4	Students will be able to know various processes used in all the phases of the product.	Analyze (Level 3)
	C212.5	Students can apply the knowledge, techniques, and skills in the development of a software product.	Apply (Level 3)
PYTHON	C213.1	Develop essential programming skills in computer programming concepts like data types, containers .	TL3: Application
	C213.2	Solve coding tasks related conditional execution, loops.	TL3: Application
	C213.3	Apply data structures and modules to solve the real time problems.	TL3: Application
	C213.4	Solve coding tasks related to the fundamental notions and techniques used in object oriented programming.	TL3: Application
	C213.5	Develop Graphical User Interface applications and Handling exceptions.	TL3: Application
DS	C214.1	Summarize the properties, interfaces, and behaviors of basic abstract data types	TL2: Understand
	C214.2	Discuss the computational efficiency of the principal algorithms for sorting & searching	TL3: Application
	C214.3	Use arrays, records, linked structures, stacks, queues, trees, and Graphs in writing programs	TL2: Understand
	C214.4	Demonstrate different methods for traversing trees	TL4: Analysis
C++	C215.1	Compare and Contrast the procedural and object oriented paradigms withconcepts of streams, classes, functions, data and objects.	TL2: Understand
	C215.2	Develop dynamic memory management techniques using pointers, constructors,destructors, etc	TL3: Application
	C215.3	Apply the concept of function overloading, operator over loading, andreusability of classes.	TL2: Understand
	C215.4	Build virtual functions and polymorphism with the understanding of early andlate binding.	TL4: Analysis

	C215.5	Identify the usage of exception handling, generic programming.	TL6: Creation
	C215.6	Implement data structures with the use of various STL components.	TL3: Application
CO	C216.1	Formulate various Binary codes Representation and procedures for Arithematic Operations.	Create
	C216.2	Develop different computing processors, instruction-codes, and Bus Routing procedures	Applying
	C216.3	Classify various architectures and functionality of central processing unit.	Analyze
	C216.4	Knowledge on various kinds of interrupts, Memory's operations.	Understanding
	C216.5	Evaluate Data transfers and Interprocessor communications.	Evaluate
P&S	C221.1	Understand the concepts of data science and find the values of various measures of central tendencies	Understand (TL2)
	C221.2	Interpret the association of characteristics and through correlation and regression tools.	Application (TL3)
	C221.3	Apply basic principles of probability and sample spaces, Bay’es theorem.	Application (TL3)
	C221.4	Estimate the value of a population parameter, computation of point and its interval.	Evaluation (TL5)
	C221.5	Infer the statistical methods based on small and large sampling tests.	Understand (TL2)
JAVA	C222.1	Describe to realize the concept of Object Oriented Programming & Java Programming Constructs.	Understand (TL2)
	C222.2	Describe the basic concepts of Java such as operators, classes, objects, inheritance, Packages, Enumeration and various keywords	Application (TL3)
	C222.3	Apply the concept of function overloading, operator over loading, and reusability of classes.	Application (TL3)
	C222.4	Apply the concept of exception handling and Input/ Output operations	Evaluation (TL5)
	C222.5	Design the applications of Java & Java applet.	Understand (TL2)
	C222.6	Analyze & Design the concept of Event Handling and Abstract Window Toolkit	Analyze
OS	C223.1	Memorize the concepts of operating systems such as types, services and system calls.	Remember
	C223.2	Implement the process concepts on different processes by using scheduling algorithms.	Apply
	C223.3	Analyze different memory management techniques and gives optimal solutions.	Analyze
	C223.4	Identify the principals of concurrency and apply algorithms for deadlock problems.	Understand & Apply
	C223.5	Implement file system concepts and storage structures.	Apply
	C223.6	Memorize the concepts of System protection & security	Remember
DBMS	C224.1	Describe a Database Management System and Data Models	Understand (TL2)
	C224.2	Explain basic SQL conceps and Relational model.	Understand (TL2)
	C224.3	Design Entity Relationship model and develop SQL queries	Analyze
	C224.4	Analyze various Normal Forms.	Understanding

	C224.5	Discuss Transaction management and various storage structures and indexing techniques	Evaluate
FLAT	C225.1	Classify machines by their power to recognize languages	Analyze
	C225.2	Summarize language classes & grammars relationship among them with the help of Chomsky hierarchy	Remember
	C225.3	Employ finite state machines to solve problems in computing	Understanding
	C225.4	Illustrate deterministic and non-deterministic machines	Understanding
	C225.5	Quote the hierarchy of problems arising in the computer science	Remember
CD	C311.1	Acquire knowledge in different phases and passes of compiler, and specifying different types of tokens by lexcial analyzer, and also able to use the compiler tools like LEX, YACC etc.,	L1:Remembering
	C311.2	Parser and its types ie top down and bottom up parsers	L2:Understanding
	C311.3	Construction of LL, SLR, CLR and LALR parse table	L3: Applying
	C311.4	Syntax directed translation, synthesized and inherited attributes.	TL4: Analysis
	C311.5	Techniques for code optimization	Evaluation (TL5)
UNIX	C312.1	Describe the architecture and features of UNIX Operating System and distinguish it from other Operating System	L1:Remembering
	C312.2	To gain an understanding of important aspects related to the SHELL and the process	L3 :Applying
	C312.3	Write Regular expressions for pattern matching and apply them to various filters for a specific task	L3: Applying
	C312.4	Understand the concepts of process, threads, and file structure.	L2:Understanding
OOAD	C313.1	Find solutions to the complex problems using object oriented approach	L1:Remembering
	C313.2	Identify classes and responsibilities in the problem domain	L2:Understanding
	C313.3	Represent classes, responsibilities and states using UML notation	L3: Applying
	C313.4	Analyze the complex problems through use cases analysis	TL4: Analysis
	C313.5	Evaluate the behavior of the system	Evaluation (TL5)
	C313.6	Build solutions to the complex problems using OOAD and UML notations	TL6: Creation
DBMS	C314.1	Illustrate the need of Data Bases in Real World and also explain Architecture Database Management System along with its Users.	L2 (Understanding)
	C314.2	Design an E-R Model and Relational Model for an Enterprise Data Apply various Relational Algebra Operators on Relations.	Level-6 (Creating)
	C314.3	Explain Various Structured Query Language (SQL) Commands and they can make use of those commands for various operations on Relations.	L3 (Applying)
	C314.4	Define the Purpose of Schema Refinement/Normalization and various Normal Forms in RDBMS and can	

		construct normalized Databases to solve Anomalies.	
	C314.5	Outline the Properties of a Transaction and summarize various types of Concurrency Methods used in RDBMS.	L2(Understanding)
	C314.6	Analyse and categorize various types of File Organizations methods and Indexing Techniques used in RDBMS.	L4 (Analyzing)
OS	C315.1	Memorize the concepts of operating systems such as types, services and system calls.	L1:Remembering
	C315.2	Implement the process concepts on different processes by using scheduling algorithms.	L3: Applying
	C315.3	Analyze different memory management techniques and gives optimal solutions.	T4: Analysis
	C315.4	Identify the principals of concurrency and apply algorithms for deadlock problems.	L3: Applying
	C315.5	Implement file system concepts and storage structures.	L3: Applying
	C315.6	Recall the basic concepts of Linux system and Android system platform.	L1:Remembering
CN	C321.1	Understand OSI and TCP/IP models	L2 Understanding
	C321.2	Differentiate the types of modulation and multiplexing techniques	L4 Analyzing
	C321.3	Illustrate various error control techniques and data link protocols	L4 Analyzing
	C321.4	Analyze MAC layer protocols and LAN technologies.	L4 Analyzing
	C321.5	Evaluate routing and congestion control algorithms.	Evaluation (TL5)
	C321.6	Design applications using internet protocols	TL6: Creation
DWDM	C322.1	Understand stages in building a Data Warehouse	L2 Understanding
	C322.2	Understand the need and importance of pre-processing techniques	L2 Understanding
	C322.3	Understand the need and importance of Similarity and dissimilarity techniques	L2 Understanding
	C322.4	Analyze and evaluate performance of algorithms for Association Rules.	T4: Analysis
	C322.5	Analyze Classification and Clustering algorithms	T4: Analysis
DAA	C323.1	Analyze the asymptotic performance of Algorithms	T4: Analysis
	C323.2	Rigorous correctness proofs of algorithms	L2 Understanding
	C323.3	Demonstrate familarity with major algorithms and Data Strctures	L2 Understanding
	C323.4	Apply important algorithmic design paradigms and methods of analysis	L3: Applying
	C323.5	Synthesize efficient algorithms in common engineering design situations	Evaluation (TL5)
STM	C324.1	Define software testing and identify the basic testing procedures.	L2 Understanding
	C324.2	Illustrate transaction flow testing and data flow testing techniques.	L2 Understanding
	C324.3	Discuss about domain testing and apply reduction procedure to path testing.	L1:Remembering
	C324.4	Apply syntax testing for grammar and analyze decision tables using logic based testing techniques.	L3: Applying

	C324.5	Summarize State Graphs, Graph Matrices and their Applications	L1:Remembering
	C324.6	Select testing tools and generate test cases to resolve the problems in Real time environment.	T4: Analysis
IoT	C325.1	Describe the basics, definitions and vision of Internet of Things (IoT)	Understanding
	C325.2	Discuss the recent initiatives of International organizations and their Standards to design IoT/M2M architectural layers and domains	Understanding
	C325.3	Illustrate the usage of Communication and Message Transfer protocols between connected devices and the web Communication devices used in IoT/M2M.	Applying
	C325.4	Compare and discuss the internet connectivity protocols like HTTP,HTTPS,FTP and various other Application layer Protocols like TelNet	Analyzing
	C325.5	Evaluate the data acquiring and data-storage functions for IoT/M2Mdevices along with various types of Data Analysis methods.	Evaluating
	C325.6	Design and discuss the various Data storage techniques used to store data on Cloud platforms in IoT and also uses of participating sensing and Wireless Sensor Networks .	Creating
CNS	C411.1	Classify the different types of Security Attacks, Services and mechanisms.	Analysis
	C411.2	Describe the different types of symmetric algorithms using the basic mathematical structures	Understand
	C411.3	Describe the different types of asymmetric algorithms using the mathematical concepts.	Understand
	C411.4	Demonstrate the Data Integrity, Digital signatures algorithms and key management.	Application
	C411.5	Demonstrate the protocols PGP, S/MIME, SSL, TLS and their services.	Application
	C411.6	Analyze the various IP security and System security issues.	Analysis
SADP	C412.1	Understand the Software Architecture and its Structural Patterns	L2: Comprehension
	C412.2	Analyze the architecture and build the system	L3: Application
	C412.3	Design Creational and Structural Patterns	L3: Application
	C412.4	Understand about Behavioral design patterns	L2: Comprehension
	C412.5	Utilizing the Architectural Structures for software system	L3: Application
WT	C413.1	Understand HTML tags and CSS properties to design web pages	Understanding(TL2)
	C413.2	Describe the basic concepts of Java Scripts to design dynamic web pages	Evaluating (TL5)
	C413.3	Design to create structure of web page, to store the data in web document, and transport information through web.	Understanding(TL2)
	C413.4	Familiarize the concepts of PHP	Applying(TL3)
	C413.5	Familiarize the concepts of PERL and Ruby	Applying(TL3)

	C413.6	Write simple client-side scripts using AJAX	Creating(TL6)
MEFA	C414.1	Describe Managerial Economics& state different types of demand	Understand
	C414.2	Explain different types of Production functions &Cost Concepts	Remember
	C414.3	Recall the nature of Markets and different Pricing methods	Understand
	C414.4	State different forms of Business organizations and phases in BusinessCycles	Remember
	C414.5	Assess the Financial position of a company by using different techniques	Analysis
	C414.6	Illustrate different Investment proposals with help of Capital budgeting	Application
BDA	C415.1	Apply the data structures in java	Apply L3
	C415.2	Formulation of Hadoop Framework in different modes	Synthesis L5
	C415.3	Developing Map Reduce Programs	Apply L3
	C415.4	Explain input and output operations for Hadoop	Comprehension L2
	C415.5	Apply PIG tool for Hadoop	Apply L3
	C415.6	Apply structure to Hadoop with HIVE	Apply L3
CC	C416.1	State and Describe the central dimensions of the provocation of cloud computing, in terms of computing paradigms, technologies & Models.	Comprehension
	C416.2	List and differentiate the different levels of virtualization, its structures / tools, hardware virtualization, virtual clusters and resource management.	Knowledge
	C416.3	Use the cloud computing and service models, architecture designs and its security	Analysis
	C416.4	State and Explain the basics of cloud and grid platforms, parallel and distributed programming paradigms and programming support of GAP, AWS, MS Azure	Comprehension
	C416.5	List and Describe the cloud resource management and scheduling along with cloud storage systems	Knowledge
DS	**C421.1**	Describe Characterization of distributed systems and various models of Distributed systems.	Understand
	C421.2	Explain Inter process Communication in a distributed environment and standard protocols used in Distributed systems.	Understand
	C421.3	Define Distributed objects and Remote Invocation.	Knowledge
	C421.4	Apply the various Resource Management Systems.	Apply L3
	C421.5	Examine the various Distributed File systems.	Evaluating (TL5)
	C421.6	State Distributed Transactions and Replications.	Knowledge
MS	C422.1	Apply the concept of Management, Motivational theories, and designing different organizational structures in business organizations.	Application

	C422.2	Examine the quality of products using SQC and also maintain Inventory	Analysis
	C422.3	Analyze different functions of an organization and strategies of product life cycles and channels of distribution	Analysis
	C422.4	Designing project schedules with the help of network analysis	Synthesis
	C422.5	Differentiating Vision, Mission, and Goals of an organization and formulating strategies.	Comprehension
	C422.6	Applying different concepts of management at contemporary issues of an organization.	Application
ML	C423.1	Familiarity with a set of well-known supervised, unsupervised and semi-supervised	Understand
	C423.2	Able to know learning algorithms	Understand
	C423.3	The ability to implement some basic machine learning algorithms	Knowledge
	C423.4	Understanding of how machine learning algorithms are evaluated	Understand
ANN	C424.1	To identify the similarities and differences between biological and artificial neurons with their architectures along with different activation functions.	Analysis
	C424.2	To understand the impact of Mathematics in ANN and different learning mechanisms for error correction.	Comprehension
	C424.3	To understand Structure and learning of single layer Perceptron along with bayes' classifier.	Comprehension
	C424.4	To understand Structure of Multi-layer feed forward networks and concept of Back propagation algorithm along with Functional approximation.	Comprehension
	C424.5	To identify Pattern separability and interpolation using Radial Basis Function Networks.	Analysis
	C424.6	To introduce the concept of Support Vector machines and it's applicability in modeling machine learning algorithms.	Application

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UG-Electrical and Electronics Engineering

2021-22

(COURSE OUTCOMES)

KKR & KSR INSTITUTE OF TECHNOLOGY & SCIENCES

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

COURSE OUTCOMES

Academic Year: 2021-2022

List of Subjects

4-1 R16

C411	Utilization of Electrical Energy (UEE)
C412	Linear IC Applications(LICA)
C413	Power System Operation & Control (PSOC)
C414	Switchgear and Protection(SGP)
C415	Instrumentation(INST)
C416	Special Electrical Machines (SEM)

3-1 R19

C311	Power Systems-II (PS-II)
C312	Power Electronics (PE)
C313	Linear IC Applications(LICA)
C314	Digital Signal Processing (DSP)
C315	Microprocessors and Microcontrollers (MPMC)

2-1 R20

C211	Numerical Methods and Transformations (NMT)
C212	Electrical Circuits and Synthesis (ECS)
C213	Electromagnetic Fields (EMF)
C214	Electrical Machines-I (EM-I)
C215	Analog Electronics (AE)
C216	Constitution of India (COI)

4-2 R16

C421	Digital Control Systems (DCS)
C422	Flexible Alternating Current Transmission Systems (FACTS)
C423	Electrical Distribution Systems (EDS)
C424	HVDC Transmission (HVDC)

3-2 R19

C321	Electrical Drives (ED)
C322	Power System Analysis (PSA)
C323	Data Structures(DS)
C324	Digital Control Systems (DCS)
C325	Digital IC applications (DICA)
C326	Database Management System (DBMS)

2-2 R20

C221	Electrical machines –II (EM-II)
C222	Control systems (CS)
C223	Digital Electronics (DE)
C224	Data Structures (DS)
C225	Principles of Economics & management (PEM)

IV-I COS (2021-2022)

UEE	C411.1	Describe various types of electric drives Knowledge
UEE	C411.2	Explain various electric heating methods
UEE	C411.3	Explain various electric welding methods
UEE	C411.4	Demonstrate fundamental and various methods of illumination
UEE	C411.5	Analyze the electric traction Analysis
UEE	C411.6	Asses the energy demand and management Evaluation
LICA	C412.1	Define the concepts of differential amplifiers. Knowledge
LICA	C412.2	Report the characteristics of op-amp Application
LICA	C412.3	Choose linear ICs as per the requirements Application
LICA	C412.4	Apply the knowledge of filters on real time applications. Application
LICA	C412.5	Distinguish between timers and PLL Comprehension
LICA	C412.6	Interpret convertor circuits using linear ICs
PSOC	C413.1	Analyze the Economic dispatch of Thermal Power Stations.
PSOC	C413.2	Solve optimal scheduling of hydro thermal problem
PSOC	C413.3	Describe the unit commitment problem.
PSOC	C413.4	Discuss Load Frequency control.
PSOC	C413.5	Apply PID controllers in single area and two area systems.
PSOC	C413.6	Explain reactive power control and line power compensation.
SGP	C414.1	explain the principles of arc interruption and different types of circuit breakers
SGP	C414.2	explain the working principle and operation of different types of relays.
SGP	C414.3	Distinguish different types of protective schemes used for Alternators and Transformers
SGP	C414.4	Distinguish various types of protective schemes used for feeders and bus bars
SGP	C414.5	explain different types of static relays in the system
SGP	C414.6	explain the different types of over voltages in the system, including existing protective schemes required for insulation co–ordination
INST	C415.1	Represent various types of signals.
INST	C415.2	Explain various types of transducers.
INST	C415.3	Explain the Measurement of various non electrical quantities.
INST	C415.4	Explain working principle of various types of digital Voltmeters.
INST	C415.5	Explain the Measurement of various parameters of a signal with the help of CRO.
INST	C415.6	Analyze the various types of signal analyzers.
SEM	C416.1	Explain the characteristics of common permanent magnets used in electrical machines.

SEM	C416.2	Explain performance, control and applications of stepper motors.
SEM	C416.3	Describe operation, applications and control of SRM(switched reluctance motor)
SEM	C416.4	Compare 120 0 and 180 0 magnetic areas of commutation (permanent magnet brushless dc motor) PMBLDC motor.
SEM	C416.5	Distinguish square wave and sine wave PMBLDC motor.
SEM	C416.6	Illustrate the theory of travelling magnetic field and applications of(linear induction motor) LIM.

III-I COS (2021-2022)

PS-II	C311.1	Compute the transmission line parameters
PS-II	C311.2	Determine regulation and efficiency of short, medium and long transmission lines
PS-II	C311.3	Explain the surge propagation, reflection and refraction in transmission lines.
PS-II	C311.4	Explain the Factors Governing the Performance of Transmission line
PS-II	C311.5	Calculate Sag , Tension Calculations and String efficiency.
PE	C312.1	Draw the characteristics of SCR,MOSFET,IGBT
PE	C312.2	Determine the average load voltage and current for single phase-phase controlled rectifiers
PE	C312.3	Calculate the performance parameters of 3-ph bridge converters & AC – AC Converters, cycloconverters
PE	C312.4	Draw the output waveforms of choppers
PE	C312.5	Apply various PWM techniques for single phase inverters
LDIC	C313.1	Define the concepts of differential amplifiers. Knowledge
LDIC	C313.2	Choose linear ICs and non linear ICs as per the requirements Application
LDIC	C313.3	Explain Multipliers And Modulators
LDIC	C313.4	Distinguish between timers and PLL Comprehension
LDIC	C313.5	Explain Digital To Analog And Analog To Digital Converters
DSP	C314.1	Explain the concepts of signal processing& transforms.
DSP	C314.2	appraise the Fat Fourier algorithm.
DSP	C314.3	design IIR filters.
DSP	C314.4	design FIR filters.
DSP	C314.5	appreciate the concepts of multirate signal processing.
MPMC	C315.1	Explain the organization and architecture of Microprocessor
MPMC	C315.2	Explain addressing modes to access memory
MPMC	C315.3	Explain Microprocessors I/O interfacing
MPMC	C315.4	Explain the programming principles for 8051
MPMC	C315.5	Explain the organization and architecture of PIC

II-I COS (2021-2022)

NMT	C211.1	evaluate approximating the roots of polynomial and transcendental equations
NMT	C211.2	apply newton's forward & backward interpolation and Lagrange's formulae for equal and unequal intervals
NMT	C211.3	apply different algorithms for approximating the solutions of ordinary differential equations to its analytical computations
NMT	C211.4	apply the Laplace transform for solving differential equations
NMT	C211.5	find or compute the Fourier series of periodic signals and apply integral expressions forthe forwards and inverse Fourier transform to a range of non- periodic waveforms
ECS	C212.1	solve the three phase circuits under balanced & unbalanced conditions.
ECS	C212.2	analyze the transient response of electrical circuits for DC excitation.
ECS	C212.3	analyze the transient response of electrical circuits for AC excitation.
ECS	C212.4	determine the different parameters of two port network.
ECS	C212.5	realize the electrical equivalent network for a given network transfer function
EMF	C213.1	determine electric field intensity and electric potential using Gauss's law
EMF	C213.2	calculate magnetic field intensity due to current
EMF	C213.3	apply ampere' s law, and the Maxwell' s second and third equations in static magnetic field
EMF	C213.4	analyze the magnetic forces and torque produced by currents in magnetic field
EMF	C213.5	understand the concept of time varying fields and calculate induced EMF's
EM-I	C214.1	demonstrate the principle, construction, operation and characteristics of DC machines.
EM-I	C214.2	determine the performance of DC machine through different methods
EM-I	C214.3	distinguish different types of speed control methods of DC machine
EM-I	C214.4	demonstrate the construction and operation of two winding transformer
EM-I	C214.5	a. analyze the performance of single-phase transformer b. b. demonstrate the operation of three phase transformer c. c. achieve three-phase to two phase transformation
AE	C215.1	understand the concepts of the diode and its operation
AE	C215.2	identify the appropriate diode for an application and designing a solution
AE	C215.3	identify the suitable transistor and its configuration that applies to give a solution for a problem.
AE	C215.4	understand the concepts of op-amp and its operation
AE	C215.5	identify the required IC to design and fulfil the given requirement.
COI	C216.1	Understand historical background of the constitution making and its importance for building a democratic India.

COI	C216.2	Understand the functioning of three wings of the government i.e., executive, legislative and judiciary.
COI	C216.3	Understand the value of the fundamental rights and duties for becoming good citizen of India.
COI	C216.4	Analyze the decentralization of power between central, state and local self-government
COI	C216.5	Apply the knowledge in strengthening of the constitutional institutions like CAG, Election Commission and UPSC for sustaining democracy

II-II COS (2021-2022)

EM-II	C221.1	explain the operating characteristics three phase induction machines.
EM-II	C221.2	distinguish different method of starting and speed control of three induction machines.
EM-II	C221.3	explain the construction an operating characteristic of a synchronous generator
EM-II	C221.4	demonstrate the principal operation, characteristics and the phenomenon of synchronous motor
EM-II	C221.5	differentiate the starting methods of single-phase induction motor
CS	C222.1	derive the transfer function of physical systems by applying block diagram and signal flow graph techniques.
CS	C222.2	analysis of system using time domain specifications
CS	C222.3	analysis the stability of system using frequency domain specifications and understand the compensators to improve system performance.
CS	C222.4	analyze absolute and relative stability of LTI systems.
CS	C222.5	examine the concepts of controllability and observability
DE	C223.1	understand the concepts of logic gates and minimization of Boolean equations
DE	C223.2	identify the appropriate combinational circuit based on its operation for an application and designing a solution
DE	C223.3	design counters and registers that applies to give a solution for a problem.
DE	C223.4	know the diode and transistor switching characteristics
DE	C223.5	understand sampling gates and to design NAND and NOR gates using various logic families.
DS	C224.1	analyze algorithms and describe searching, sorting and hashing techniques
DS	C224.2	describe the concepts of stacks and queues.
DS	C224.3	apply the concepts of linked lists.
DS	C224.4	describe the concepts of trees.
DS	C224.5	explain the concepts of graphs

PEM	C225.1	adopts the Managerial Economic concepts for decision making and forward planning. Also know law of demand and its exceptions, to use different forecasting methods for predicting demand for various products and services.
PEM	C225.2	assess the functional relationship between Production and factors of production and list out various costs associated with production and able to compute BEP and significance of BEA.
PEM	C225.3	outline the different types of business organizations and provide a basic insight into national economical activities.
PEM	C225.4	familiarize with the concepts of management and to provide basic insight into management practices.
PEM	C225.5	provide conceptual knowledge on functional management.

III-II COS (2021-2022)

ED	C321.1	Explain the fundamentals of electric drive and different electric braking methods.
ED	C321.2	Analyze the operation Controlled Converter Fed DC Motor Drives
ED	C321.3	Explain DC–DC Converters Fed DC Motor Drive
ED	C321.4	Analyze Stator side control of 3-phase Induction motor Drive
ED	C321.5	Explain Rotor side control of 3-phase Induction motor Drive & Synchronous Motor Drives
PSA	C322.1	Form a Ybus and Zbus for a power system networks.
PSA	C322.2	understand the load flow solution of a power system using different methods.
PSA	C322.3	Find the fault currents for all types faults to provide data for the design of protective devices
PSA	C322.4	Find the sequence components of currents for unbalanced power system network.
PSA	C322.5	Analyze the steady state, transient and dynamic stability concepts of a power system.
DS	C323.1	Do operations on linear data structures and their applications.
DS	C323.2	Do various operations on linked lists..
DS	C323.3	Explain The basic concepts of Trees, Traversal methods and operations.
DS	C323.4	Analyze Concepts of implementing graphs and its relevant algorithms.
DS	C323.5	Perform Sorting and searching algorithms
DCS	C324.1	Define Digital control systems ,A/D and D/A conversion
DCS	C324.2	Apply z–transformations to different systems
DCS	C324.3	Test controllability and Observability of the system
DCS	C324.4	examine the stability for digital control systems
DCS	C324.5	Design of discrete–time control systems by conventional methods

DICA	C325.1	Explain the structure of commercially available digital integrated circuit families VHDL
DICA	C325.2	Explain modeling the digital system design blocks.
DICA	C325.3	Explain Combinational Logic Design
DICA	C325.4	Explain Sequential Logic Design
DICA	C325.5	Design Synchronous and Asynchronous Sequential Circuits
DBMS	C326.1	Explain Fundamentals of DBMS.
DBMS	C326.2	Explain Different modes of DBMS.
DBMS	C326.3	Explain Basic query structures and normal forms.
DBMS	C326.4	Explain Control aspects of DBMS.
DBMS	C326.5	Explain File organization and indexing.

IV-II COS (2021-2022)

DCS	C421.1	Define Digital control systems ,A/D and D/A conversion
DCS	C421.2	Apply z–transformations to different systems
DCS	C421.3	examine State space analysis for digital control systems
DCS	C421.4	Test controllability and Observability of the system
DCS	C421.5	examine the stability for digital control systems
DCS	C421.6	Design of discrete–time control systems by conventional methods
HVDC	C422.1	Explain basic concepts of HVDC Transmission.
HVDC	C422.2	analyze the converter configuration.
HVDC	C422.3	Explain the control of converter and HVDC Transmission.
HVDC	C422.4	Explain the significance of reactive power control and AC/Dc load flow.
HVDC	C422.5	Explain different converter faults, protection and effect of harmonics.
HVDC	C422.6	Explain low pass and high pass filters.
FACTS	C423.1	Explain the concept of power flow control in transmission system.
FACTS	C423.2	Explain the concepts of VSC and CSC.
FACTS	C423.3	Describe the significance of shunt compensation and role of FACTS devices on system control.
FACTS	C423.4	Demonstrate the functional operation and control of TCR and TSR, TSC, TSC-TCR, SVC and STATCOM.
FACTS	C423.5	Demonstrate the functional operation and control of GCSC, TSSC,TCSC.
FACTS	C423.6	Explain the concepts of UPFC and IPFC.
EDS	C424.1	Calculate various factors of distribution systems
EDS	C424.2	Design the substation and feeders of distribution system
EDS	C424.3	Determine the voltage drop and power loss of distribution system

EDS	C424.4	Illustrate the protection schemes and its coordination in the distribution system
EDS	C424.5	Analyze the effect of compensation on P.F improvement
EDS	C424.6	Examine the effect of voltage, current variations of distribution system performance

KKR & KSR INSTITUTE OF TECHNOLOGY & SCIENCES
AUTONOMOUS

UG-CIVIL Engineering

2021-22

(COURSE OUTCOMES)

Transportation Engineering

Course Outcomes:

S.No	Course Outcome	TL	Blooms Taxonomy
1	Identify the highway development in India and various drawings, and alignment of highway	1	Remember
2	Design the Geometric Features of a Highway	6	Creating
3	Defend the basic concepts of traffic engineering.	5	Analysis
4	Investigate the various components of Airport and design of runway	6	Creating
5	Describe the Plan, construct and maintain Docks and Harbour.	2	Understanding

Strength of Materials-II

Course Outcomes:

Course Outcome	Blooms Taxonomy
Can calculate critical loads & effective lengths of columns with different end conditions using different methods	Apply

Structural Analysis

Course Outcomes:

Course Outcome	Blooms Taxonomy
Able to calculate shear force, bending moment and deflections in propped cantilever conditions	Analyze
Able to calculate shear force, bending moment and deflections in fixed beams	Analyze
Able to calculate shear force, bending moment and deflections in continous beams and can analyze through slope deflection method	Analyze
Able to understand the energy theorems	Apply
Able to sketch influence lines diagrams under different loadings.	Apply

Fluid Mechanics & Hydraulic Machinery Laboratory

COURSE OUTCOMES:

By the end of the course the students will be able

1 To understand the determination of discharge for hydraulic equipments.
2 To understand the minor and major losses in pipes.
3 To understand the performance of turbines and pumps with varying speed.

Course Outcomes:

Course Outcome	Blooms Taxonomy
1. Know about the composition, manufacturing process, types and testing of cement and properties of materials used for making concrete.	Understand
2. Understand the properties and behaviour of concrete during fresh state and hardened state by various theories, concepts and tests.	Knowledge

Concrete Technology

Course Outcomes:

Course Outcome	Blooms Taxonomy
1. Know about the composition, manufacturing process, types and testing of cement and properties of materials used for making concrete.	Understand
2. Understand the properties and behaviour of concrete during fresh state and hardened state by various theories, concepts and tests.	Knowledge

Building Materials, Construction and Planning

Course Outcomes:

- Identify different building materials and their importance in building construction
- Remember Differentiate brick masonry, stone masonry construction and bonds used in construction of walls of buildings.
- Understand Discuss the importance of different building components used in construction practices.
- Understand Explain about the form work, scaffolding and shoring and regarding acoustics of building

Understand Describe capable of understanding building plan and have knowledge about building rules, bye-laws and building

concrete Technology Laboratory

COURSE OUTCOMES:

After the successful completion of the course, students are able to

1. Finding the properties of concrete making materials like cement, fine aggregate and coarse aggregate for design mix of concrete

2. Properties and behavior of concrete in fresh and hardened states

3. Using nondestructive testing methods to estimate quality of concrete

4. Know the properties of self-compacting concrete and fibre reinforced concrete

ENVIRONMENTAL ENGINEERING

COURSE CODE COURSE OUTCOME BLOOMS TAXONOMY

1 Assess the quality and quantityof water requirements for acit Analyse

2 Designof different treatment units and distribution systems for water supply Evaluate

3 Analyze the characteristics,collection,conveyanceanddisposal of waste water Analyse

4 Designof sewers and various units in a waste water treatment plant Evaluate

5 Design of secondary and biological treatment units Evaluate