KAMARAJ
COLLEGE OF ENGINEERING & TECHNOLOGY
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S.P.G.Chidambara Nadar - C.Nagammal Campus
S.P.G.C. Nagar, K.Vellakulam – 625 701 (Near VIRUDHUNAGAR).

NAAC – CRITERION2

Teaching – Learning& Evaluation

2.6.1 Sample Course Outcomes and its mapping with Programme Outcomes & Programme Specific Outcomes

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Regulation : R2017 **Department** : EIE

Year/ Semester : III/VI **Subject Code** : CS8391

Subject Name : Data Structures

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
CO1	Illustrate the basic concepts of List ADT and its applications	K2- Understand
CO2	Discuss the applications of Stack and Queue ADT for problem solving	K2- Understand
CO3	Demonstrate the different operations and applications of Tree ADTs	K2- Understand
CO4	Explain the algorithms on a Graph ADT for problem solving	K2 -Understand
CO5	Identify appropriate sorting and searching techniques for problem Solving	K2 -Understand

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program outcomes												Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CS8391	CO1	L	-	-	-	-	-	-	-	L	L	-	-	L	L
	CO2	L	L	L	-	-	-	-	-	L	-	-	L	L	L
	CO3	M	M	L	L	-	-	-	-	L	-	-	L	L	L
	CO4	M	M	L	L	-	-	-	-	L	-	-	L	L	L
	CO5	L	-	-	-	-	-	-	-	L	-	-	L	L	L

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Subject Expert

HoD

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Regulation: R2017 **Department:** EIE

Year/ Semester: III / VI **Subject Code:** EE8071

Subject Name: Applied Soft Computing

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
CO1	**Explain** the basic architecture, model and types of neural networks	K2
CO2	**Apply** the neural networks in real time control processes	K3
CO3	**Outline** the basics of fuzzy systems and hybrid fuzzy systems	K2
CO4	**Apply** fuzzy intelligent controllers for real time problems	K3
CO5	**Solve** the optimization problems using genetic algorithm or any other search techniques	K3

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program outcomes												Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
17C314	CO1	M	M						L	L	M		L	L	L
	CO2	M	M						L	L	M		L	M	L
	CO3	M	M						L	L	M		L	L	L
	CO4	H	M						L	L	M		L	M	L
	CO5	H	M						L	L	M		L	M	L

H-High, M-Moderate, L-Low

Subject Expert

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Regulation: R2017

Department: EIE

Year/ Semester: III / VI

Subject Code: EI8077

Subject Name: POWER ELECTRONICS AND DRIVES

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
R17C313.1	**Classify** various power semiconductor switching devices based on its construction, characteristics and design of snubber circuit.	K2 - Understand
R17C313.2	**Solve** the performance parameters of various controlled rectifiers, dual converters, AC Voltage controllers & Matrix Converters	K3 – Apply
R17C313.3	**Explain** the control strategies and commutation circuits of different DC- DC converters	K2 – Understand
R17C313.4	**Interpret** single phase and three phase VSI, CSI, resonant inverters and their different switching PWM techniques.	K2 – Understand
R17C313.5	**Explain** the control strategies of DC drives & AC drives with their static and dynamic equations	K2 - Understand

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program outcomes											Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
EI8077	17C313.1	H	L	L	-	M	-	-	-	M	M	M	M	L	-
	17C313.2	H	H	M	M	-	-	-	-	-	-	-	M	H	M
	17C313.3	H	H	M	-	-	-	-	-	-	M	-	M	M	M
	17C313.4	H	H	M	M	-	-	-	-	L	-	-	M	M	M
	17C313.5	H	L	L	-	-	-	-	-	L	M	M	L	L	-

H-High, M-Moderate, L-Low

Subject Expert

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Regulation : R2017 **Department : CSE**

Year/ Semester : IV/VII **Subject Code : CS8083**

Subject Name : Multicore Architectures and Programming

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
CO1	Understand the fundamentals of multi core processors	K2
CO2	Identify the performance issues in a parallel program	K2
CO3	Develop parallelized programs using OpenMP	K3
CO4	Implement parallelized programs using MPI	K3
CO5	Design parallel programming solutions to common problems	K3

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program outcomes												Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CS8083, Multicore Architectures and Programming	CO1	M	M	L	L	L	-	-	-	-	-	L	L	M	L
	CO2	M	M	L	L	L	-	-	-	-	-	L	L	M	L
	CO3	M	L	L	L	-	-	-	-	-	-	L	L	M	L
	CO4	M	L	L	L	-	-	-	-	-	-	L	L	M	L
	CO5	M	M	L	L	L	-	-	-	-	-	L	L	M	L

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Subject Expert

HOD - CSE

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Regulation: 2020 **Department: CHEMISTRY**

Year/ Semester: I / I **Subject Code: CY1171**

Subject Name: Engineering Chemistry

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
CO1	Illustrate various methods in the purification of water	K3
CO2	Construct energy storage devices based on concepts of electrochemistry	K3
CO3	Recognize different forms of energy resources to apply them for suitable applications in energy sectors	K3
CO4	Demonstrate the methods to synthesize polymers for specific applications	K3
CO5	Identify the different materials used in engineering and technology applications	K3

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program outcomes												Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
	CO1	3											1		
	CO2	3											1		
	CO3	3											1		
	CO4	3											1		
	CO5	3											1		

H-High, M-Moderate, L-Low

Subject Expert **HoD**

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Regulation: 2020 **Department: EIE**

Year/ Semester: II/IV **Subject Code: EE1481**

Subject Name: Linear and Digital Integrated Circuits Laboratory

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
C215.1	Design and demonstrate analog electronic circuits using operational amplifier	K3
C215.2	Design and demonstrate analog electronic circuits using timer 555.	K3
C215.3	Design and demonstrate digital circuits involving Boolean functions using basic logic gates.	K3
C215.4	Design and demonstrate combinational circuits such as adder, subtractor, code converters, encoders and decoders.	K3
C215.4	Design and demonstrate sequential logic circuits such as Flip-Flops, Counters (synchronous and asynchronous), and Shift Registers.	K3

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program outcomes											Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C215	CO1	H	M	L									M	H	M
	CO2	H	M	L									M	H	M
	CO3	H	M	L									M	H	M
	CO4	H	M	L									M	H	M
	CO5	H	M	L									M	H	M

H-High, M-Moderate, L-Low

Subject Expert **HoD**

Regulation : **R2020** **Department** : **Information Technology**

Year/ Semester : **II / IV** **Subject Code** : **CS1371**

Subject Name : **Database Management Systems**

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
20ITC210.1	Infer the basic concepts of database system and model ER diagram for real time applications	K2 - Understand
20ITC210.2	Use appropriate SQL commands to store and access data from Relational Database	K3 – Apply
20ITC210.3	Construct normalized database for real world scenario using functional dependencies	K3 – Apply
20ITC210.4	Illustrate the importance of transaction and concurrency control to maintain consistency in a database	K2 - Understand
20ITC210.5	Interpret the mechanism incorporated in file organization and Query processing	K2 - Understand

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program outcomes											Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CS1371	20ITC210.1	M	L	L	L	-	-	-	-	-	-	-	L	M	L
	20ITC210.2	M	M	-	L	-	-	-	-	-	-	-	L	M	L
	20ITC210.3	M	M	L	-	-	-	-	-	-	-	-	L	M	L
	20ITC210.4	M	M	-	-	-	-	-	-	-	-	-	L	M	L
	20ITC210.5	M	M	-	-	-	-	-	-	-	-	-	L	M	L

Correlation Levels: L:Slight M:Moderate H:Substantial

Subject Expert **HoD**

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Regulation : **R2020** **Department** : **Information Technology**

Year/ Semester : **II / IV** **Subject Code** : **IT1401**

Subject Name : **Data Structures**

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
20ITC211.1	Utilize an appropriate linear data structure to provide solution for real life scenario	K3 – Apply
20ITC211.2	Make use of Stack and Queue ADTs for problem solving.	K3 – Apply
20ITC211.3	Illustrate the structural properties and operations on various types of Tree ADTs in balanced search.	K2 – Understanding
20ITC211.4	Select an appropriate graph algorithms to solve real life problems.	K3 – Apply
20ITC211.5	Choose an appropriate sorting, searching or indexing strategy for effective data storage and retrieval.	K3 – Apply

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program Outcomes												Program Specific Outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
IT1401	20ITC211.1	M	L	L	-	-	-	-	-	L	-	-	M	M	M
	20ITC211.2	M	M	M	L	-	-	-	-	L	-	-	M	M	M
	20ITC211.3	M	M	M	M	-	-	-	-	L	-	-	L	M	M
	20ITC211.4	M	M	M	M	-	-	-	-	L	-	-	L	M	M
	20ITC211.5	M	M	M	M	-	-	-	-	L	-	-	L	M	M

Correlation Levels: L:Slight M:Moderate H:Substantial

Subject Expert **HoD**

Regulation : R2020 **Department** : Information Technology

Year/ Semester : II / IV **Subject Code** : IT1402

Subject Name : Operating Systems

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
20ITC212.1	Elucidate the evolution of operating system along with its structure and functions	K2 - Understand
20ITC212.2	Demonstrate the various process management algorithms	K2 - Understand
20ITC212.3	Illustrate the performance of various memory management techniques	K2 - Understand
20ITC212.4	Describe file, directory system and I/O management techniques	K2 - Understand
20ITC212.5	Summarize some popular operating systems like Linux, Mobile OS like iOS and Android	K2 - Understand

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program Outcomes												Program Specific Outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
IT1402	20ITC212.1	M	L	-	L	L	-	-	-	-	-	-	-	M	M
	20ITC212.2	M	H	-	M	L	-	-	-	-	-	-	-	M	M
	20ITC212.3	M	H	-	M	L	-	-	-	-	-	-	-	M	M
	20ITC212.4	M	H	-	M	L	-	-	-	-	-	-	-	M	M
	20ITC212.5	M	L	-	L	L	-	-	-	-	-	-	-	M	M

Correlation Levels: L:Slight M:Moderate H:Substantial

Subject Expert **HoD**

Regulation : R2020 **Department** : Information Technology

Year/ Semester : II / IV **Subject Code** : IT1403

Subject Name : Software Engineering

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
20ITC213.1	Compare and contrast the various Process Models to develop software projects.	K2 - Understand
20ITC213.2	Explain the concepts of requirement engineering and analysis modelling.	K2 - Understand
20ITC213.3	Illustrate the software design process and various types of design models.	K2 - Understand
20ITC213.4	Paraphrase the relevant coding standards, testing practices and Reengineering Process Model.	K2 - Understand
20ITC213.5	Outline the various activities involved in the software project management.	K2 - Understand

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program outcomes												Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
IT1403	20ITC213.1	M	M	L	L	-	-	-	-	-	-	-	L	L	L
	20ITC213.2	M	L	M	M	-	-	-	-	-	H	L	L	M	M
	20ITC213.3	M	M	M	M	L	-	-	-	-	-	-	L	M	M
	20ITC213.4	M	M	L	M	L	-	-	-	-	-	-	L	M	M
	20ITC213.5	M	M	L	M	L	-	L	-	-	-	H	L	M	M

Correlation Levels: L: Slight M: Moderate H: Substantial

Subject Expert **HoD**

Regulation : R2020 **Department : Information Technology**

Year/ Semester : II / IV **Subject Code : EC1406**

Subject Name : Communication Engineering

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
20ITC214.1	Explain the different analog communication techniques and their comparison.	K2- Understand
20ITC214.2	Interpret various pulse communication systems with the fundamentals of data communication for serial and parallel interface.	K2- Understand
20ITC214.3	Compare the different types of digital communication methods used for high bit rate transmission	K2- Understand
20ITC214.4	Explain the concepts of source, error control and block coding techniques for enhancing the rating of transmission and minimizing the errors in transmission	K2- Understand
20ITC214.5	Illustrate the various radio communication medium like GSM, CDMA, Satellite communication and Bluetooth for enhancing the number of users	K2- Understand

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program outcomes												Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
EC1406	20ITC214.1	H	M	L	L	-	L	-	L	L	L	-	L	L	L
	20ITC214.2	H	M	L	L	-	L	-	-	L	L	-	L	L	L
	20ITC214.3	H	M	L	L	-	L	-	-	L	-	-	L	L	L
	20ITC214.4	H	M	L	L	-	L	-	-	L	-	-	L	L	L
	20ITC214.5	H	M	L	L	-	L	-	L	L	L	-	L	L	L

Correlation Levels: L:Slight M:Moderate H:Substantial

Subject Expert **HoD**

Regulation : **R2020** **Department** : **Information Technology**

Year/ Semester : **II / IV** **Subject Code** : **CS1381**

Subject Name : **Database Management Systems Lab**

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
20ITC215.1	Choose appropriate DDL, DML, DCL and TCL commands for creating and manipulating the databases	K3-Apply
20ITC215.2	Construct appropriate nested queries, sub queries and join queries for efficient retrieval of data	K3-Apply
20ITC215.3	Organize database using views, sequences, and synonyms	K3-Apply
20ITC215.4	Implement functions, procedures, triggers and exceptions using PL/SQL	K3-Apply
20ITC215.5	Develop a GUI based environment for storage and retrieval of data for a real time application	K3-Apply

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program outcomes												Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CS1381	20ITC215.1	M	M	L	-	L	-	-	-	-	-	-	-	M	L
	20ITC215.2	M	M	L	-	L	-	-	-	-	-	-	-	M	L
	20ITC215.3	M	M	L	-	L	-	-	-	-	-	-	-	M	L
	20ITC215.4	M	M	L	-	L	-	-	-	-	-	-	-	M	L
	20ITC215.5	M	H	M	L	L	-	-	-	L	-	-	L	M	L

Correlation Levels: L:Slight M:Moderate H:Substantial

Subject Expert **HoD**

Regulation : **R2020** **Department** : **Information Technology**

Year/ Semester : **II / IV** **Subject Code** : **IT1411**

Subject Name : **Data Structures Laboratory**

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
20ITC216.1	Implement linear data structures - Array, List, Stack and Queue ADTs for problem solving	K3 – Apply
20ITC216.2	Implement non-linear, hierarchical data structure - Trees for problem solving	K3 – Apply
20ITC216.3	Implement non-linear, non-hierarchical data structure - Graph for problem solving	K3 – Apply
20ITC216.4	Implement various Searching and Sorting Algorithms	K3 – Apply
20ITC216.5	Apply appropriate hash functions in a hash ADT to facilitate collision free data storage and retrieval	K3 – Apply

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program Outcomes											Program Specific Outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
IT1411	20ITC216.1	H	M	M	L	L	-	-	-	H	-	-	L	H	L
	20ITC216.2	H	M	M	L	L	-	-	-	H	-	-	L	H	L
	20ITC216.3	H	M	M	L	L	-	-	-	H	-	-	L	H	L
	20ITC216.4	H	M	M	L	L	-	-	-	H	-	-	L	H	L
	20ITC216.5	H	M	M	L	L	-	-	-	H	-	-	L	H	L

Correlation Levels: L:Slight M:Moderate H:Substantial

Subject Expert **HoD**

Regulation : **R2020** **Department** : **Information Technology**

Year/ Semester : **II / IV** **Subject Code** : **IT1412**

Subject Name : **Operating Systems Lab**

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
20ITC217.1	Practice UNIX commands, system calls and write shell scripts involving selection and loops	K3 - Apply
20ITC217.2	Execute various CPU scheduling algorithms	K3 - Apply
20ITC217.3	Create processes and implements inter process communication with synchronization	K3 - Apply
20ITC217.4	Implement deadlock avoidance and detection algorithms	K3 - Apply
20ITC217.5	Illustrate various memory allocation methods, page replacement algorithms, file allocation and organization techniques	K3 - Apply

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program Outcomes												Program Specific Outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
IT1412	20ITC217.1	M	L	-	L	L	-	-	-	-	-	-	-	M	M
	20ITC217.2	H	H	-	M	L	-	-	-	-	-	-	-	M	M
	20ITC217.3	H	H	-	M	L	-	-	-	-	-	-	-	M	M
	20ITC217.4	H	H	-	M	L	-	-	-	-	-	-	-	M	M
	20ITC217.5	H	H	-	M	L	-	-	-	-	-	-	-	M	M

Correlation Levels: L:Slight M:Moderate H:Substantial

Subject Expert **HoD / IT**

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Regulation : **R2020** **Department** : **Information Technology**

Year/ Semester : **II** **Subject Code** : **HS1421**

Subject Name : **An Introduction to Advanced Reading and Writing**

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
20ITC218.1	Develop a descriptive paragraph	K3 – Apply
20ITC218.2	State reasons and examples to support ideas in writing an opinion paragraph	K3 – Apply
20ITC218.3	Make use of standard English in writing various types of Essays	K3 – Apply
20ITC218.4	Demonstrate proper usage of grammar in writing E-Mails, Job application and project proposals	K3 – Apply
20ITC218.5	Understand how the text positions the reader	K3 – Apply

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program outcomes												Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
HS1421	20ITC218.1	-	-	-	-	-	-	-	-	-	M	-	-	-	-
	20ITC218.2	-	-	-	-	-	-	-	-	-	M	-	-	-	-
	20ITC218.3	-	-	-	-	-	-	-	-	-	M	-	-	-	-
	20ITC218.4	-	-	-	-	-	-	-	-	-	M	-	-	-	-
	20ITC218.5	-	-	-	-	-	-	-	-	-	M	-	-	-	-

Correlation Levels: L:Slight M:Moderate H:Substantial

Subject Expert **HoD**

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Regulation: 2020 **Department: Mechatronics Engineering**

Year/ Semester: II / IV **Subject Code: MA1402**

Subject Name: Statistics and Numerical Methods

Course Outcomes

On successful completion of this course, the students will be able to:

CO. No.	CO Statements	Knowledge Level
CO1	Apply the concepts of testing of hypothesis for small and large samples in real life problems.	K3 - Apply
CO2	Apply the basic concepts of classifications of design of experiments.	K3 - Apply
CO3	Apply the techniques for solving the transcendental equations, system of equations and eigen value problems.	K3 - Apply
CO4	Apply the numerical techniques of differentiation and integration for engineering problems.	K3 - Apply
CO5	Solve the ordinary differential equations with initial conditions by various methods.	K3 - Apply

Mapping of Course Outcomes with Program Outcomes

Course Code	CO. No.	POs												PSOs		
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
MA1402	CO1	H	H	M	-	-	-	-	-	-	-	-	-	L	-	-
	CO2	H	M	L	-	-	-	-	-	-	-	-	-	L	-	-
	CO3	H	M	L	-	-	-	-	-	-	-	-	-	L	-	-
	CO4	H	M	L	-	-	-	-	-	-	-	-	-	L	-	-
	CO5	H	M	L	-	-	-	-	-	-	-	-	-	L	-	-

H-High, M-Moderate, L-Low

Subject Expert **HoD**

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S.P.G.C. Nagar, K.Vellakulam – 625 701 (Near VIRUDHUNAGAR).

Regulation: 2020 **Department: Mechatronics Engineering**

Year/ Semester: II / IV **Subject Code: EE1471**

Subject Name: Control Systems Engineering

Course Outcomes

On successful completion of this course, the students will be able to:

CO. No.	CO Statements	Knowledge Level
R20C211.1	To **develop** the transfer function of physical systems using block diagram reduction and signal flow graph techniques.	K3-Apply
R20C211.2	To **identify** the response of a system under time domain and to find the steady state error for the given system under various input conditions	K3-Apply
R20C211.3	To **construct** the closed loop frequency response of systems using various plots and to design suitable compensator to improve its performance..	K3-Apply
R20C211.4	To **apply** Routh stability criterion, Nyquist criterion and Root locus concept to inspect the stability of the system.	K3-Apply
R20C211.5	To **make use of** the state space model of physical systems to analyze its controllability and observability.	K3-Apply

Mapping of Course Outcomes with Program Outcomes

Course Code	CO. No.	POs												PSOs		
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
R20C211	R20C211.1	H	H	M	M	M	L	L	L	L	L	-	M	M	M	-
	R20C211.2	H	H	M	M	L	L	L	L	L	L	-	L	M	M	-
	R20C211.3	H	H	M	H	H	L	-	L	L	L	-	L	M	M	-
	R20C211.4	H	H	H	H	H	L	-	L	L	L	-	M	M	M	-
	R20C211.5	H	H	H	H	H	L	L	L	L	L	-	M	M	M	-

Enter H (for high), M (for moderate), L (for low) for mapping

Subject Expert **HoD**

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Regulation: 2020 **Department: Mechatronics Engineering**

Year/ Semester: II / IV **Subject Code: ME1471**

Subject Name: Kinematics of Machinery

Course Outcomes

On successful completion of this course, the students will be able to:

CO. No.	CO Statements	Knowledge Level
CO 1	Explain various components of mechanisms and its inversions used in machineries	K2- Understand
CO 2	Illustrate the kinematic linkages with respect to displacement, velocity, and acceleration at any point.	K3- Apply
CO 3	Design the cam profile for specified follower motions.	K3- Apply
CO 4	Demonstrate the basic concepts of toothed gearing and the kinematics of gear trains.	K3- Apply
CO 5	Compute the forces in various power transmission systems such as Clutches and Brakes.	K3- Apply

Mapping of Course Outcomes with Program Outcomes

Course Code	CO. No.	Pos												PSOs		
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
ME1471	CO 1	H	M	H	H	L	-	L	-	-	-	-	L	M	L	L
	CO 2	H	M	H	H	L	-	L	-	-	-	-	L	M	L	L
	CO 3	H	H	H	H	L	-	L	-	-	-	-	L	M	L	L
	CO 4	H	H	H	H	L	-	L	-	-	-	-	L	M	L	L
	CO 5	H	H	H	H	L	-	L	-	-	-	-	L	M	L	L

H-High, M-Moderate, L-Low

P. Balasundar

Subject Expert **HoD**

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Regulation: 2020 **Department: Mechatronics Engineering**

Year/ Semester: II / IV **Subject Code: MT1401**

Subject Name: Manufacturing Technology

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
CO1	Identify and Select suitable casting process for a specific component	**K2**
CO2	Explain the working principles and applications of different arc welding processes, special welding process and defects associated with it	**K2**
CO3	Select the suitable process for manufacturing of components using suitable conventional machining	**K2**
CO4	Select the suitable process for manufacturing of components using suitable unconventional machining	**K2**
CO5	Understand various metal forming process and manufacturing methods of plastic components	**K2**

Mapping of Course Outcomes with Program Outcomes

Course Code	CO. No.	POs												PSOs		
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
R20C213	1	H	L	L	L	M	M	M	M	M	M	M	M	L	L	L
	2	H	L	L	L	M	M	M	M	M	M	M	M	L	L	L
	3	H	L	L	L	M	M	M	M	M	M	M	M	L	L	L
	4	H	M	M	M	M	M	M	M	M	M	M	M	M	M	M
	5	H	L	L	L	M	M	M	M	M	M	M	M	L	L	L

H-High, M-Moderate, L-Low

Subject Expert **HoD**

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Regulation: 2020 **Department: Mechatronics Engineering**

Year/ Semester: II / IV **Subject Code: MT1402**

Subject Name: Microprocessors and Its Applications

Course Outcomes

On successful completion of this course, the students will be able to:

CO. No.	CO Statements	Knowledge Level
CO1:	Distinguish the feature of the 8085 microprocessor, Hardware Architecture and PIN diagram.	K2- Understand
CO2:	Demonstrate programming proficiency using the various addressing modes and data transfer instructions of 8085 microprocessor	K3-Apply
CO3:	Acquaint the knowledge on architecture and programming of Microcontroller 8051.	K2- Understand
CO4:	Illustrate the interrupts handling and demonstrate peripherals applications in different IC and Know about A/D and D/A converters.	K2- Understand
CO5:	Apply the programming concepts to interface the hardware units with microprocessor and Microcontroller	K3-Apply

Mapping of Course Outcomes with Program Outcomes

Course Code	CO. No.	POs												PSOs		
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
R20C214	CO1	H	H	H	L	M	M	M	-	M	M	M	H	H	H	M
	CO2	H	H	H	L	M	M	M	-	M	M	M	H	H	H	M
	CO3	H	H	H	L	M	M	M	-	M	M	M	H	H	H	M
	CO4	H	H	H	L	M	M	M	-	M	M	M	H	H	H	M
	CO5	H	H	H	L	M	M	M	-	M	M	M	H	H	H	M

H (for high), M (for moderate), L (for low) for mapping

Subject Expert **HoD**

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Regulation: 2020 **Department: Mechatronics Engineering**

Year/ Semester: II / IV **Subject Code: MT1403**

Subject Name: Sensors and Instrumentation

Course Outcomes

On successful completion of this course, the students will be able to:

CO. No.	CO Statements	Knowledge Level
R20C215.1	Outline the various calibration techniques and types of sensors and transducers.	K2 (Understand)
R20C215.2	Summarize the various sensors used in the Motion and Ranging applications.	K2 (Understand)
R20C215.3	Describe the working principle and characteristics of force, magnetic, heading and optical sensors.	K2 (Understand)
R20C215.4	Understand the basic principles of various pressure and temperature, smart sensors.	K2 (Understand)
R20C215.5	Ability to implement the DAQ systems with different sensors for real time applications.	K3-Apply

Mapping of Course Outcomes with Program Outcomes

Course Code	CO. No.	POs												PSOs		
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
R20C215	R20C 215.1	M	L	-	-	-	M	L	M	L	L	L	-	M	M	M
	R20C 215.2	H	M	L	L	-	M	L	M	M	M	L	-	M	M	M
	R20C 215.3	M	L	-	-	-	M	L	M	L	L	L	-	M	M	M
	R20C 215.4	M	L	-	-	M	M	L	M	L	L	M	-	M	M	M
	R20C 215.5	H	M	M	M	M	H	M	M	M	M	H	M	H	H	H

H-High, M-Moderate, L-Low

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Regulation : R2020 **Department** : ECE

Year/ Semester : II / IV **Subject Code** : MA1401

Subject Name : Probability and Random Processes C210

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
CO1	Apply the concepts of probability, continuous and discrete random variables using various probability distributions.	K3-Apply
CO2	Compute the correlation between two variables and linear regression equation for a set of data.	K3-Apply
CO3	Make use of probability concepts in classifying the random processes.	K3-Apply
CO4	Interpret the auto correlation and spectral densities of different signals in the random processes.	K2-Understand
CO5	Apply the concepts of the linear system in communication Engineering.	K3-Apply

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program outcomes											Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
Probability and Random Processes	CO1	H	M	L	L	-	-	-	-	-	-	-	L	M	L
	CO2	H	M	L	L	-	-	-	-	-	-	-	L	M	L
	CO3	H	M	L	L	-	-	-	-	-	-	-	L	M	L
	CO4	H	M	L	L	-	-	-	-	-	-	-	L	M	L
	CO5	M	L	-	-	-	-	-	-	-	-	-	L	L	-

L:Low M:Moderate H:High

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Subject Expert

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Regulation : R2020 **Department** : ECE

Year/ Semester : II / IV **Subject Code** : EC1401

Subject Name : Communication Theory C211

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
CO1	Illustrate the generation and detection methods of amplitude modulation schemes with its spectral characteristics	K2- Understand
CO2	Explain NBFM and WBFM with its generation and detection methods.	K2- Understand
CO3	Make use of the probability, random process and noise theory concepts.	K3-Apply
CO4	Compare the noise performance of various analog modulation schemes.	K2- Understand
CO5	Explain the principles of sampling and quantization.	K2- Understand

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program outcomes												Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
Communication Theory	CO1	H	H	M	M	-	-	-	-	-	-	-	-	M	M
	CO2	H	H	M	M	-	-	-	-	-	-	-	-	M	M
	CO3	H	H	M	M	-	-	-	-	-	-	-	-	M	M
	CO4	H	H	M	M	-	-	-	-	-	-	-	-	M	M
	CO5	H	H	M	M	-	-	-	-	-	-	-	-	M	M

L:Low M:Moderate H:High

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Regulation : R2020 **Department : ECE**

Year/ Semester : II / IV **Subject Code : EC1402**

Subject Name : Discrete Time Signal Processing C212

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
CO1	Solve Discrete Fourier Transform (DFT) and Fast Fourier transform (FFT) of any discrete time sequences	K3-Understand
CO2	Construct digital Butterworth and Chebyshev IIR filters using backward difference, impulse invariant and bilinear transformation methods.	K3-Understand
CO3	Construct FIR filters using Fourier series, windowing and frequency sampling methods	K3-Understand
CO4	Identify the finite word length effects in IIR filters.	K3-Understand
CO5	Explain different architectures of Digital Signal Processors with its functionalities.	K2-Apply

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program outcomes												Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
Discrete Time Signal Processing	CO1	H	M	L	L	L	L	-	-	-	-	L	L	M	M
	CO2	H	M	L	L	L	L	-	-	-	-	L	L	M	M
	CO3	H	M	L	L	L	L	-	-	-	-	L	L	M	M
	CO4	H	M	L	L	L	L	-	-	-	-	L	L	M	M
	CO5	H	M	L	L	L	L	-	-	-	-	L	L	M	M

L:Low M:Moderate H:High

Subject Expert **HoD**

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Regulation : R2020 **Department** : ECE

Year/ Semester : II / IV **Subject Code** : EC1403

Subject Name : Electronic Circuits - I C213

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
CO1	Elucidate the different biasing circuits in amplifiers using BJT and FET.	K2-Understand
CO2	Summarize about how small signal models are needed in various configurations of BJT and its simple, cascade and cascade amplifier circuits.	K3-Apply
CO3	Identify the significance of JFET and MOSFET amplifiers using small signal analysis.	K3-Apply
CO4	Interpret the low, high frequency response of amplifiers and to derive cut off frequencies for determining bandwidth.	K2-Understand
CO5	Illustrate the performance of power amplifiers.	K2-Understand

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program outcomes												Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
Electronic Circuits-I	CO1	M	L	L	L	L	L	-	-	-	-	L	L	M	L
	CO2	H	M	L	L	L	L	-	-	-	-	L	L	H	M
	CO3	H	M	L	L	L	L	-	-	-	-	L	L	H	M
	CO4	M	L	L	L	L	L	-	-	-	-	L	L	M	L
	CO5	M	L	L	L	L	L	-	-	-	-	L	L	M	L

L:Low M:Moderate H:High

Subject Expert

T. Bitra

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Regulation : R2020 **Department** : ECE

Year/ Semester : II / IV **Subject Code** : EC1404

Subject Name : Linear Integrated Circuits C214

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
CO1	Outline the basic building blocks of Analog ICs such as Current mirror & Current sources, Voltage sources & Voltage References, along with the internal circuitry of op amp-IC 741.	K2-Understand
CO2	Utilize the concepts of op amp for developing linear and non linear circuits.	K3-Apply
CO3	Explain various types of analog multiplier and PLL ICs with their applications.	K2-Understand
CO4	Interpret various A/D and D/A converters using operational amplifiers.	K2-Understand
CO5	Build various waveform generators and other circuits using operational amplifier, IC 555 and special function ICs.	K3-Apply

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program outcomes												Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
Linear Integrated Circuits	CO1	M	L	L	L	L	L	-	-	-	-	L	L	M	L
	CO2	H	M	L	L	L	L	-	-	-	-	L	L	H	M
	CO3	M	L	L	L	L	L	-	-	-	-	L	L	M	L
	CO4	M	L	L	L	L	L	-	-	-	-	L	L	M	L
	CO5	H	M	L	L	L	L	-	-	-	-	L	L	H	M

L:Low M:Moderate H:High

Subject Expert

T. Rama

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Regulation : R2020 **Department** : ECE

Year/ Semester : II / IV **Subject Code** : EC1471

Subject Name : Control Systems Engineering e2015

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
CO1	Identify the various control system components and their representations.	K3-Apply
CO2	Analyze the various time domain parameters.	K3-Apply
CO3	Analysis the various frequency response plots and its system.	K3-Apply
CO4	Apply the concepts of various system stability criterions.	K3-Apply
CO5	Design various transfer functions of digital control system using state variable models.	K3-Apply

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program outcomes											Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
Control Systems Engineering	CO1	H	H	M	M	M	L	L	L	L	L	-	M	M	M
	CO2	H	H	M	M	M	L	L	L	L	L	-	M	M	M
	CO3	H	H	M	H	H	L	-	L	L	L	-	L	M	M
	CO4	H	H	M	H	H	L	-	L	L	L	-	L	M	M
	CO5	H	H	H	H	H	L	L	L	L	L	-	M	M	M

L:Low M:Moderate H:High

Subject Expert

T. Rajan

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Regulation : R2020 **Department** : ECE

Year/ Semester : II / IV **Subject Code** : EC1411

Subject Name : Digital Signal Processing Laboratory C&16

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
CO1	Develop MATLAB code for generating mathematical signals and various signal processing operations like linear &circular convolution and correlation.	K3-Apply
CO2	Analyze the spectral components present in the discrete time signals using Discrete Fourier Transform.	K4- Analyze
CO3	Analyze FIR and IIR Filters using MATLAB.	K4 - Analyze
CO4	Describe the architecture of Digital Signal Processor.	K2 - Understand
CO5	Construct various signal processing operations using Digital Signal Processor.	K3 - Apply

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program outcomes												Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
Digital Signal Processing Laboratory	CO1	3	3	3	3	3	2	-	-	-	-	1	2	3	2
	CO2	3	3	3	3	3	2	-	-	-	-	1	2	3	2
	CO3	3	3	3	3	3	2	-	-	-	-	1	2	3	2
	CO4	2	2	2	2	2	2	-	-	-	-	1	2	2	2
	CO5	3	3	3	3	3	2	-	-	-	-	1	2	3	2

L:Low M:Moderate H:High

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Subject Expert

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Regulation : R2020 **Department** : ECE

Year/ Semester : II / IV **Subject Code** : EC1412

Subject Name : Linear Integrated Circuits Laboratory C217

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
CO1	Design filters, amplifiers and oscillators using operational amplifiers.	K3
CO2	Analyze the working of PLL and describe its application as a frequency multiplier.	K4
CO3	Design DC power supply using ICs.	K3
CO4	Analyze the performance of filters, multivibrators, converters and analog multiplier using SPICE	K4
CO5	Design and analyze multivibrators using opamps and 555 Timer ICs.	K4

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program outcomes												Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
Linear Integrated Circuits Laboratory	CO1	H	H	H	H	L	-	-	-	-	-	-	-	H	H
	CO2	H	H	H	H	L	-	-	-	-	-	-	-	H	H
	CO3	H	H	H	H	L	-	-	-	-	-	-	-	H	H
	CO4	H	H	H	H	L	-	-	-	-	-	-	-	H	H
	CO5	H	H	H	H	L	-	-	-	-	-	-	-	H	H

L:Low M:Moderate H:High

Subject Expert

T. Ramu

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Regulation : **R2020** **Department** : **Information Technology**

Year/ Semester : **III / V** **Subject Code** : **IT1571**

Subject Name : **Computer Networks**

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
CO1	Infer the importance of computer networks with OSI and TCP/IP architectures	K2 – Understand
CO2	Apply error checking and error correction mechanisms in data Link layer for error free data transmission	K3 – Apply
CO3	Make use of various routing protocols and their strategies in the network	K3 – Apply
CO4	Compare the functionalities of TCP & UDP protocols in the transport layer during data transmission	K2 – Understand
CO5	Summarize the functionalities of various application layer protocols and their real time usage	K2 – Understand

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program outcomes												Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
IT1571	CO1	H	L	-	-	-	-	-	-	-	-	-	L	L	L
	CO2	H	L	M	-	-	-	-	-	-	-	-	L	L	L
	CO3	H	M	M	-	-	-	-	-	-	-	-	L	L	L
	CO4	L	L	-	-	-	-	-	-	-	-	-	M	L	L
	CO5	L	L	-	-	-	-	-	-	-	-	-	M	M	L

Correlation Levels: L:Slight M:Moderate H:Substantial

K.Muthu

Subject Expert

K. MUTHU LAKSHMI

1/8/2022

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Regulation : R2020 **Department : Information Technology**

Year/ Semester : III / V **Subject Code : IT1502**

Subject Name : Object Oriented Analysis and Design

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
20ITC303.1	Construct appropriate Use Case diagrams for real world problem.	K3 - Apply
20ITC303.2	Draw Domain model and Class Diagrams for the chosen software system.	K3 - Apply
20ITC303.3	Draw Implementation Diagrams for the given software system	K3 - Apply
20ITC303.4	Illustrate design patterns and develop code for the given software system	K3 - Apply
20ITC303.5	Create various test cases to check the consistency of the developed software system	K3 - Apply

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program outcomes											Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
IT1502	20ITC303.1	M	M	M	M	-	-	-	-	M	-	-	L	H	M
	20ITC303.2	M	M	M	M	-	-	-	-	M	-	-	L	H	M
	20ITC303.3	M	M	M	M	-	-	-	-	M	-	-	L	H	M
	20ITC303.4	M	M	M	M	-	-	-	-	M	-	-	L	H	M
	20ITC303.5	M	M	M	L	-	-	-	-	M	-	-	L	H	M

Correlation Levels: L:Slight M:Moderate H:Substantial

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Regulation : **R2020** **Department** : **Information Technology**

Year/ Semester : **III / V** **Subject Code** : **IT1503**

Subject Name : **Web Technology**

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
R20C304.1	Develop the Static Webpages using HTML and HTML5	K3
R20C304.2	Build the enriched websites with client side validation	K3
R20C304.3	Construct the dynamic webpages with database using Servlet and JSP.	K3
R20C304.4	Build the data processing application using DOM and XML.	K3
R20C304.5	Construct the responsive web design using AJAX and develop the applications for web services.	K3

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program outcomes												Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
R20C304	R20C304.1	L	-	L	-	-	-	-	-	-	-	-	L	M	M
	R20C304.2	L	L	M	-	-	-	-	-	-	-	-	L	M	M
	R20C304.3	M	M	H	M	L	-	-	-	-	-	-	L	M	M
	R20C304.4	M	M	H	M	L	-	-	-	-	-	-	L	M	M
	R20C304.5	L	M	L	L	L	-	-	-	-	-	-	L	M	M

Correlation Levels: L:Slight M:Moderate H:Substantial

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Regulation : R2020 **Department** : Information Technology

Year/ Semester : III / V **Subject Code** : AD1371

Subject Name : Introduction to Artificial Intelligence

Course Outcomes

On successful completion of this course, the students will be able to:

Course No.	Course Outcome (Students should be able to...)	Knowledge Level
R20C307.1	Explain the various characteristics of Intelligent agents	K2
R20C307.2	Choose an appropriate searching algorithm to solve the simple AI problem	K3
R20C307.3	Illustrate a Knowledge Representation using first order logic	K3
R20C307.4	Infer different ways of the agent communication and Trust and Reputation in Multi-agent systems	K2
R20C307.5	Summarize the various application of AI	K2

Mapping of Course Outcomes with Program Outcomes

Course Outcomes	Program out comes												Program Specific outcomes	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
R20C307.1	L	L	-	-	-	-	-	-	-	-	-	L	-	-
R20C307.2	H	H	H	H	-	-	-	-	-	-	-	L	M	M
R20C307.3	H	H	H	H	-	-	-	-	-	-	-	L	M	M
R20C307.4	M	L	L	L	-	-	-	-	-	-	-	L	-	L
R20C307.5	H	H	H	H	H	-	-	-	-	-	-	H	H	H
R20C307	M	M	M	M	H	-	-	-	-	-	-	L	M	M

Correlation Levels: L:Slight M:Moderate H:Substantial

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Regulation : R2020 **Department : Information Technology**

Year/ Semester: II / IV **Subject Code : IT1532**

Subject Name : Internet of Things and its applications

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
20ITC306.1	Explain IoT architectures and its elements.	K2 Understand
20ITC306.2	Summarize the various protocols for IoT.	K2 Understand
20ITC306.3	Build simple IoT system using Raspberry Pi/Arduino.	K2 Understand
20ITC306.4	Outline the concepts of data analytics and cloud for IoT applications	K2 Understand
20ITC306.5	Relate the applications of IoT in real time scenario.	K2 Understand

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program outcomes												Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
IT1532	20ITC306.1	M	-	L	-	-	-	-	-	-	-	-	-	L	L
	20ITC306.2	M	-	L	-	-	-	M	-	-	-	-	-	L	L
	20ITC306.3	M	M	H	L	H	M	H	-	-	-	-	L	H	M
	20ITC306.4	M	-	H	L	H	M	H	-	-	-	-	L	L	L
	20ITC306.5	M	M	M	L	M	M	M	-	-	-	-	-	M	L

Correlation Levels: L:Slight M:Moderate H:Substantial

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Regulation : **R2020** **Department** : **Information Technology**

Year/ Semester : **III / V** **Subject Code** : **IT1581**

Subject Name : **Computer Networks Laboratory**

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
CO1	Make use of basic networking commands for capturing packets in live networks	K3 - Apply
CO2	Implement bit stuffing and error correction algorithms in a client/server environment.	K3 - Apply
CO3	Analyse the performance of network routing protocols and transport layer services through simulation tools.	K4 - Analyze
CO4	Simulate the application protocols using TCP and UDP.	K3 - Apply
CO5	Build an RMI server/client for a real time application	K3 - Apply

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program outcomes												Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
IT1571	CO1	M	-	-	-	L	-	-	-	-	M	-	M	M	L
	CO2	H	H	L	-	H	-	-	-	-	M	-	M	M	L
	CO3	H	H	M	-	H	-	-	-	-	M	-	M	M	L
	CO4	H	H	M	-	H	-	-	-	-	M	-	M	M	L
	CO5	H	M	L	-	L	-	-	-	-	M	-	M	M	L

Correlation Levels: L:Slight M:Moderate H:Substantial

K. Muthu

Subject Expert

K. MUTHU LAKSHMI

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Regulation : R2020 **Department** : Information Technology

Year/ Semester : III / V **Subject Code** : IT1511

Subject Name : Web Technology Laboratory

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
R20C309.1	Apply HTML,CSS and Java script Technologies to create dynamic webpage	K3
R20C309.2	Demonstrate servlets to do server side scripting	K3
R20C309.3	Develop three tier applications using JSP and databases	K3
R20C309.4	Utilize XML Technologies for storing and retrieving data	K3
R20C309.5	Construct SOAP based web services for real time applications	K3

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program outcomes												Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
R20C309	R20C309.1	L	-	L	-	L	-	-	-	L	L	-	L	M	M
	R20C309.2	L	L	M	-	L	-	-	-	L	-	-	L	M	M
	R20C309.3	M	M	H	M	L	L	L	L	L	L	-	L	H	H
	R20C309.4	M	M	H	M	L	-	-	-	L	-	-	L	M	M
	R20C309.5	L	H	M	M	L	L	L	L	L	-	-	M	H	H

Correlation Levels: L:Slight M:Moderate H:Substantial

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Regulation : R2020 **Department : CSE (AD)**

Year/ Semester : III/V **Subject Code : AD1501**

Subject Name : Big data Analytics

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
CO1	Explain the fundamental concepts of Big Data and its tools and techniques	K2 – Understand
CO2	Apply the concepts of MapReduce framework	K3 – Apply
CO3	Infer appropriate NoSQL database techniques for storing and processing large volumes of structure and unstructured data	K2 – Understand
CO4	Develop script using Pig latin	K3 – Apply
CO5	Build various HiveQL queries	K3 – Apply

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program outcomes												Program Specific Outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
AD1501	CO1	M	L	L	L	M	-	-	-	-	-	-	-	M	M
	CO2	M	L	L	L	M	-	-	-	-	-	-	-	M	M
	CO3	M	L	L	L	M	-	-	-	-	-	-	-	M	M
	CO4	M	L	L	L	M	-	-	-	-	-	-	-	M	M
	CO5	M	L	L	L	M	-	-	-	-	-	-	-	M	M

Subject Expert

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Regulation : **R2020** **Department** : **CSE**

Year/ Semester : **III / VI** **Subject Code** : **CS1612**

Subject Name : **Introduction to Machine Learning Laboratory**

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
CO1	Solve the regression problems using statistical packages	K3 - Apply
CO2	Build the tree based models using suitable classification algorithms	K3 - Apply
CO3	Apply the supervised machine learning techniques for various classification problems	K3 - Apply
CO4	Make use of ensemble learning techniques to solve problems	K3 - Apply
CO5	Implement various clustering problems using unsupervised machine learning techniques.	K3 - Apply

Mapping of Course Outcomes with Program Outcomes

Course Code	CO No.	Program outcomes												Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CS1612	CO1	M	M	M	L	L	L	-	-	-	-	-	L	M	M
	CO2	M	M	M	L	L	L	-	-	-	-	-	L	M	M
	CO3	M	M	M	L	L	L	-	-	-	-	-	L	M	M
	CO4	M	M	M	L	L	L	-	-	-	-	-	L	M	M
	CO5	M	M	M	L	L	L	-	-	-	-	-	L	M	M

Subject Expert **HoD-CSE**

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Department : Information Technology

Regulation : R2020

Subject Code : IT1601

Year/ Semester : III / VI

Subject Name : Data Mining and Warehousing

Course Outcomes (Thoery Component)

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
20ITC311.1	Infer the various data warehousing components	K2 - Understand
20ITC311.2	Illustrate the operations of OLAP tools involved in Business Analysis	K2 - Understand
20ITC311.3	Interpret the rule mining techniques to discover patterns	K2 - Understand
20ITC311.4	Summarize the classification and prediction algorithms	K2 - Understand
20ITC311.5	Classify the clustering algorithms	K2 - Understand

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program outcomes											Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
IT1601 (Theory)	20ITC311.1	M	L	L	-	-	-	-	-	-	-	-	L	M	M
	20ITC311.2	M	L	L	-	-	-	-	-	-	-	-	L	M	M
	20ITC311.3	M	M	M	-	-	-	-	-	-	-	-	L	M	M
	20ITC311.4	M	M	M	-	-	-	-	-	-	-	-	L	M	M
	20ITC311.5	M	M	M	-	-	-	-	-	-	-	-	L	M	M

Correlation Levels: L:Slight M:Moderate H:Substantial

Subject Expert

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Regulation : R2020 **Department** : Information Technology

Year/ Semester : III / VI **Subject Code** : IT1601

Subject Name : Data Mining and Warehousing

Course Outcomes (Laboratory Component)

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
20ITC311.1	Develop ETL scripts and implement using data warehouse tools	K3 - Apply
20ITC311.2	Utilize rule mining techniques to discover patterns	K3 - Apply
20ITC311.3	Experiment with classification and prediction algorithms	K3 - Apply
20ITC311.4	Select the appropriate clustering algorithm for real word use cases	K3 - Apply
20ITC311.5	Implement text mining and web mining	K3 - Apply

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program outcomes												Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
IT1601 (Laboratory)	20ITC311.1	M	L	L	L	M	L	-	-	-	-	-	L	M	M
	20ITC311.2	M	L	L	L	M	L	-	-	-	-	-	L	M	M
	20ITC311.3	M	M	M	M	M	L	-	-	-	-	-	L	M	M
	20ITC311.4	M	M	M	M	M	L	-	-	-	-	-	L	M	M
	20ITC311.5	M	M	M	M	M	L	-	-	-	-	-	L	M	M

Correlation Levels: L:Slight M:Moderate H:Substantial

Subject Expert HoD

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Regulation : R2020 **Department** : Information Technology

Year/ Semester : III / VI **Subject Code** : IT1602

Subject Name : Mobile Computing

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
20ITC312.1	Explain the evolution of mobile communication and the existing MAC protocols	K2- Understand
20ITC312.2	Illustrate the Mobile Internet Protocol and Transport layer architecture and route optimization.	K2- Understand
20ITC312.3	Illustrate the generations of telecommunication systems in wireless network along with their routing, mobility and security issues	K2- Understand
20ITC312.4	Summarize the functionalities of network layer with their routing protocols and recognize the security issues related Ad hoc networks	K2- Understand
20ITC312.5	Explain the functionalities of various mobile operating systems and M-Commerce.	K2- Understand

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program outcomes												Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
R20ITC312	R20ITC312.1	M	L	L	M	-	-	-	-	-	-	-	L	M	M
	R20ITC312.2	L	L	L	L	-	-	-	-	-	-	-	L	M	M
	R20ITC312.3	M	M	M	L	-	-	-	-	-	-	-	L	M	M
	R20ITC312.4	L	L	M	M	-	-	-	-	-	-	-	L	M	M
	R20ITC312.5	M	M	L	L	-	-	-	-	-	-	-	L	M	M

Correlation Levels: L:Slight M:Moderate H:Substantial

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Regulation : R2020 **Department** : Information Technology

Year/ Semester : III / VI **Subject Code** : IT1671

Subject Name : Cryptography and Network Security

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
20ITC313.1	Select an appropriate classical symmetric cryptosystem to provide data security	K3 – Apply
20ITC313.2	Apply the mathematical concepts for symmetric block ciphers and stream ciphers	K3 – Apply
20ITC313.3	Choose an appropriate asymmetric cryptosystem and key management to ensure a secure transmission for a real world scenario	K3 – Apply
20ITC313.4	Utilize the hash functions and digital signatures to provide authentication and integrity to a cryptosystem	K3 – Apply
20ITC313.5	Discuss various real time practices that provide Email security, network security and system security	K2 – Understand

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program outcomes												Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
IT1671	20ITC313.1	M	M	M	L	-	M	-	-	-	-	-	-	L	L
	20ITC313.2	M	H	H	M	-	H	-	-	-	-	-	-	M	M
	20ITC313.3	H	H	H	M	-	H	-	-	-	-	-	-	M	M
	20ITC313.4	H	H	M	M	-	H	-	-	-	-	-	-	M	M
	20ITC313.5	M	M	M	M	-	H	-	-	-	-	-	L	M	M

Correlation Levels: L:Slight M:Moderate H:Substantial

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Regulation : R2020 **Department** : Information Technology

Year/ Semester : III / VI **Subject Code** : IT1631

Subject Name : Blockchain Technologies

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
20ITC315.1	Understand the needs of cryptographic algorithms in blockchain technologies	K2 - Understand
20ITC315.2	Describe the operational and functional aspects of trading and mining	K2 - Understand
20ITC315.3	Know about the bitcoin consensus	K2 - Understand
20ITC315.4	Explain various algorithms that supports distributed consensus	K2 - Understand
20ITC315.5	Realize the usage of Hyper ledger fabric and Ethereum in various fields	K2 - Understand

Mapping of Course Outcomes with Program Outcomes

Course	CO. No.	Program Outcomes											Program Specific Outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
IT1631	20ITC315.1	M	M	L	L	-	-	-	-	-	-	-	M	M	L
	20ITC315.2	L	M	L	L	-	-	-	-	-	-	-	L	L	L
	20ITC315.3	M	M	L	L	L	-	-	-	-	-	-	M	M	L
	20ITC315.4	L	M	L	L	-	-	-	-	-	-	-	L	L	L
	20ITC315.5	L	M	M	M	L	-	-	-	-	-	-	M	M	L

Correlation Levels: L:Slight M:Moderate H:Substantial

14.12.22

Subject Expert **HoD / IT**

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Regulation : R2020 **Department** : Information Technology

Year/ Semester: III / VI **Subject Code** : IT1632

Subject Name : Machine Learning and Deep Learning Techniques

Course Outcomes (Theory Component)

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
20ITC316.1	Illustrate the various Machine Learning Techniques.	K2 - Understand
20ITC316.2	Utilize various learning algorithms for solving Machine Learning problems.	K3 - Apply
20ITC316.3	Describe the concepts of the Genetic algorithm and instance-based learning techniques for Machine Learning problems.	K2 - Understand
20ITC316.4	Interpret the neural networks concepts for the Machine Learning problems.	K2 - Understand
20ITC316.5	Discuss the concepts of Deep Learning Techniques to solve real time problem.	K2 - Understand

Mapping of Course Outcomes with Program Outcomes (Theory Component)

Course	CO No.	Program outcomes											Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
IT632	20ITC316.1	M	M	L	L	-	-	-	-	-	-	-	L	M	L
	20ITC316.2	H	M	L	L	-	-	-	-	-	-	-	L	M	L
	20ITC316.3	H	M	L	L	-	-	-	-	-	-	-	L	M	L
	20ITC316.4	H	M	L	L	-	-	-	-	-	-	-	L	M	L
	20ITC316.5	M	M	L	L	-	-	-	-	-	-	-	L	L	L

Correlation Levels: L:Slight M:Moderate H:Substantial

Subject Expert 24/11/23

HoD

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S.P.G.C. Nagar, K.Vellakulam – 625 701 (Near VIRUDHUNAGAR).

Regulation : R2020 **Department** : Information Technology

Year/ Semester : III / VI **Subject Code** : Software Defined Networks

Subject Name : IT1634

Theory Component

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
20ITC318.1	Describe the basic concepts of Software Defined Network	K2 - Understand
20ITC318.2	Outline the specifications of Open flow and SDN controllers	K2 - Understand
20ITC318.3	Explain the use of SDN in the current networking scenario	K2 - Understand
20ITC318.4	Illustrate the basic programming concepts of SDN	K2 - Understand
20ITC318.5	Interpret the various network topology using SDN framework	K2 - Understand

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program outcomes												Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
IT1634	20ITC318.1	M	M	M	-	-	-	-	-	L	-	-	-	H	M
	20ITC318.2	M	M	M	-	L	-	-	-	L	-	-	-	H	M
	20ITC318.3	M	M	M	-	-	-	-	-	L	-	-	-	H	M
	20ITC318.4	M	M	M	-	M	-	-	-	L	-	-	-	H	M
	20ITC318.5	M	M	M	-	M	-	-	-	L	-	-	-	H	M

Correlation Levels: L:Slight M:Moderate H:Substantial

Lab Component

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
20ITC318.1	Utilize the appropriate commands to simulate the software defined network	K3 - Apply
20ITC318.2	Develop a network topology for the given scenario	K3 - Apply
20ITC318.3	Install and use Open Network Operating System (ONOS) controllers	K3 - Apply
20ITC318.4	Visualize the network topology using ONOS GUI	K3 - Apply
20ITC318.5	Create the SDN environment using various SDN frameworks	K3 - Apply

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program outcomes											Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
IT1634	20ITC318.1	M	M	M	L	H	-	-	-	M	-	-	L	H	M
	20ITC318.2	M	M	H	H	H	-	-	-	M	-	-	L	H	M
	20ITC318.3	M	M	H	H	H	-	-	-	M	-	-	L	H	M
	20ITC318.4	M	M	H	H	H	-	-	-	M	-	-	L	H	M
	20ITC318.5	M	M	H	H	H	-	-	-	M	-	-	L	H	M

Correlation Levels: L:Slight M:Moderate H:Substantial

Subject Expert

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Regulation : R2020 **Department : Information Technology**

Year/ Semester: III / VI **Subject Code : CS1631**

Subject Name : Big Data Analytics – Tools and Techniques

Course Outcomes (Theory Component)

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
20ITC319.1	Summarize the fundamentals of Big Data Analytics	K2 Understand
20ITC319.2	Demonstrate Hadoop and MapReduce framework to handle Big Data	K2 Understand
20ITC319.3	Outline the different types of recommendation system for handling real time data	K2 Understand
20ITC319.4	Elucidate the various algorithms used for mining data streams	K2 Understand
20ITC319.5	Illustrate NO SQL database and management in data analysis	K2 - Understand

Mapping of Course Outcomes with Program Outcomes (Theory Component)

Course	CO No.	Program outcomes												Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
20ITC319	20ITC319.1	M	M	M	M	-	L	-	-	-	-	-	-	M	M
	20ITC319.2	M	M	M	M	-	L	-	-	-	-	-	-	M	M
	20ITC319.3	M	M	M	M	-	L	-	-	-	-	-	-	M	M
	20ITC319.4	M	M	M	M	-	L	-	-	-	-	-	-	M	M
	20ITC319.5	M	M	M	M	-	L	-	-	-	-	-	-	M	M

Correlation Levels: L:Slight M:Moderate H:Substantial

Course Outcomes (Lab Component)

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
20ITC319.1	Build an appropriate recommendation system for real time data	K3 - Apply
20ITC319.2	Experiment with various algorithms for mining data streams	K3 - Apply
20ITC319.3	Apply spectral clustering algorithm for identifying communities in social media	K3 - Apply
20ITC319.4	Implement sentimental analysis for real time twitter data	K3 - Apply
20ITC319.5	Utilize NO SQL database for managing huge volume of data	K3 - Apply

Mapping of Course Outcomes with Program Outcomes (Lab Component)

Course	CO No.	Program outcomes												Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
20ITC319	20ITC319.1	M	M	M	M	-	L	-	-	-	-	-	-	M	M
	20ITC319.2	M	M	M	M	-	L	L	-	-	-	-	-	M	M
	20ITC319.3	M	M	M	M	-	L	L	-	-	-	-	-	M	M
	20ITC319.4	M	M	M	M	L	L	L	-	-	-	-	-	M	M
	20ITC319.5	M	M	M	M	L	L	-	-	-	-	L	-	M	M

Correlation Levels: L:Slight M:Moderate H:Substantial

Subject Expert **HoD**

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Regulation : R2020 **Department** : Information Technology

Year/ Semester : III / VI **Subject Code** : IT1681

Subject Name : Cryptography and Network Security Laboratory

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
20ITC320.1	Choose appropriate classical symmetric cryptosystem to provide data security.	K3 – Apply
20ITC320.2	Make use of modern symmetric and asymmetric cryptosystem to enhance data security.	K3 – Apply
20ITC320.3	Apply the key exchange algorithm to securely exchange symmetric keys.	K3 – Apply
20ITC320.4	Select an appropriate hash algorithm and digital signature to provide integrity and authentication.	K3 – Apply
20ITC320.5	Examine the security of the network system using open source tools.	K3 – Apply

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program outcomes												Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
IT1681	20ITC320.1	M	M	M	M	L	L	-	-	L	-	-	L	M	M
	20ITC320.2	M	M	M	M	L	L	-	-	L	-	-	L	M	M
	20ITC320.3	M	M	M	M	L	L	-	-	L	-	-	L	M	M
	20ITC320.4	M	M	M	M	L	L	-	-	L	-	-	L	M	M
	20ITC320.5	M	M	M	M	L	L	-	-	L	-	-	L	M	M

Correlation Levels: L:Slight M:Moderate H:Substantial

Subject Expert **HoD**

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Regulation : R2020 **Department** : Information Technology

Year/ Semester : III / VI **Subject Code** : CS1681

Subject Name : Mobile Application Development Laboratory

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
CO1	Build simple mobile applications using GUI components.	K3-Apply
CO2	Develop mobile applications using Graphical Primitives and Event Driven Concepts.	K3-Apply
CO3	Make use of file concepts and inbuilt/SQLite database for developing mobile applications.	K3-Apply
CO4	Utilize notification and location tracking concepts in mobile application development.	K3-Apply
CO5	Construct real time mobile applications to integrate cloud database and IoT.	K3-Apply

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program outcomes												Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CS1681	CO1	L	-	L	-	M	-	-	-	L	-	-	L	L	L
	CO2	L	-	L	-	M	-	-	-	L	-	-	L	L	L
	CO3	L	-	L	-	M	-	-	-	L	-	-	L	L	L
	CO4	L	-	L	-	M	-	-	-	L	-	-	L	L	L
	CO5	M	M	M	L	M	M	-	-	M	L	-	M	M	M

Correlation Levels: L: Slight M: Moderate H: Substantial

Subject Expert

HoD

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Regulation : R2021 **Department** : IT

Year/ Semester : I / II **Subject Code** : MA2151

Subject Name : Vector calculus, Complex integration and Laplace Transform

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
CO1	Apply multiple integral techniques to calculate area and volume.	K3 – Apply
CO2	Solve engineering problems using the concepts of vector calculus.	K3 – Apply
CO3	Construct an analytic function, when its real or imaginary part is known.	K3 – Apply
CO4	Evaluate integrals using Cauchy's integral formula and residue theorem.	K3 – Apply
CO5	Apply Laplace transform techniques in solving ordinary differential equations.	K3 – Apply

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program outcomes												Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
MA2151	CO1	H	M	L	-	-	-	-	-	-	-	-	-	L	-
	CO2	H	H	L	-	-	-	-	-	-	-	-	-	L	-
	CO3	H	M	L	-	-	-	-	-	-	-	-	-	L	-
	CO4	H	H	L	-	-	-	-	-	-	-	-	-	L	-
	CO5	H	L	L	-	-	-	-	-	-	-	-	-	L	-

H-High, M-Moderate, L-Low

Subject Expert **HoD / MATHS**

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Regulation: 2021

Department: English

Year/ Semester: I / I

Subject Code: SH2101

Subject Name: Technical English

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
CO1	Utilize basic grammatical skills in writing instructions.	K3
CO2	Apply acquired knowledge of Grammar to prepare paragraphs	K3
CO3	Develop reading skills by familiarizing with different types of reading strategies	K3
CO4	Demonstrate proper usage of grammar in formal writing.	K3
CO5	Make use of communicative English in conversations.	K3

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program outcomes												Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
	CO1	-	-	-	-	-	-	-	-	-	M	-	-	-	-
	CO2	-	-	-	-	-	-	-	-	-	M	-	-	-	-
	CO3	-	-	-	-	-	-	-	-	-	M	-	-	-	-
	CO4	-	-	-	-	-	-	-	-	-	M	-	-	-	-
	CO5	-	-	-	-	-	-	-	-	-	M	-	-	-	-

H-High, M-Moderate, L-Low

for Principal

Regulation: 2021 **Department: English**

Year/ Semester: I /II **Subject Code: SH2151**

Subject Name: Professional English

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
CO1	Compare and contrast products and ideas in technical texts.	K3
CO2	Identify cause and effects in events, industrial processes through technical texts	K3
CO3	Analyse problems in order to arrive at feasible solutions and communicate them orally and in the written format.	K3
CO4	Report events and the processes of technical and industrial nature.	K3
CO5	Present their opinions in a planned and logical manner, and draft effective resumes in context of job search.	K3

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program outcomes												Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
	CO1	-	-	-	-	-	-	-	-	-	M	-	-	-	-
	CO2	-	-	-	-	-	-	-	-	-	M	-	-	-	-
	CO3	-	-	-	-	-	-	-	-	-	M	-	-	-	-
	CO4	-	-	-	-	-	-	-	-	-	M	-	-	-	-
	CO5	-	-	-	-	-	-	-	-	-	M	-	-	-	-

H-High, M-Moderate, L-Low

Subject Expert **HoD**

KAMARAJ COLLEGE OF ENGINEERING & TECHNOLOGY
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Regulation : R2021 **Department : Information Technology**

Year/ Semester : II / III **Subject Code : IT2201**

Subject Name : Computer Organization and Architecture

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
CO1	Summarize the functionalities of various parts, instruction sets and operations of a digital computer.	K2 – Understand
CO2	Utilize the logic design for fixed-point and floating point arithmetic.	K3 – Apply
CO3	Interpret the role of a processing unit and multiple functional units.	K3 – Apply
CO4	Explain the various elements in memory hierarchy and the basic and complex I/O structures.	K2 – Understand
CO5	Demonstrate how parallelism is used at instruction-level and data-level parallelism.	K2 – Understand

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program outcomes												Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
IT2201	CO1	M	L	-	-	-	-	-	-	-	-	-	L	L	L
	CO2	M	L	-	-	-	-	-	-	-	-	-	L	L	L
	CO3	M	L	-	-	-	-	-	-	-	-	-	L	L	L
	CO4	M	L	-	-	-	-	-	-	-	-	-	L	L	L
	CO5	M	L	-	-	-	-	-	-	-	-	-	L	L	L

Correlation Levels: L:Slight M:Moderate H:Substantial

R. Muthselvi

Subject Expert

(Dr. R. Muthselvi
Prof / CSE)

HoD

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Regulation : R2021 **Department : Information Technology**

Year/ Semester : II / III **Subject Code : IT2202**

Subject Name : Object Oriented Programming

Course Outcomes

On successful completion of this course, the students will be able to:

Course No.	Course Outcome (Students should be able to...)	Knowledge Level
21ITC203.1	Demonstrate the basic concepts of object oriented programming using JAVA	K2
21ITC203.2	Make use of the OOP concept and non-access modifiers to solve real world problems	K3
21ITC203.3	Choose an appropriate exception handler and generic data type for writing a JAVA application	K3
21ITC203.4	Select the appropriate features of event driven programming and I/O streams to give solution to real time problems	K3
21ITC203.5	Apply multithreading programming to generate synchronized threads	K3

Mapping of Course Outcomes with Program Outcomes

Course Outcomes	Program out comes												Program Specific outcomes	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
21ITC203.1	M	H	L	M	L	-	-	-	-	-	-	L	M	M
21ITC203.2	M	H	L	M	L	-	-	-	-	-	-	L	M	M
21ITC203.3	M	H	L	M	L	-	-	-	-	-	-	L	M	M
21ITC203.4	M	H	L	M	L	-	-	-	-	-	-	L	M	M
21ITC203.5	M	H	L	M	L	-	-	-	-	-	-	L	M	M
21ITC203	M	H	L	M	L	-	-	-	-	-	-	L	M	M

Correlation Levels: L:Slight M:Moderate H:Substantial

1/8/2022

Subject Expert **HoD**

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Regulation : R2021 **Department : Information Technology**

Year/ Semester: II / III **Subject Code : EC2203**

Subject Name : Digital Systems

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
21ITC205.1	**Outline** the Boolean functions and various minimization techniques.	K2-Understand
21ITC205.2	**Illustrate** the combinational circuits used to perform basic digital operations.	K2-Understand
21ITC205.3	**Develop** the synchronous/ asynchronous counters and shift registers using sequential logic.	K3-Apply
21ITC205.4	**Implement** combinational and sequential logic circuits using Verilog HDL.	K3-Apply
21ITC205.5	**Design** combinational circuits using programmable logic devices and Memory Devices.	K3-Apply

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program outcomes												Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO
EC2203	21ITC205.1	M	L	L	L	L	-	-	-	-	-	-	L	L	L
	21ITC205.2	H	M	M	L	L	-	-	-	-	-	-	L	M	L
	21ITC205.3	H	M	M	L	L	-	-	-	-	-	-	L	M	L
	21ITC205.4	H	H	H	L	L	-	-	-	-	-	-	L	M	L
	21ITC205.5	M	L	L	L	L	-	-	-	-	-	-	L	M	L

Correlation Levels: L:Slight M:Moderate H:Substantial

1/8/2022

Subject Expert **HoD**

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Regulation : **R2021** **Department** : **Information Technology**

Year/ Semester : **II / III** **Subject Code** : **EE2201**

Subject Name : **Fundamentals of Electrical and Electronics Engineering**

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
20ITC206.1	Solve simple dc circuits using basic electrical laws.	K2 –Understand
20ITC206.2	Describe the construction and working principle of various DC and AC Machines.	K2 –Understand
20ITC206.3	Elucidate characteristics of various semiconductor devices used in electronic circuits	K3 – Apply
20ITC206.4	Design simple digital circuits for various electronic applications	K3 – Apply
20ITC206.5	Explain the construction and working of electrical measuring instruments and transducers.	K2 –Understand

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program outcomes												Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO 1	PSO 2
EE2201	20UIT206.1	M	L	-	-	L	-	-	-	L	-	-	L	L	L
	20UIT206.2	M	L	-	-	L	-	-	-	L	-	-	L	L	L
	20UIT206.3	H	M	L	L	M	-	-	-	L	-	-	M	M	M
	20UIT206.4	H	M	L	L	M	-	-	-	L	-	-	M	M	M
	20UIT206.5	M	L	-	-	L	-	-	-	L	-	-	L	L	L

Correlation Levels: L:Slight M:Moderate H:Substantial

Subject Expert

J. MARIAPPAN.

18/1/2022

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Regulation : R2021 **Department : Common to all Branches**

Year/ Semester : II **Subject Code : GE2201**

Subject Name : Design Thinking

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
CO1	Describe the basic principles of design and various stages of design thinking for better conceiving of idea and refinement.	K2 (Understand)
CO2	Elucidate the concepts of idea generation and refinement.	K2 (Understand)
CO3	Apply various prototype models for solving complex problems.	K3 (Apply)
CO4	Analyse real-time problems for effective design, implementation and operation.	K4 (Analyze)
CO5	Device idea/solution towards development of a prototype for a chosen problem of interest.	K3 (Apply)

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program outcomes												Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
GE2201	CO1	-	-	-	-	M	M	-	-	-	-	-	M	M	M
	CO2	-	M	-	-	-	-	-	-	-	-	-	M	M	M
	CO3	-	M	M	-	-	M	-	-	-	-	-	M	-	-
	CO4	-	-	-	M	-	M	-	-	-	-	-	M	M	M
	CO5	M	-	-	-	M	-	-	-	-	-	-	M	M	M

Correlation Levels: L:Slight M:Moderate H:Substantial

Subject Expert **HoD**

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S.P.G.C. Nagar, K.Vellakulam – 625 701 (Near VIRUDHUNAGAR).

Regulation : R2021 **Department : Information Technology**

Year/ Semester : II / III **Subject Code : IT2204**

Subject Name : Object Oriented programming Laboratory

Course Outcomes

On successful completion of this course, the students will be able to:

Course No.	Course Outcome (Students will be able to)	Knowledge Level
21ITC208.1	Develop JAVA applications using Fundamental Programming Structures	K3 – Apply
21ITC208.2	Make use of the OOPs features to implement various JAVA applications	K3 – Apply
21ITC208.3	Apply the exception handling mechanism to handle the exceptions that arise in JAVA applications	K3 – Apply
21ITC208.4	Build Java application using event driven programming and JDBC concepts	K3 – Apply
21ITC208.5	Utilize Generics programming and Multithreaded programming for developing JAVA applications	K3 – Apply

Mapping of Course Outcomes with Program Outcomes

Course Outcomes	Program Outcomes												Program Specific Outcomes	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
21ITC208.1	M	H	L	M	L	-	-	-	-	L	-	L	H	M
21ITC208.2	M	H	L	M	L	-	-	-	-	L	-	L	H	M
21ITC208.3	M	H	L	M	L	-	-	-	-	L	-	L	H	M
21ITC208.4	M	H	M	M	L	-	-	-	H	H	-	L	H	M
21ITC208.5	M	H	L	M	L	-	-	-	-	L	-	L	H	M
21ITC208	M	H	L	M	L	-	-	-	H	L	-	L	H	M

Correlation Levels: L:Slight M:Moderate H:Substantial

1/8/2022

Subject Expert **HoD**

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Regulation : R2021 **Department : Information Technology**

Year/ Semester: II / III **Subject Code : EC2204**

Subject Name : Digital Systems Laboratory

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
21ITC209.1	Experiment with the basics of gates.	K3-Apply
21ITC209.2	Build different combinational circuits.	K3-Apply
21ITC209.3	Construct various sequential circuits.	K3-Apply
21ITC209.4	Model combinational & Sequential circuits using HDL.	K3- Apply
21ITC209.5	Make use of the concepts for implementation of a simple digital system.	K3-Apply

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program outcomes												Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO
EC2204	21ITC209.1	H	H	L	L	L	-	-	-	-	-	M	M	M	L
	21ITC209.2	H	H	L	L	L	-	-	-	-	-	M	M	M	L
	21ITC209.3	H	H	L	L	L	-	-	-	-	-	M	M	M	L
	21ITC209.4	H	H	L	L	L	-	-	-	-	-	M	M	M	L
	21ITC209.5	H	H	L	L	L	-	-	-	-	-	M	M	M	L

Correlation Levels: L:Slight M:Moderate H:Substantial

1/8/2022

Subject Expert

ARAVIND P

AP/ECE

HoD

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Department of Computer Science & Engineering

Regulation : R2021 **Department :** CSE

Year / Semester : II / IV **Subject Code :** CS2253

Subject Name : SOFTWARE ENGINEERING WITH UML DESIGN

Course Outcomes:

On the successful completion of this course, the students will be able to,

CO No.	CO statements	Knowledge Level
CO1	Develop life cycle models for software development.	K3- Apply
CO2	Model the static features of the system.	K3- Apply
CO3	Model the dynamic features of the system.	K3- Apply
CO4	Illustrate the different management techniques.	K2-Understand
CO5	Demonstrate the various testing strategies.	K2-Understand

Mapping of Course Outcomes with Program Outcomes:

Course Code	CO No.	POs												PSOs	
		1	2	3	4	5	6	7	8	9	10	11	12	1	2
CS2253	CO1	M	M	L	-	-	-	-	-	-	-	-	-	M	M
	CO2	H	M	M	-	-	-	-	-	-	-	-	-	L	L
	CO3	H	M	M	-	-	-	-	-	-	-	-	-	H	H
	CO4	H	M	M	-	-	-	-	-	-	-	-	-	M	M
	CO5	H	M	M	-	-	-	-	-	-	-	-	-	M	M

H- High, M- Moderate, L- Low

Subject Expert **HoD-CSE**

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Regulation : R2021 **Department** : Information Technology

Year/ Semester : II / IV **Subject Code** : MA2251

Subject Name : Discrete Mathematics and Probability

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
CO1	Use propositional and predicate logic to derive new inference from a given scenario.	K3 – Apply
CO2	Solve problems using mathematical induction, permutation, combination and recurrence relations.	K3 – Apply
CO3	Apply graph theory to find shortest path and Euler's circuits in a given network.	K3 – Apply
CO4	Apply the concepts of probability distributions to solve engineering problems.	K3 – Apply
CO5	Compute the correlation between two random variables and linear regression equation for a given set of data.	K3 – Apply

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program outcomes												Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
Discrete Mathematics and Probability	CO1	H	M	L	-	-	-	-	-	-	-	-	-	L	-
	CO2	H	M	L	-	-	-	-	-	-	-	-	-	L	-
	CO3	H	M	L	-	-	-	-	-	-	-	-	-	L	-
	CO4	H	M	L	-	-	-	-	-	-	-	-	-	L	-
	CO5	H	M	L	-	-	-	-	-	-	-	-	-	L	-

Correlation Levels: L:Slight M:Moderate H:Substantial

N. Thangam

Subject Expert

HoD

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Regulation : R2021 **Department : Information Technology**

Year/ Semester : II / IV **Subject Code : CS2251**

Subject Name : Database Management Systems

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
21ITC211.1	Infer the basic concepts of database system and model ER diagram for real time applications	K2 - Understand
21ITC211.2	Use appropriate SQL commands to store and access data from Relational Database	K3 – Apply
21ITC211.3	Construct normalized database for real world scenario using functional dependencies	K3 – Apply
21ITC211.4	Illustrate the importance of transaction and concurrency control to maintain consistency in a database	K2 - Understand
21ITC211.5	Interpret the mechanism incorporated in file organization and Query processing	K2 - Understand

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program outcomes												Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CS2251	21ITC211.1	M	L	L	L	-	-	-	-	-	-	-	L	M	L
	21ITC211.2	M	M	-	L	-	-	-	-	-	-	-	L	M	L
	21ITC211.3	M	M	L	-	-	-	-	-	-	-	-	L	M	L
	21ITC211.4	M	M	-	-	-	-	-	-	-	-	-	L	M	L
	21ITC211.5	M	M	-	-	-	-	-	-	-	-	-	L	M	L

Correlation Levels: L:Slight M:Moderate H:Substantial

Subject Expert **HoD**

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Regulation : R2021 **Department** : Information Technology

Year/ Semester : II / IV **Subject Code** : IT2251

Subject Name : Data Structures

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
21ITC212.1	Utilize an appropriate linear data structure to provide solution for real life scenario	K3 – Apply
21ITC212.2	Make use of Stack and Queue ADTs for problem solving.	K3 – Apply
21ITC212.3	Illustrate the structural properties and operations on various types of Tree ADTs in balanced search.	K2 – Understand
21ITC212.4	Select an appropriate graph algorithm to solve real life problems.	K3 – Apply
21ITC212.5	Choose an appropriate sorting, searching or indexing strategy for effective data storage and retrieval.	K3 – Apply

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program outcomes												Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
IT2251	21ITC212.1	M	L	L	-	-	-	-	-	L	-	-	M	M	M
	21ITC212.2	M	M	M	L	-	-	-	-	L	-	-	M	M	M
	21ITC212.3	M	M	M	M	-	-	-	-	L	-	-	L	M	M
	21ITC212.4	M	M	M	M	-	-	-	-	L	-	-	L	M	M
	21ITC212.5	M	M	M	M	-	-	-	-	L	-	-	L	M	M

Correlation Levels: L:Slight M:Moderate H:Substantial

Subject Expert **HoD**

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Regulation : R2021 **Department** : Information Technology

Year/ Semester : II / IV **Subject Code** : IT2252

Subject Name : Operating Systems

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes - [illegible] Lab	Learning Level
21ITC213.1	Execute UNIX commands, system calls and shell script programs	K3 - Apply
21ITC213.2	Utilize the various CPU scheduling and deadlock avoidance algorithm for process management	K3 - Apply
21ITC213.3	Choose an appropriate memory allocation method and page replacement algorithm to manage memory	K3 - Apply
21ITC213.4	Implement various file allocation strategies and disk scheduling algorithms	K3 - Apply
21ITC213.5	Experiment the installation of guest OS in virtualized environment	K3 - Apply

Mapping of Course Outcomes with Program Outcomes

Course	CO. No.	Program Outcomes												Program Specific Outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
IT2252 Lab	21ITC213.1	M	L	-	L	L	-	-	-	-	-	-	-	M	M
	21ITC213.2	H	H	-	M	L	-	-	-	-	-	-	-	M	M
	21ITC213.3	H	H	-	M	L	-	-	-	-	-	-	-	M	M
	21ITC213.4	H	H	-	M	L	-	-	-	-	-	-	-	M	M
	21ITC213.5	H	H	-	M	L	-	-	-	-	-	-	-	M	M

Correlation Levels: L:Slight M:Moderate H:Substantial

Subject Expert **HoD / IT**

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Regulation : R2021 **Department** : Information Technology

Year/ Semester : II / IV **Subject Code** : IT2252

Subject Name : Operating Systems

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes - Theory	Learning Level
21ITC213.1	Elucidate the evolution of operating system along with its structure and functions	K2 - Understand
21ITC213.2	Demonstrate the various process management algorithms	K2 - Understand
21ITC213.3	Illustrate the performance of various memory management techniques	K2 - Understand
21ITC213.4	Describe file, directory system and I/O management techniques	K2 - Understand
21ITC213.5	Summarize the concepts of virtualization and various Mobile OS	K2 - Understand

Mapping of Course Outcomes with Program Outcomes

Course	CO. No.	Program Outcomes												Program Specific Outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
IT2252 Theory	21ITC213.1	M	L	-	L	L	-	-	-	-	-	-	-	M	M
	21ITC213.2	M	H	-	M	L	-	-	-	-	-	-	-	M	M
	21ITC213.3	M	H	-	M	L	-	-	-	-	-	-	-	M	M
	21ITC213.4	M	H	-	M	L	-	-	-	-	-	-	-	M	M
	21ITC213.5	M	L	-	L	L	-	-	-	-	-	-	-	M	M

Correlation Levels: L:Slight M:Moderate H:Substantial

Subject Expert **HoD / IT**

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Regulation : R2021 **Department** : Information Technology

Year/ Semester : II / IV **Subject Code** : IT2253

Subject Name : Web Essentials

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
21ITC214.1	Describe the fundamental concepts of website	K2 - Understand
21ITC214.2	Identify the appropriate HTML tags for creating a formatted static website in client server communication	K2 - Understand
21ITC214.3	Choose appropriate tags to format and validate the front end of web application	K2 - Understand
21ITC214.4	Make use of sever side scripting and database concepts for creating an interactive web application	K3 - Apply
21ITC214.5	Utilize the features of Servlet and JDBC to interact with server.	K3 - Apply

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program outcomes												Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
IT2253	21ITC214.1	M	L	L	-	-	-	-	-	-	-	-	L	M	M
	21ITC214.2	M	L	L	L	L	-	-	-	-	-	-	L	M	M
	21ITC214.3	M	M	M	L	L	-	-	-	-	-	-	L	M	M
	21ITC214.4	M	M	M	L	L	-	-	-	-	-	-	L	M	M
	21ITC214.5	M	M	M	L	L	-	-	-	-	-	-	L	M	M

Correlation Levels: L:Slight M:Moderate H:Substantial

Subject Expert **HoD**

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Regulation : R2021 **Department** : Information Technology

Year/ Semester : II / IV **Subject Code** : IT2254

Subject Name : Data Structures Laboratory

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
21ITC216.1	Implement linear data structures - Array, List, Stack and Queue ADTs for problem solving	K3 – Apply
21ITC216.2	Implement non-linear, hierarchical data structure - Trees for problem solving	K3 – Apply
21ITC216.3	Implement non-linear, non-hierarchical data structure - Graph for problem solving	K3 – Apply
21ITC216.4	Implement various Searching and Sorting Algorithms	K3 – Apply
21ITC216.5	Apply appropriate hash functions in a hash ADT to facilitate collision free data storage and retrieval	K3 – Apply

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program outcomes												Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
IT2254	21ITC216.1	H	M	M	L	L	-	-	-	H	-	-	L	H	L
	21ITC216.2	H	M	M	L	L	-	-	-	H	-	-	L	H	L
	21ITC216.3	H	M	M	L	L	-	-	-	H	-	-	L	H	L
	21ITC216.4	H	M	M	L	L	-	-	-	H	-	-	L	H	L
	21ITC216.5	H	M	M	L	L	-	-	-	H	-	-	L	H	L

Correlation Levels: L:Slight M:Moderate H:Substantial

Subject Expert

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Regulation : R2021 **Department** : Information Technology

Year/ Semester : II / IV **Subject Code** : IT2255

Subject Name : Web Essentials Laboratory

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
21ITC217.1	Apply HTML and CSS technologies for creating interactive webpage	K3 – Apply
21ITC217.2	Develop a dynamic web application using DHTML and JavaScript	K3 – Apply
21ITC217.3	Design a simple website using PHP script	K3 – Apply
21ITC217.4	Make Use of server-side scripting like servlets to implement three tier web applications	K3 – Apply
21ITC217.5	Utilize the features of PHP to implement client server communication	K3 – Apply

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program outcomes												Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
21ITC217	21ITC217.1	L	L	L	L	L	L	-	-	-	-	-	M	M	M
	21ITC217.2	L	L	M	L	L	L	-	-	-	-	-	M	M	M
	21ITC217.3	M	M	H	M	L	L	-	-	-	-	-	M	M	M
	21ITC217.4	M	M	H	M	L	L	-	-	-	-	-	M	M	M
	21ITC217.5	L	H	M	M	L	L	-	-	-	-	-	M	M	M

Correlation Levels: L:Slight M:Moderate H:Substantial

Subject Expert HoD

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Regulation : R2021 **Department** : Information Technology

Year/ Semester : II / IV **Subject Code** : CS2254

Subject Name : Database Management Systems Laboratory

Course Outcomes

On successful completion of this course, the students will be able to:

CO No.	Course Outcomes	Learning Level
21ITC215.1	Choose appropriate DDL, DML, DCL and TCL commands for creating and manipulating the databases	K3 - Apply
21ITC215.2	Construct appropriate nested queries, sub queries and join queries for efficient retrieval of data	K3 - Apply
21ITC215.3	Organize database using views, sequences, and synonyms	K3 - Apply
21ITC215.4	Implement functions, procedures, triggers and exceptions using PL/SQL	K3 - Apply
21ITC215.5	Develop a GUI based environment for storage and retrieval of data for a real time application	K3 - Apply

Mapping of Course Outcomes with Program Outcomes

Course	CO No.	Program outcomes												Program Specific outcomes	
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CS2254	21ITC215.1	M	M	L	-	L	-	-	-	-	-	-	-	M	L
	21ITC215.2	M	M	L	-	L	-	-	-	-	-	-	-	M	L
	21ITC215.3	M	M	L	-	L	-	-	-	-	-	-	-	M	L
	21ITC215.4	M	M	L	-	L	-	-	-	-	-	-	-	M	L
	21ITC215.5	M	H	M	L	L	-	-	-	L	-	L	L	M	L

Correlation Levels: L:Slight M:Moderate H:Substantial

Subject Expert **HoD**