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Department of Computer Science and Engineering

Course Name : COMPUTER NETWORKS		Course Code : 20CS501			
CO	**Course Outcomes**	**Unit**	**K-CO**	**POs**	**PSOs**
C301.1	Explain the organization of computer networks with the concept of layered approach	1	K2	1,2,11	1
C301.2	Classify various Media Access Control Protocols techniques	2	K3	1,2,3,7, 8,11	1
C301.3	Apply the error detection and error correction methods for bit streams	2	K3	1,2,3,7, 8,11	1
C301.4	Utilize various types of routing techniques to forward packets	3	K3	1-3,7-9,11	1
C301.5	Describe the mechanisms involved in transport layer	4	K2	1,2, 7-9,11	1
C301.6	Classify different application layer protocols	5	K3	1-3,7-9,11	1

CO-PO Mapping													
Course outcomes ↓	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PSO1**	**PSO2**
C301.1	2	1	-	-	-	-	-	-	-	-	1	2	-
C301.2	3	2	1	-	-	-	1	1	-	-	1	2	-
C301.3	3	2	1	-	-	-	1	1	-	-	1	2	-
C301.4	3	2	1	-	-	-	1	1	1	-	1	2	-
C301.5	2	1	-	-	-	-	1	1	1	-	1	2	-
C301.6	3	2	1	-	-	-	1	1	1	-	1	2	-
C301	3	2	1	-	-	-	1	1	1	-	1	2	-

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Course Name : THEORY OF COMPUTATION		Course Code : 20CS503			
CO	**Course Outcomes**	**Unit**	**K-CO**	**POs**	**PSOs**
C302.1	Construct finite automata for different regular expressions and languages	1	K3	1-3,7-9,11	1,2
C302.2	Develop context free grammar for the given languages	2	K3	1-3,7,8,11	1,2
C302.3	Transfer the context free grammar into its various normal forms	3	K3	1-3,7,8,11	1,2
C302.4	Develop Pushdown automata for the given languages	4	K3	1-3,7,8,11	1,2
C302.5	Construct Turing machine model for solving simple computational problems	5	K3	1-3,7,8,11	1,2
C302.6	Illustrate recursive and recursive enumerable languages	5	K3	1-3,7-9,11	1,2

CO-PO Mapping													
Course outcomes ↓	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PSO1**	**PSO2**
C302.1	3	2	1	-	-	-	2	2	1	-	1	3	1
C302.2	3	2	1	-	-	-	2	2	-	-	1	3	1
C302.3	3	2	1	-	-	-	2	2	-	-	1	3	1
C302.4	3	2	1	-	-	-	2	2	-	-	1	3	1
C302.5	3	2	1	-	-	-	2	2	-	-	1	3	1
C302.6	3	2	1	-	-	-	2	2	1	-	1	3	1
C302	3	2	1	-	-	-	2	2	1	-	1	3	1

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CO	Course Name : CYBER SECURITY	Course Code : 20CYV54			
	Course Outcomes	Unit	K-CO	POs	PSOs
C303.1	Identify the fundamental concepts of cyber security and the layers of cyber security based on real time scenarios	1	K3	1-3,6-9,11	1
C303.2	Illustrate the process of digital forensics, analysis and challenges in computer forensics	2	K4	1-4,6-9,11	1
C303.3	Analyze the security challenges and prevention measures for the security attacks on mobile and wireless devices	3	K4	1-4,6-9,11	1
C303.4	Discuss the concepts of privacy Attacks, Data linking and profiling	4	K2	1-2,6-9,11	1
C303.5	Explain the privacy policies and their specifications in various domains	4	K2	1-2,6-9,11	1
C303.6	Infer the category of the cyber security attacks and analyze its security measures	5	K4	1-4,6-9,11	1

K Level *Note:*	*Apply (PO1-K3), Analyze (PO2-K4), Evaluate (PO3-K5), Create (PO4-K6)*												
K Level →	K3	K4	K5	K6									
Course outcomes ↓	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
C303.1	3	2	1	-	-	3	2	2	2	-	2	1	1
C303.2	3	3	2	1	-	3	2	2	2	-	2	1	1
C303.3	3	3	2	1	-	3	2	2	2	-	2	1	1
C303.4	2	1	-	-	-	3	2	2	2	-	2	1	1
C303.5	2	1	-	-	-	3	2	2	2	-	2	1	1
C303.6	3	3	2	1	-	3	2	2	2	-	2	1	1
C	3	2	2	1	-	3	2	2	2	-	2	1	1

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	Course Name : ENGINEERING SECURE SOFTWARE SYSTEMS	Course Code : 20CSV62			
CO	Course Outcomes	Unit	K-CO	POs	PSOs
C304.1	Identify various vulnerabilities related to memory attacks and low level attacks.	1	2	1,2,7-9	1
C304.2	Apply security principles in software development and secure design.	2	3	1-3,7-10	1
C304.3	Discuss the risk factors in software systems and risk assessment techniques.	3	2	1,2,7-10	1
C304.4	Apply various testing techniques related to softwaresecurity in the testing phase of software development	4	3	1-3,7-10	1
C304.5	Discuss the web application security , bypassing Firewalls and tools for penetration testing.	4	2	1,2,7-9	1
C304.6	Illustrate secure project management and its framework.	5	3	1-3,7-10	1

K Level *Note:*	*Apply (PO1-K3), Analyze (PO2-K4), Evaluate (PO3-K5), Create (PO4-K6)*												
K Level →	K3	K4	K5	K6									
Course outcomes ↓	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
C304.1	2	1		-	-	-	3	1	1	-	-	2	-
C304.2	3	2	1	-	-	-	3	1	1	2	-	2	-
C304.3	2	1		-	-	-	3	1	1	2	-	2	-
C304.4	3	2	1	-	-	-	3	1	1	2	-	2	-
C304.5	2	1		-	-	-	3	1	1	-	-	2	-
C304.6	3	2	1	-	-	-	3	1	1	2	-	2	-
C	3	2	1	-	-	-	3	1	1	2	-	2	-

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Department of Computer Science and Engineering

Course Name : CONSTITUTION OF INDIA		Course Code : 20MC501			
CO	Course Outcomes	Unit	K –CO	POs	PSOs
C305.1	Explain history and philosophy of Indian Constitution.	1	K2	6-9	-
C305.2	Explain the premises informing the twin themes of liberty and freedom from a civil rights perspective.	2	K2	6-9	-
C305.3	Explain the powers and functions of Indian government	3	K2	6-9	-
C305.4	Explain the emergency rules of Indian Constitution.	4	K2	6-9	-
C305.5	Explain the structure and functions of local administration.	5	K2	6-9	-

CO-PO Mapping

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
C305.1	-	-	-	-	-	3	2	2	2	-	-	-	-
C305.2	-	-	-	-	-	3	2	2	2	-	-	-	-
C305.3	-	-	-	-	-	3	2	2	2	-	-	-	-
C305.4	-	-	-	-	-	3	2	2	2	-	-	-	-
C305.5	-	-	-	-	-	3	2	2	2	-	-	-	-
C305	-	-	-	-	-	3	2	2	2	-	-	-	-

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Course Name : SOFTWARE ENGINEERING		Course Code : 20CS504			
CO	**Course Outcomes**	**Unit**	**K-CO**	**POs**	**PSOs**
C306.1	Apply the software process models and Identify the problem statement for a suggested system of project.	I	K3	1-3,7-11	1,2
C306.2	Build the SRS and DFD using software requirements for classical analysis.	II	K3	1-3,7-11	1,2
C306.3	Examine the identified objects and functionality of the system using USE CASE and CLASS model.	III	K4	1-5,7-11	1,2
C306.4	Demonstrate the code from objects interaction and implementation models for the system.	III	K3	1-3,5,7-11	1,2
C306.5	Illustrate the developed code using testing strategies.	IV	K3	1-3,5,7-11	1,2
C306.6	Calculate the software project effort and cost.	V	K3	1-3,7-11	1,2

CO-PO Mapping													
Course outcomes ↓	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PSO1**	**PSO2**
C306.1	3	2	1	-	-	-	3	3	3	3	3	3	3
C306.2	3	2	1	-	-	-	3	3	3	3	3	3	3
C306.3	3	3	2	1	3	-	3	3	3	3	3	3	3
C306.4	3	2	1	-	3	-	3	3	3	3	3	3	3
C306.5	3	2	1	-	3	-	3	3	3	3	3	3	3
C306.6	3	2	1	-	-	-	3	3	3	3	3	3	3
C306	3	2	1	1	3	-	3	3	3	3	3	3	3

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	Course Name: Embedded System Design and IoT	Course Code: 20EC512			
CO	**Course Outcomes**	**Unit**	**K**	**POs**	**PSOs**
C307.1	Use the 8051 Microcontroller to write Assembly Language Programs.	1	K3	1-3,7-9,11	1
C307.2	Illustrate the ARM Processors Architecture, and Instruction Set for programming the LPC 2148	2	K3	1-3,7-9,11	1
C307.3	Apply the concept of ARM Processor for interfacing peripherals to control a system.	2	K3	1-3,5-9,11	1
C307.4	Illustrate the concept of Internet of Things with the support of IoT Architectural Model.	3	K3	1-3,7-9,11	1
C307.5	Demonstrate IoT with the support of Raspberry Pi/Arduino.	3	K3	1-3,5-9,11	1
C307.6	Classify different IoT Protocols for its implementation in the real world scenario.	4	K3	1-3,7-9,11	1
C307.7	Utilize the IoT concepts for solving the Industrial Applications.	5	K3	1-3,5-9,11	1

K Level *Note:*	*Apply (PO1-K3), Analyze (PO2-K4), Evaluate (PO3-K5), create (PO4-K6)*												
K Level →	**K3**	**K4**	**K5**	**K6**									
Course outcomes ↓	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PSO1**	**PSO2**
C307.1	3	2	1	-	-	-	1	1	1	-	1	3	-
C307.2	3	2	1	-	-	-	1	1	1	-	1	3	-
C307.3	3	2	1	-	1	1	1	1	1	-	1	3	-
C307.4	3	2	1	-	-	-	1	1	1	-	1	3	-
C307.5	3	2	1	-	1	1	1	1	1	-	1	3	-
C307.6	3	2	1	-	-	-	1	1	1	-	1	3	-
C307.7	3	2	1	-	1	1	1	1	1	-	1	3	-
C307	3	2	1	-	1	1	1	1	1	-	1	3	-

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Course Name : NETWORKS LABORATORY		Course Code : 20CS5L1			
CO	**Course Outcomes**	**Exp**	**K-CO**	**POs**	**PSOs**
C308.1	Demonstrate the different Network Commands	1	K3	1-3,7-9,11	1,2
C308.2	Develop Simple Socket Programming	2,3,4	K3	1-3,5,7-9,11	1,2
C308.3	Develop the code for Data Link Layer Protocol Simulation	5,6	K3	1-3,5,7-9,11	1,2
C308.4	Experiment with Congestion Control Algorithm using Network Simulator	7	K3	1-3,5,7-9,11	1,2
C308.5	Develop the code for Transport Layer Protocol Simulation	8,9	K3	1-3,5,7-9,11	1,2
C308.6	Illustrate the performance of various network Routing Protocols	10,11	K4	1-5,7-9,11	1,2

CO-PO Mapping

Course outcomes ↓	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2
C308.1	3	2	1	-	-	-	2	2	3	-	2	2	2
C308.2	3	2	1	-	2	-	2	2	3	-	2	2	2
C308.3	3	2	1	-	2	-	2	2	3	-	2	2	2
C308.4	3	2	1	-	2	-	2	2	3	-	2	2	2
C308.5	3	2	1	-	2	-	2	2	3	-	2	2	2
C308.6	3	3	2	1	2	-	2	2	3	-	2	2	2
C308	3	3	1	1	2	-	2	2	3	-	2	2	2

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