

**Semester – V**

**Unique Course Number: CSC501**

**Course Name: Theoretical Computer Science**

Unique CO Number	Course Outcome (CO) Statement
	Students will be able to,
CSC5011	Describe fundamentals of grammars, languages and Machines.
CSC5012	Express the understanding of decidability and undecidability.
CSC5013	Develop Regular grammar, Context free grammar while recognizing the strings and tokens.
CSC5014	Develop Regular Expression for a given language and show the equivalence of languages described by finite automata and regular expressions.
CSC5015	Construct different machines like Finite Automata, Pushdown Automata and Turing Machines to recognize the given language and prove the equivalence between them.
CSC5016	Identify applications and limitations of some computational models and possible methods of proving them.

**Unique Course Number: CSC502**

**Course Name: Software Engineering**

Unique CO Number	Course Outcome (CO) Statement
	Students will be able to,
CSC5021	Describe basic knowledge of software engineering via software development process models.
CSC5022	Identify requirements, analyze and prepare models.
CSC5023	Plan, schedule and track the progress of the projects.
CSC5024	Design to help the development of the software projects.
CSC5025	Apply testing principles on software project and describe the maintenance procedure.
CSC5026	Identify risks; manage the change to assure quality in software projects.

**Unique Course Number: CSC503**

**Course Name: Computer Network**

Unique CO Number	Course Outcome (CO) Statement
	Students will be able to,
CSC5031	Explain basic concepts of Computer Networks and compare OSI model with TCP/IP model.
CSC5032	Illustrate various types of transmission media and demonstrate the communication at the physical layer.
CSC5033	Understand various protocols used in the Data link layer and Concepts of error detection and correction.
CSC5034	Design a network using IP addressing and analyze various routing algorithms and protocols at Network layer.
CSC5035	Analyze transport layer protocols and congestion control algorithms.
CSC5036	Explain the purpose of various protocols at Application layer

**Unique Course Number: CSC504**

**Course Name: Data Warehousing & Mining**

Unique CO Number	Course Outcome (CO) Statement
	Students will be able to,
CSC5041	Understand data warehouse fundamentals and design data warehouse with dimensional modelling and apply OLAP operations
CSC5042	Understand data mining principles and perform Data preprocessing and Visualization.
CSC5043	Identify appropriate data mining algorithms to solve real world problems
CSC5044	Compare and evaluate different data mining techniques like classification, prediction, clustering and association rule mining
CSC5045	Describe complex information and social networks with respect to web mining.



**Unique Course Number: CSC5012**

**Course Name: Internet Programming**

Unique CO Number	Students will be able to,	Course Outcome (CO) Statement
CSC5051	Implement interactive web page(s) using HTML, CSS. and Java Script.	
CSC5052	Demonstrate Server-Side Scripting and database connectivity using JDBC.	
CSC5053	Demonstrate Rich Internet Application using Ajax.	
CSC5054	Demonstrate and differentiate various Web Extensions.	
CSC5055	Demonstrate web application using Reactive Js	
CSC5056	Design a responsive web site using JavaScript.	

**Unique Course Number: CSL501**

**Course Name: Software Engineering Lab**

Unique CO Number	Students will be able to,	Course Outcome (CO) Statement
CSL5011	Define problem statements and apply process model for software projects	
CSL5012	Schedule, plan and estimate cost with risk identification of the software project	
CSL5013	Classify requirements by user types and use tools to develop diagrams of analysis	
CSL5014	Design singleton pattern for a case study	
CSL5015	Test software project case using tool	
CSL5016	Demonstrate software change and version management	

**Unique Course Number: CSL502**

**Course Name: Computer Network Lab**

Unique CO Number	Students will be able to,	Course Outcome (CO) Statement
CSL5021	Identify type of cables and understand connection using crimping tool,	
CSL5022	Setup networking environment in Linux to understand Network commands and use of various tools such as Wireshark, Nmap, iptables	
CSL5023	Perform various server configurations in Linux	
CSL5024	Setup a Network using Cisco packet tracer and implement static routing.	
CSL5025	Design client server model using socket programming	
CSL5026	Use of Cisco packet tracer to design VPN and explore networking algorithms.	

**Unique Course Number: CSL503**

**Course Name: Data Warehousing & Mining Lab**

Unique CO Number	Students will be able to,	Course Outcome (CO) Statement
CSL5031	Design data warehouse and perform various OLAP operations.	
CSL5032	Implement data mining algorithm like classification.	
CSL5033	Implement clustering algorithm on a given set of data sample.	
CSL5034	Implement association rule mining and web mining algorithms.	



**Unique Course Number: CSL504**

**Course Name: Professional Comm. & Ethics II**

Unique CO Number	Students will be able to,	Course Outcome (CO) Statement
CSL5041	Plan and prepare effective business /technical documents which will in turn provide solid foundation for their managerial roles.	
CSL5042	Strategize their personal and professional skills to build a professional image and meet the demands of the industry.	
CSL5043	Emerge successful in group discussions, meetings and result - oriented agreeable solutions in group communication situations.	
CSL5044	Deliver persuasive and professional presentations.	
CSL5045	Deliver creative thinking and interpersonal skills required for effective professional communication.	
CSL5046	Apply codes of ethical codes, personal integrity and normal of organizational behavior.	

**Unique Course Number: CSM501**

**Course Name: Mini-Project 2A**

Unique CO Number	Students will be able to,	Course Outcome (CO) Statement
CSM4011	Acquire practical knowledge within the chosen area of technology for societal/research/innovation/entrepreneurship project development.	
CSM4012	Identify, analyze, formulate and solve the problem with a comprehensive and systematic approach by applying engineering knowledge.	
CSM4013	Contribute as an individual or in a team in development of technical projects.	
CSM4014	Develop effective communication skills for presentation of project related activities.	