

| Computer Engineering |             |                            |           |                                                                                                                    |
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| Sem                  | Course Code | Course Name                | CO Number | Course Outcome Statements                                                                                          |
| V                    | CSC501      | Microprocessor             | CSC5011   | Describe Architecture and Working of x86 processor.                                                                |
|                      |             |                            | CSC5012   | Design the program in Assembly and Higher-Level Languages for intel x86.                                           |
|                      |             |                            | CSC5013   | Elaborate Execution of Interrupts.                                                                                 |
|                      |             |                            | CSC5014   | Apply the concepts for interfacing 8086 processor with peripherals.                                                |
|                      |             |                            | CSC5015   | Analyze the architecture of intel 80386 processor                                                                  |
|                      |             |                            | CSC5016   | Apply basics of microprocessor to infer Pentium                                                                    |
| V                    | CSC502      | Database Management System | CSC5021   | Describe the fundamentals of a database systems                                                                    |
|                      |             |                            | CSC5022   | Describe the concept of transaction, concurrency and recovery.                                                     |
|                      |             |                            | CSC5023   | Explain different database Models and Apply different rules for conversion of conceptual model to relational model |
|                      |             |                            | CSC5024   | Solve database queries using relational algebra and SQL.                                                           |
|                      |             |                            | CSC5025   | Construct ER and EER diagram for the real life problems.                                                           |
|                      |             |                            | CSC5026   | Explain and apply different constraints on Database Design.                                                        |
| V                    | CSC503      | Computer Network           | CSC5031   | Explain basic concepts of Computer Networks and compare OSI model with TCP/IP model.                               |
|                      |             |                            | CSC5032   | Illustrate various types of transmission medias and demonstrate the communication at physical layer.               |
|                      |             |                            | CSC5033   | Understand various protocols used in 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 the Network Layer.    |
|                      |             |                            | CSC5035   | Analyze transport layer protocols and congestion control algorithms.                                               |
|                      |             |                            | CSC5036   | Explain the purpose of various protocols at Application layer.                                                     |
| V                    | CSC504      | Theory of Computer Science | CSC5041   | Describe fundamentals of grammars, languages and Machines.                                                         |

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|   |           |                      | CSC5042    | Express the understanding of decidability and undecidability.                                                                                                    |
|   |           |                      | CSC5043    | Develop Regular grammar, Context free grammars while recognizing the strings and tokens.                                                                         |
|   |           |                      | CSC5044    | Develop Regular Expression for a given language and show the equivalence of languages described by finite automata and regular expressions.                      |
|   |           |                      | CSC5045    | Construct different machines like Finite Automata, Pushdown Automata and Turing Machines to recognize the given language and prove the equivalence between them. |
|   |           |                      | CSC5046    | Identify applications and limitations of some computational models and possible methods of proving them.                                                         |
| V | CSDLO5012 | Internet Programming | CSDLO50121 | Explain and compare different types of Advanced Operating System                                                                                                 |
|   |           |                      | CSDLO50122 | Describe system structure and data structure used for file management in UNIX OS                                                                                 |
|   |           |                      | CSDLO50123 | Describe data structure used in Memory management and Process Management in UNIX OS                                                                              |
|   |           |                      | CSDLO50124 | Explain the architecture of different Advanced Operating Systems                                                                                                 |
|   |           |                      | CSDLO50125 | Compare different Scheduling algorithms and solve various scheduling                                                                                             |
|   |           |                      | CSDLO50126 | Demonstrate the design issues of different Advanced Operating Systems.                                                                                           |
| V | CSDLO5013 | Advance Algorithm    | CSDLO50131 | Describe analysis techniques for algorithms.                                                                                                                     |
|   |           |                      | CSDLO50132 | Differentiate polynomial and non-deterministic polynomial algorithms.                                                                                            |
|   |           |                      | CSDLO50133 | Identify appropriate data structure and design techniques to solve given problems.                                                                               |
|   |           |                      | CSDLO50134 | Identify appropriate algorithm to be applied for the various application like geometric modelling, robotics, networking, etc. and solve given problems.          |
|   |           |                      | CSDLO50135 | Solve the given problems using randomization algorithms.                                                                                                         |
|   |           |                      | CSDLO50136 | Analyze various algorithms.                                                                                                                                      |
| V | CSL501    | Microprocessor Lab   | CSL5011    | Implement interactive program using interrupts                                                                                                                   |
|   |           |                      | CSL5012    | Use machine control group of instructions in an assembly language program                                                                                        |

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|   |        |                             | CSL5013 | Use string and arithmetic instructions for assembly language programming                                                  |
|   |        |                             | CSL5014 | Write mixed language program for arithmetic operations                                                                    |
|   |        |                             | CSL5015 | Apply architectural knowledge to interface different peripherals with 8086                                                |
|   |        |                             | CSL5016 | Use basic concepts of 8086 for learning advance peripherals                                                               |
| V | CSL502 | Computer Network Lab        | CSL5021 | Implement Error detection and correction and Data link protocol using core programming API.                               |
|   |        |                             | CSL5022 | Setup networking environment in Linux to understand Network commands and use of various tools such as wireshark, iptables |
|   |        |                             | CSL5023 | Perform various server configurations in Linux                                                                            |
|   |        |                             | CSL5024 | Design client server model using socket programming                                                                       |
|   |        |                             | CSL5025 | Setup a Network in GNS3 and implement static routing.                                                                     |
|   |        |                             | CSL5026 | Use Network Simulator such as NS2 to explore networking algorithms.                                                       |
| V | CSL503 | Database & Info. System Lab | CSL5031 | Construct ER and EER diagram for the real life problem with software tool.                                                |
|   |        |                             | CSL5032 | Apply different rules for Creating and updating database and tables with different DDL and DML statements.                |
|   |        |                             | CSL5033 | Apply integrity constraints and provide security to data.                                                                 |
|   |        |                             | CSL5034 | Construct simple and Complex SQL queries.                                                                                 |
|   |        |                             | CSL5035 | Apply triggers and procedures for specific module/task                                                                    |
|   |        |                             | CSL5036 | Illustrate Handling of concurrent transactions and access data through front end (using JDBC ODBC connectivity.)          |
| V | CSL504 | Web Design Lab              | CSL5041 | Explain the core concepts and features of Web Technology.                                                                 |
|   |        |                             | CSL5042 | Design static web pages using HTML5 and CSS3.                                                                             |
|   |        |                             | CSL5043 | Implement the client-side validation and design dynamic web pages using JavaScript and JQuery.                            |
|   |        |                             | CSL5044 | Create Interactive web pages using PHP, AJAX with database connectivity using MySQL.                                      |
|   |        |                             | CSL5045 | Understand the basics of XML, DTD and XSL and develop web pages using XML / XSLT.                                         |

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|   |        |                         | CSL5046 | Analyze end user requirements and Create web application using appropriate webtechnologies and web development framework.                                                          |
| V | CSL505 | Business Comm. & Ethics | CSL5051 | Design a technical document using precise language, suitable vocabulary, and aptstyle.                                                                                             |
|   |        |                         | CSL5052 | Develop the life skills/ interpersonal skills to progress professionally by building stronger relationship.                                                                        |
|   |        |                         | CSL5053 | Demonstrate awareness of contemporary issues, knowledge of professional and ethical responsibilities.                                                                              |
|   |        |                         | CSL5054 | Apply the traits of a suitable candidate for a job/higher education, upon being trained in the techniques of holding a group discussion, facing interviews and writing resume/SOP. |
|   |        |                         | CSL5055 | Deliver formal presentations effectively, implementing the verbal and non- verbal skills.                                                                                          |
|   |        |                         | CSL5056 | Demonstrate skills for participating in meetings and prepare its documentation.                                                                                                    |