

COURSE OUTCOMES

Course Name: C101 - HS8151 Communicative English

Year of Study: 2018 – 19

C101.1	Analyze articles of general kind magazines and newspapers.
C101.2	Take part in informal conversations and express opinions; introduce themselves and their friends and express opinions in English.
C101.3	Construct conversations and small talks delivered in English.
C101.4	Develop short essays of a general kind and personal letters and emails in English.
C101.5	Improve the knowledge of vocabulary and grammar skills related to communication.

Course Name: C102 - MA8151 Engineering Mathematics – I

Year of Study: 2018 – 19

C102.1	Apply the basics of Differentiation.
C102.2	Find the maxima & minima of functions.
C102.3	Identify some techniques in Integration.
C102.4	Relate the need of Integration to find Area and Volume.
C102.5	Solve differential equations using some techniques.

Course Name: C103 - PH8151 Engineering Physics

Year of Study: 2018 – 19

C103.1	Understand the basics of properties of matter and its applications
C103.2	Infer knowledge on concept of waves, optical devices and their application in fibre optics
C103.3	Understand the concepts of thermal properties of materials and their applications in expansion joints and heat exchangers
C103.4	Infer knowledge on advanced physics concepts of quantum theory and its application in tunneling microscope
C103.5	Categorize the crystals based on their structure and gain knowledge about different crystal growth techniques

Course Name: C104 - CY8151 Engineering Chemistry

Year of Study: 2018 – 19

C104.1	Understand the boiler feed water requirements and propose suitable treatment methodologies to treat water.
C104.2	Identify and apply basic concepts of surface chemistry and catalysis for engineering and technology applications.
C104.3	Develop the knowledge of phase rule and alloys for material selection requirements.
C104.4	Recommend suitable fuels for engineering processes and applications.
C104.5	Understand the different forms of energy resources and apply them for suitable applications in energy sources.

Course Name: C105 - GE8151 Problem Solving and Python Programming **Year of Study:** 2018 – 19

C105.1	Understand the working of computers.
C105.2	Construct the basics of Python Programming constructs.
C105.3	Realize the need of strings, list, and tuple.
C105.4	Design programs involving dictionaries and function.
C105.5	Develop simple programs using file concept and modules.

Course Name: C106 - GE8152 Engineering Graphics **Year of Study:** 2018 – 19

C106.1	Discuss about conics and orthographic views of engineering components.
C106.2	Draw the projection of points, lines and planes.
C106.3	Classify solids and projection of solids at different positions.
C106.4	Show sectioned view of solids and development of surfaces.
C106.5	Draw isometric projection and perspective views of an object/solid.

Course Name: C107 - GE8161 Problem Solving and Python Programming Lab

Year of Study: 2018 – 19

C107.1	Explain, test, and solve simple Python programs.
C107.2	Design Python programs with conditionals and loops.
C107.3	Develop Python programs step-wise by defining functions and calling them.
C107.4	Extend Python lists, tuples and dictionaries for representing compound data.
C107.5	Analyze data from/to files in Python.

Course Name: C108 - BS8161 Physics and Chemistry Laboratory **Year of Study:** 2018 – 19

C108.1	Understand the functioning of various physics Laboratory equipments
C108.2	Analyze the observed Laboratory data's using graphical models
C108.3	Solve problems individually and collaboratively
C108.4	Analyze the quality of water samples with respect to their acidity, alkalinity and hardness
C108.5	Determine the amount of metal ions through volumetric and spectroscopic techniques

Course Name: C109 - HS8251 Technical English **Year of Study:** 2018 – 19

C109.1	Adapt reading technical texts and write area- specific texts effortlessly.
C109.2	Adapt and comprehend lectures and talks in their area of Specialization successfully.
C109.3	Apply speaking appropriately and effectively in varied formal and informal contexts.
C109.4	Develop reports and winning job application
C109.5	Improve the knowledge of grammar related to technical writing and speaking

Course Name: C110 - MA8251 Engineering Mathematics – II **Year of Study:** 2018 – 19

C110.1	Classify the basic concepts of Matrices and its properties.
C110.2	Identify the line, surface and volume integrals, Gradient, divergence and curl of a vector point function and related identities.
C110.3	Analyze the basics of analytic functions and conformal mapping.
C110.4	Explain the basics of Cauchy's integral formula and Application of residue theorem for evaluation of real integrals.
C110.5	Compare the Laplace transform and inverse transform of simple functions, properties, various related theorems and application to differential equations with constant coefficients.

Course Name: C111 - PH8252 Physics for Information Science **Year of Study:** 2018 – 19

C111.1	Understand classical and quantum free electron theories and energy band structures
C111.2	Analyze the basics of semiconductor Physics and its applications in various devices
C111.3	Categorize magnetic properties of materials and their applications in data storage
C111.4	Interpret the functioning of optical materials for opto electronics
C111.5	Understand the basics of quantum structures and their applications in carbon electronics

Course Name: C112 - BE8255 Basic Electrical, Electronics and Measurement Engineering
Year of Study: 2018 – 19

C112.1	Understand the fundamentals of electronic circuit constructions.
C112.2	Design of electrical circuits and also to analyse them.
C112.3	Understand the electrical machines and their performance.
C112.4	Study the different energy sources, protective devices and their field applications.
C112.5	Understand the principles and operation of measuring instruments and transducers.

Course Name: C113 - IT8201 Information Technology Essentials **Year of Study:** 2018 – 19

C113.1	Outline and deploy web-sites
C113.2	Construct and deploy simple web-applications.
C113.3	Develop simple database applications.
C113.4	Develop information system.
C113.5	Discover the basics of networking and mobile communications.

Course Name: C114 - CS8251 Programming in C **Year of Study:** 2018 – 19

C114.1	Develop simple applications in C using basic constructs.
C114.2	Design and implement applications using arrays and strings.
C114.3	Construct and implement applications in C using functions and pointers.
C114.4	Build applications in C using structures.
C114.5	Design applications using sequential and random access file processing.

Course Name: C115 - GE261 Engineering Practices Laboratory

Year of Study: 2018 – 19

C115.1	Understand the basic components and pipe connections.
C115.2	Making sheet metal models.
C115.3	Understand the foundry and fittings.
C115.4	Design of electrical circuits.
C115.5	Study of electrical components and soldering process.

Course Name: C116 - CS261 C Programming Laboratory

Year of Study: 2018 – 19

C116.1	Develop C programs for simple applications making use of basic constructs, arrays.
C116.2	Develop C programs for simple applications making use of strings.
C116.3	Develop C programs involving functions, recursion, and pointers.
C116.4	Create applications in C using structures.
C116.5	Design applications using sequential and random access file processing.

Course Name: C117 - IT8211 Information Technology Essentials Laboratory **Year of Study:** 2018 – 19

C117.1	Design interactive websites using basic HTML tags, different styles, links and with all.
C117.2	Build client side and server side programs using scripts using PHP.
C117.3	Design dynamic web sites and handle multimedia components.
C117.4	Create Personal Information System.
C117.5	Implement the technologies behind computer networks and mobile communication.

Course Name: C201 - MA8351 Discrete Mathematics

Year of Study: 2019 – 20

C201.1	Develop the knowledge of the concept to test the logics.
C201.2	Demonstrate the statements and implications using truth tables, mathematical induction and recurrence relation.
C201.3	Apply basic definitions and properties associated with simple graphs and identify the difference between Eulerian and Hamiltonian paths.
C201.4	Make use of the operations on sets, binary relations, equivalence relations and partial ordered sets.
C201.5	Build the Hasse diagram, and illustrate the concept of lattice and Boolean algebra.

Course Name: C202 CS8351 Digital Principles and System Design

Year of Study: 2019 – 20

C202.1	Understand to Simplify Boolean functions using KMap
C202.2	Design and Analyze Combinational Circuits
C202.3	Design and Analyze synchronous and asynchronous sequential circuits
C202.4	Understand to Implement designs using Programmable Logic Devices
C202.5	Write HDL code for combinational and Sequential Circuits

Course Name: C203 - CS8391 Data Structures

Year of Study: 2019 – 20

C203.1	Interpret abstract data types for linear data structures
C203.2	Implement appropriate linear data structure operations for solving a given problems.
C203.3	Apply appropriate non-linear data structure operations for solving a given problems.
C203.4	Apply appropriate graph algorithms for graph applications.
C203.5	Analyze the various searching and sorting algorithms.

Course Name: C204 - CS8392 Object Oriented Programming **Year of Study:** 2019 – 20

C204.1	Develop basic Java programs using OOP principles.
C204.2	Understand the basics of Java Programming constructs.
C204.3	Realize the need of exceptions and I/O.
C204.4	Develop Java applications by using multithreading concepts.
C204.5	Develop a Java programs using swing components.

Course Name: C205 - EC8394 Analog and Digital Communication **Year of Study:** 2019 – 20

C205.1	Identify analog and digital communication techniques
C205.2	Select data and pulse communication techniques.
C205.3	Analyze the performance of modulation and demodulation techniques in various transmission environments
C205.4	Measure source and error control coding
C205.5	Utilize multiuser radio communication

Course Name: C206 - CS8381 Data Structures Laboratory **Year of Study:** 2019 – 20

C206.1	Implement linear and non-linear data structure operations
C206.2	Illustrate appropriate linear / non-linear data structure operations for solving a given problem
C206.3	Appropriately apply the linear / non-linear data structure operations for a given problem
C206.4	Implement graph algorithms and Analyze the various searching and sorting algorithms
C206.5	Apply appropriate hash functions that result in a collision free scenario for data storage and retrieval

Course Name: C207 - CS8383 Object Oriented Programming Laboratory **Year of Study:** 2019 – 20

C207.1	Build software development skills using java programming for real-world applications.
C207.2	Understand and apply the concepts of classes, packages, interfaces, array list, exception
C207.3	Develop applications using generic programming and event handling.
C207.4	Develop and implement Java programs for simple applications that make use of classes, packages and interfaces.
C207.5	Develop and implement Java programs with array list, exception handling and multithreading.

Course Name: C208 - CS8382 Digital Systems Laboratory **Year of Study:** 2019 – 20

C208.1	Show the various basic logic gates.
C208.2	Design and implement the various combinational circuits.
C208.3	Design combinational circuits using MSI devices
C208.4	Develop sequential circuits like register and counters.
C208.5	Solve combinational and sequential circuits using HDL

Course Name: C209 - HS8381 Interpersonal Skills/Listening & Speaking **Year of Study:** 2019 – 20

C209.1	Adapt the listening skill and respond appropriately
C209.2	Take part in Group Discussions
C209.3	Make use of effective presentations
C209.4	Take part in formal and informal conversations
C209.5	Extend a talk with accuracy and fluency

Course Name: C210 - MA8391 Probability and Statistics **Year of Study:** 2019 – 20

C210.1	Apply the statistical tools in engineering problems.
C210.2	Outline the basic concepts of probability and random variables
C210.3	Understand the basic concepts of two dimensional random variables
C210.4	Analyze the hypothesis for small and large samples
C210.5	Classify the sampling distributions and statistical techniques used in engineering and management problems.

Course Name: C211 - CS8491 Computer Architecture **Year of Study:** 2019 – 20

C211.1	Outline the basic structure and operations of a computer.
C211.2	Illustrate arithmetic and logic unit and implementation of fixed-point and floating point arithmetic unit.
C211.3	Outline the basics of MIPS and pipelined execution.
C211.4	Illustrate parallelism and multi-core processors.
C211.5	Outline the memory hierarchies, cache memories, virtual memories and communication with I/O devices.

Course Name: C212 - CS8492 Database Management Systems **Year of Study:** 2019 – 20

C212.1	Understand the modern and futuristic database applications based on size and complexity.
C212.2	Develop ER model with Relational model to perform database design effectively.
C212.3	Design to write queries using normalization criteria and optimize queries.
C212.4	Analyze various indexing strategies in different database systems.
C212.5	Understand how advanced databases differ from traditional databases.

Course Name: C213 - CS8451 Design and Analysis of Algorithms **Year of Study:** 2019 – 20

C213.1	Analyze the asymptotic performance of algorithms.
C213.2	Design algorithms for various computing problems.
C213.3	Analyze the time and space complexity of algorithms.
C213.4	Critically analyze the different algorithm design techniques for a given problem.
C213.5	Modify existing algorithms to improve efficiency.

Course Name: C214 - CS8493 Operating Systems **Year of Study:** 2019 – 20

C214.1	Analyze various scheduling algorithms.
C214.2	Understand deadlock, prevention and avoidance algorithms
C214.3	Compare and contrast various memory management schemes.
C214.4	Realize the functionality of file systems.
C214.5	Relate iOS and Android Operating Systems.

Course Name: C215 - GE8291 Environmental Science and Engineering **Year of Study:** 2019 – 20

C215.1	Infer the knowledge about the environment and importance, Ecosystem and types, Biodiversity, threats to biodiversity and conservation of biodiversity.
C215.2	Understand about causes, affects and control measures of various environmental pollution and role of an individual in prevention of pollution
C215.3	Relate the knowledge about energy resources and impacts of over utilization of natural resources on environment.
C215.4	Classify about the different types of social issues and various environment production acts.
C215.5	Understand the knowledge of human population growth and its impact on environment, also impart knowledge about environment and human health.

Course Name: C216 - CS8481 Database Management Systems Laboratory **Year of Study:** 2019 – 20

C216.1	Understand the use of data definitions and manipulation commands.
C216.2	Design applications to test Nested and Join Queries.
C216.3	Understand to implement simple applications that use Views.
C216.4	Design to implement applications that require a Front-end Tool.
C216.5	Develop the application using Tables, Views, Functions and Procedures.

Course Name: C217 - CS8461 Operating Systems Laboratory **Year of Study:** 2019 – 20

C217.1	Compare the performance of various CPU Scheduling Algorithms
C217.2	Illustrate Deadlock avoidance and Detection Algorithms.
C217.3	Construct Semaphores.
C217.4	Develop processes and implement IPC
C217.5	Analyze the performance of the various Page Replacement Algorithms.

Course Name: C218 - HS8461 Advanced Reading and Writing **Year of Study:** 2019 – 20

C218.1	Develop different types of essays.
C218.2	Build winning job applications.
C218.3	Evaluate texts critically through reading skill.
C218.4	Demonstrate critical thinking in various professional contexts
C218.5	Develop their project and proposal writing skills.

Course Name: C301 - MA8551 Algebra and Number Theory **Year of Study:** 2020 – 21

C301.1	Apply the basic notations of groups , rings, fields which will then be used to solve related problems
C301.2	Explain the fundamental concepts of advanced algebra and their role in modern mathematics and applied contexts.
C301.3	Demonstrate accurate and efficient use of advanced algebraic techniques.
C301.4	Demonstrate their mastery by solving non-trivial problems related to the concepts, and by proving simple theorems about the statements proven by the next.
C301.5	Apply integrated approach to number theory and abstract algebra, and provide a firm basis for further reading and study in the subject.

Course Name: C302 - CS8591 Computer Networks **Year of Study:** 2020 – 21

C302.1	Understand the protocol layering and physical level communication.
C302.2	Analyze the performance of a network.
C302.3	Understand the various components required to build different networks.
C302.4	Design protocols for various functions in the network.
C302.5	Understand the functions and protocols of the Transport layer.

Course Name: C303 - EC8691 Microprocessors and Microcontrollers **Year of Study:** 2020 – 21

C303.1	Understand and execute programs based on 8086 microprocessor.
C303.2	Design Memory Interfacing circuits.
C303.3	Understand and interface I/O circuits.
C303.4	Design and implement 8051 microcontroller based systems.
C303.5	Design a microcontroller based system

Course Name: C304 - IT8501 Web Technology **Year of Study:** 2020 – 21

C304.1	Design simple web pages using markup languages like HTML and XHTML.
C304.2	Create dynamic web pages using DHTML and java script that is easy to navigate and use.
C304.3	Understand server side web pages that have to process request from client side web pages.
C304.4	Design web data using XML and develop web pages using JSP.
C304.5	Understand various web services and how these web services interact.

Course Name: C305 - CS8494 Software Engineering **Year of Study:** 2020 – 21

C305.1	Identify the key activities in managing a software project.
C305.2	Compare different process models, requirements and analysis
C305.3	Apply systematic procedure for software design and deployment.
C305.4	Compare and contrast the various testing and maintenance.
C305.5	Estimate project cost and effort required.

Course Name: C306 - OCE551- Air Pollution and Control Engineering **Year of Study:** 2020 – 21

C306.1	Understand the nature and characteristics of air pollutants, noise pollution and basic concepts of air quality management
C306.2	Plan to identify, formulate and solve air and noise pollution problems
C306.3	Design stacks and particulate air pollution control devices to meet applicable standards.
C306.4	Motive to select control equipments.
C306.5	Choose an ensure quality, control and preventive measures.

Course Name: C307 - EC8681 Microprocessors & Microcontrollers Laboratory

Year of Study: 2020 – 21

C307.1	Understand the Architecture of 8086 microprocessor.
C307.2	Design aspects of I/O and Memory Interfacing circuits.
C307.3	Design to interface microprocessors with supporting chips.
C307.4	Understand the Architecture of 8051 microcontroller.
C307.5	Design a microcontroller based system

Course Name: C308 - CS8581 Networks Laboratory **Year of Study:** 2020 – 21

C308.1	Model various protocols using TCP and UDP.
C308.2	Compare the performance of different transport layer protocols.
C308.3	Analyze the performance of various network protocols using simulation tools
C308.4	Analyze various routing algorithms.
C308.5	Inspect error correction codes.

Course Name: C309 - IT8511 Web Technology Laboratory **Year of Study:** 2020 – 21

C309.1	Design simple web pages using markup languages like HTML and XHTML.
C309.2	Create dynamic web pages using DHTML and java script that is easy to navigate and use.
C309.3	Understand server side web pages that have to process request from client side web pages.
C309.4	Design web data using XML and develop web pages using JSP.
C309.5	Understand various web services and how these web services interact.

Course Name: C310 - IT8601 Computational Intelligence **Year of Study:** 2020 – 21

C310.1	Classify the strong foundation on fundamental concepts in Computational Intelligence
C310.2	Extend Problem-solving through various searching techniques.
C310.3	Apply these techniques in applications which involve perception, reasoning and learning.
C310.4	Apply Computational Intelligence techniques for information retrieval
C310.5	Apply Computational Intelligence techniques primarily for machine learning.

Course Name: C311 - CS8592 Object Oriented Analysis and Design **Year of Study:** 2020 – 21

C311.1	Understand Unified Modeling Language Diagrams.
C311.2	Understand Static UML diagrams.
C311.3	Design and implementation of UML diagrams.
C311.4	Apply Design Patterns to UML.
C311.5	Implement Software Quality Assurance and Testing.

Course Name: C312 - IT8602 Mobile Communication **Year of Study:** 2020 – 21

C312.1	Understand the basics of mobile telecommunication system
C312.2	Illustrate the generations of telecommunication systems in wireless network
C312.3	Understand the architecture of Wireless LAN technologies
C312.4	Identify and design routing protocol for various Ad hoc networks
C312.5	Understand the functionality of Transport and Application layer

Course Name: C313 - CS8091 Big Data Analytics **Year of Study:** 2020 – 21

C313.1	Utilize big data tools and its analysis techniques.
C313.2	Analyze data by utilizing clustering and classification algorithms.
C313.3	Apply different mining algorithms and recommendation systems for large volumes of data.
C313.4	Examine analytics on data streams.
C313.5	Outline NoSQL databases and management.

Course Name: C314 - CS8092 Computer Graphics and Multimedia **Year of Study:** 2020 – 21

C314.1	Design two dimensional graphics & three dimensional graphics.
C314.2	Build two dimensional transformations
C314.3	Design three dimensional transformations, Illumination and color models.
C314.4	Understand clipping techniques to graphics and Multimedia File Format
C314.5	Design Basic 3d Scenes using Blender

Course Name: C315 - IT8076 - Software Testing**Year of Study:** 2020 – 21

C315.1	Design test cases suitable for a software development for different domains.
C315.2	Identify suitable tests to be carried out.
C315.3	Develop test planning based on the document.
C315.4	Examine test plans and test cases designed.
C315.5	Make use of automatic testing tools and Develop and validate a test plan.

Course Name: C316 - CS8662 Mobile Application Development Laboratory **Year of Study:** 2020 – 21

C316.1	Develop mobile applications using GUI and Layouts.
C316.2	Develop mobile applications using Event Listener.
C316.3	Develop mobile applications using Databases.
C316.4	Develop mobile applications using RSS Feed, Internal/External Storage, SMS, Multi-threading and GPS.
C316.5	Build and discover own mobile app for simple needs.

Course Name: C317 - CS8582 Object Oriented Analysis and Design Laboratory**Year of Study:** 2020 – 21

C317.1	State OO analysis and design for a given problem specification.
C317.2	Understand basic software requirements in UML mapping.
C317.3	Explain the rationale to improve the software quality using design patterns
C317.4	Operate software system thoroughly for all scenarios
C317.5	Recognize the compliance of the software with the SRS.

Course Name: C318 - IT8611 Mini Project **Year of Study:** 2020 – 21

C318.1	Identify and practice acquired knowledge within the chosen area of technology for project development.
C318.2	Identify, discuss and justify the technical aspects of the chosen project with a comprehensive and systematic approach.
C318.3	Reproduce, improve and refine technical aspects for engineering projects.
C318.4	Develop technical projects as an individual or in a team in development of.
C318.5	Communicate and report effectively project related activities and findings.

Course Name: C319 - HS8581 Professional Communication**Year of Study:** 2020 – 21

C319.1	Construct effective presentations.
C319.2	Take part in confidently in Group Discussions.
C319.3	Take part in job interviews and be successful in them.
C319.4	Develop adequate Soft Skills required for the workplace.
C319.5	Build professional networking in the workplace.

Course Name: C401 - MG8591 Principles of Management **Year of Study:** 2021 – 22

C401.1	Understand the basic knowledge of Management, Organizational functions and managerial roles
C401.2	Summarize the planning process in the organization and Decision making steps and process
C401.3	Discuss about Training and Development of organization, Performance management & Career planning.
C401.4	Develop the ability in directing, leadership and communication skills effectively.
C401.5	Analyze the issues in management and formulate best control methods.

Course Name: C402 - CS8792 Cryptography and Network Security **Year of Study:** 2021 – 22

C402.1	Outline the fundamentals of networks security, security architecture, threats and vulnerabilities
C402.2	Illustrate the different cryptographic operations of symmetric cryptographic algorithms
C402.3	Illustrate the different cryptographic operations of public key cryptography
C402.4	Illustrate the various Authentication schemes to simulate different applications.
C402.5	Outline various Security practices and System security standards

Course Name: C403- CS8791 Cloud Computing **Year of Study:** 2021 – 22

C403.1	State OO analysis and design for a given problem specification.
C403.2	Understand basic software requirements in UML mapping.
C403.3	Explain the rationale to improve the software quality using design patterns
C403.4	Operate software system thoroughly for all scenarios
C403.5	Recognize the compliance of the software with the SRS.

Course Name: C404 - OCE751 Environmental & Social Impact Assessment **Year of Study:** 2021 – 22

C404.1	Classify a strong foundation on fundamental concepts in EIA and Environmental aspect
C404.2	Extend Understand key concept how to assess the environmental baseline data
C404.3	Outline the ability to manage the environmental plan
C404.4	Infer how the environment impact may lead to social impact
C404.5	Apply baseline data and evaluate the environmental reports

Course Name: C405 - IT8075- Software Project Management **Year of Study:** 2021 – 22

C405.1	Outline the project planning and evaluating project.
C405.2	Outline process models and project estimation methods.
C405.3	Apply network models and risk management techniques .
C405.4	Illustrate software configuration management.
C405.5	Apply resources for software projects.

Course Name: C406 - CS8079 - Human Computer Interaction **Year of Study:** 2021 – 22

C406.1	Design effective dialog for HCI
C406.2	Design effective HCI for individuals and persons with disabilities.
C406.3	Evaluate the importance of user feedback
C406.4	Design multimedia/ ecommerce/ e-learning Web sites.
C406.5	Develop meaningful user interface.

Course Name: C407 - IT8711 FOSS and Cloud Computing Laboratory **Year of Study:** 2021 – 22

C407.1	Make use of various virtualization tools such as Virtual Box, VMware workstation.
C407.2	Design and deploy a web application in a PaaS environment.
C407.3	Demonstrate how to simulate a cloud environment to implement new schedulers.
C407.4	Assess use a generic cloud environment that can be used as a private cloud.
C407.5	Model large data sets in a parallel environment.

Course Name: C408 - IT8761 Security Laboratory **Year of Study:** 2021 – 22

C408.1	Develop code for classical encryption techniques to solve the problems.
C408.2	Build cryptosystems by applying symmetric and public key encryption algorithms.
C408.3	Construct code for authentication algorithms.
C408.4	Develop a signature scheme using digital signature standard.
C408.5	Demonstrate the network security system using open source tools.

Course Name: C409 - IT8073 Information Security **Year of Study:** 2021 – 22

C409.1	Understand basics of information security
C409.2	Examine the legal, ethical and professional issues in information security
C409.3	Understand the aspects of risk management.
C409.4	Analyze various standards in the Information Security System
C409.5	Design and implementation of Security Techniques.

Course Name: C410 - CS8080 Information Retrieval Techniques **Year of Study:** 2021 – 22

C410.1	Relate an open source search engine framework and explore its capabilities
C410.2	Apply appropriate method of classification or clustering.
C410.3	Makeup and implement innovative features in a search engine
C410.4	Construct and implement web retrievals and Application data
C410.5	Construct and implement a recommender system

Course Name: C411 - IT8811 Project Work **Year of Study:** 2021 – 22

C411.1	Identify the problem by applying acquired knowledge.
C411.2	Analyze and categorize executable project modules after considering risks.
C411.3	Choose efficient tools for designing project modules.
C411.4	Organize all the modules through effective team work after efficient testing.
C411.5	Model the completed task and compile the project report.

CO-PO-PSO Articulation Matrix

Course Name: C101 - HS8151 Communicative English **Year of Study:** 2018 – 19

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C101.1	-	-	-	-	-	-	-	-	3	2	1	2	-	-
C101.2	-	-	-	-	-	-	-	-	3	3	3	2	-	-
C101.3	-	-	-	-	-	-	-	-	3	3	3	1	-	-
C101.4	-	-	-	-	-	-	-	-	3	3	2	2	-	-
C101.5	-	-	-	-	-	-	-	-	3	3	1	2	-	-
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	2.8	2.0	1.8	0.0	0.0

Course Name: C102 - MA8151 Engineering Mathematics – I **Year of Study:** 2018 – 19

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C102.1	2	2	2	-	-	-	-	-	1	-	-	1	-	-
C102.2	2	3	2	-	-	-	-	-	1	-	-	2	-	-
C102.3	3	2	3	-	-	-	-	-	2	-	-	2	-	-
C102.4	3	3	3	-	-	-	-	-	2	-	-	2	-	-
C102.5	3	3	3	-	-	-	-	-	2	-	-	1	-	-
Average	2.6	2.6	2.6	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0	1.6	0.0	0.0

Course Name: C103 - PH8151 Engineering Physics **Year of Study:** 2018 – 19

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C103.1	3	3	3	-	-	-	2	-	-	-	-	1	-	-
C103.2	3	3	2	-	-	-	1	-	-	-	-	1	-	-
C103.3	3	3	3	-	-	-	2	-	-	-	-	1	-	-
C103.4	3	3	3	-	-	-	1	-	-	-	-	1	-	-
C103.5	3	2	2	-	-	-	1	-	-	-	-	1	-	-
Average	3.0	2.8	2.6	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.0	1.0	0.0	0.0

Course Name: C104 - CY8151 Engineering Chemistry Year of Study: 2018 – 19

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C104.1	3	2	2	-	-	-	2	-	-	-	-	1	-	-
C104.2	3	2	2	-	-	-	3	-	-	-	-	1	-	-
C104.3	3	2	2	-	-	-	3	-	-	-	-	1	-	-
C104.4	3	2	2	-	-	-	3	-	-	-	-	1	-	-
C104.5	3	2	2	-	-	-	2	-	-	-	-	1	-	-
Average	3.0	2.0	2.0	0.0	0.0	0.0	2.6	0.0	0.0	0.0	0.0	1.0	0.0	0.0

Course Name: C105 - GE8151 Problem Solving and Python Programming Year of Study: 2018 – 19

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C105.1	3	2	2	-	3	-	-	-	-	-	-	2	-	2
C105.2	3	2	1	-	2	-	-	-	-	-	-	2	-	2
C105.3	3	2	1	-	3	-	-	-	-	-	-	2	-	2
C105.4	3	2	2	-	2	-	-	-	-	-	-	2	-	2
C105.5	3	2	2	-	3	-	-	-	-	-	-	2	-	2
Average	3.0	2.0	1.6	0.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	2.0

Course Name: C106 - GE8152 Engineering Graphics Year of Study: 2018 – 19

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C106.1	3	3	-	-	-	2	-	-	-	-	-	3	-	-
C106.2	3	2	-	-	-	2	-	-	-	-	-	2	-	-
C106.3	3	2	-	-	-	2	-	-	-	-	-	2	-	-
C106.4	3	3	-	-	-	3	-	-	-	-	-	3	-	-
C106.5	3	3	-	-	-	3	-	-	-	-	-	2	-	-
Average	3.0	2.6	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	2.4	0.0	0.0

Course Name: C107 - GE8161 Problem Solving and Python Programming Lab

Year of Study: 2018 – 19

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C107.1	3	3	3	-	3	-	-	-	-	-	-	2	1	2
C107.2	3	3	3	-	3	-	-	-	-	-	-	2	1	2
C107.3	3	3	3	-	3	-	-	-	-	-	-	2	1	2
C107.4	3	3	3	-	3	-	-	-	-	-	-	2	1	2
C107.5	3	3	3	-	3	-	-	-	-	-	-	2	1	2
Average	3.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	1.0	2.0

Course Name: C108 - BS8161 Physics and Chemistry Laboratory

Year of Study: 2018 – 19

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C108.1	3	3	-	-	-	-	-	-	-	-	-	-	1	-
C108.2	3	3	-	-	-	-	-	-	-	-	-	-	1	-
C108.3	3	3	-	-	-	-	-	-	-	-	-	-	1	-
C108.4	3	3	-	-	-	-	-	-	-	-	-	-	1	-
C108.5	3	3	-	-	-	-	-	-	-	-	-	-	1	-
Average	3.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0

Course Name: C109 - HS8251 Technical English

Year of Study: 2018 – 19

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C109.1	-	-	-	-	-	-	-	-	3	2	1	2	-	-
C109.2	-	-	-	-	-	-	-	-	3	3	2	2	-	-
C109.3	-	-	-	-	-	-	-	-	3	3	2	2	-	-
C109.4	-	-	-	-	-	-	-	-	3	3	2	2	-	-
C109.5	-	-	-	-	-	-	-	-	3	3	2	2	-	-
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	2.8	1.8	2.0	0.0	0.0

Course Name: C110 - MA8251 Engineering Mathematics – II Year of Study: 2018 – 19

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C110.1	3	3	3	-	-	-	-	-	2	-	-	2	-	-
C110.2	3	3	3	-	-	-	-	-	-	-	-	2	-	-
C110.3	3	3	3	-	-	-	-	-	-	-	-	-	-	-
C110.4	2	3	3	-	-	-	-	-	2	-	-	2	-	-
C110.5	3	3	3	-	-	-	-	-	-	-	-	-	-	-
Average	2.8	3.0	3.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0

Course Name: C111 - PH8252 Physics for Information Science Year of Study: 2018 – 19

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C111.1	3	3	1	-	-	-	1	-	-	-	-	2	-	-
C111.2	3	3	2	-	-	-	2	-	-	-	-	2	-	-
C111.3	3	3	2	-	-	-	2	-	-	-	-	2	-	-
C111.4	3	2	2	-	-	-	2	-	-	-	-	2	-	-
C111.5	3	3	2	-	-	-	2	-	-	-	-	2	-	-
Average	3.0	2.8	1.8	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	2.0	0.0	0.0

Course Name: C112 - BE8255 Basic Electrical, Electronics and Measurement Engineering**Year of Study: 2018 – 19**

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C112.1	3	2	-	-	-	-	-	-	-	-	-	-	2	-
C112.2	3	1	-	-	-	-	-	-	-	-	-	-	2	-
C112.3	2	2	-	-	-	-	-	-	-	-	-	-	2	-
C112.4	3	1	-	-	-	-	-	-	-	-	-	-	2	-
C112.5	2	2	-	-	-	-	-	-	-	-	-	-	2	-
Average	2.6	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0

Course Name: C113 - IT8201 Information Technology Essentials**Year of Study:** 2018 – 19

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C113.1	3	2	2	-	3	-	-	-	-	-	-	2	-	2
C113.2	3	2	2	-	3	-	-	-	-	-	-	2	-	2
C113.3	3	2	2	-	3	-	-	-	-	-	-	2	-	2
C113.4	3	2	2	-	3	-	-	-	-	-	-	2	-	2
C113.5	3	2	2	-	3	-	-	-	-	-	-	2	-	2
Average	3.0	2.0	2.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	2.0

Course Name: C114 - CS8251 Programming in C**Year of Study:** 2018 – 19

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C114.1	3	3	3	-	2	-	-	-	-	-	-	2	2	-
C114.2	3	3	3	-	2	-	-	-	-	-	-	2	2	-
C114.3	3	3	3	-	2	-	-	-	-	-	-	2	2	-
C114.4	3	3	3	-	2	-	-	-	-	-	-	2	2	-
C114.5	3	2	3	-	2	-	-	-	-	-	-	2	2	-
Average	3.0	2.8	3.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0

Course Name: C115 - GE8261 Engineering Practices Laboratory**Year of Study:** 2018 – 19

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C115.1	3	3	-	-	-	2	-	-	-	-	-	1	1	-
C115.2	2	3	-	-	-	3	-	-	-	-	-	1	2	-
C115.3	3	3	-	-	-	2	-	-	-	-	-	1	2	-
C115.4	2	2	-	-	-	3	-	-	-	-	-	2	1	-
C115.5	3	3	-	-	-	3	-	-	-	-	-	2	2	-
Average	2.6	2.8	0.0	0.0	0.0	2.6	0.0	0.0	0.0	0.0	0.0	1.4	1.6	0.0

Course Name: C116 - CS8261 C Programming Laboratory**Year of Study:** 2018 – 19

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C116.1	3	3	3	-	3	-	-	-	-	-	-	2	2	-
C116.2	2	3	3	-	2	-	-	-	-	-	-	2	2	-
C116.3	3	2	3	-	3	-	-	-	-	-	-	2	2	-
C116.4	2	2	3	-	2	-	-	-	-	-	-	2	2	-
C116.5	3	3	3	-	3	-	-	-	-	-	-	2	2	-
Average	2.6	2.6	3.0	0.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0

Course Name: C117 - IT8211 Information Technology Essentials Laboratory**Year of Study:** 2018 – 19

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C117.1	3	3	3	-	3	-	-	-	-	2	2	2	3	-
C117.2	3	3	3	-	3	-	-	-	-	2	2	2	3	-
C117.3	3	3	3	-	3	-	-	-	-	2	2	2	3	-
C117.4	3	3	3	-	3	-	-	-	-	2	2	2	3	-
C117.5	3	3	3	-	3	-	-	-	-	2	2	2	3	-
Average	3.0	3.0	3.0	0.0	3.0	0.0	0.0	0.0	0.0	2.0	2.0	2.0	3.0	0.0

Course Name: C201 - MA8351 Discrete Mathematics**Year of Study:** 2019 – 20

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C201.1	3	3	1	-	-	-	-	-	-	-	-	2	-	2
C201.2	3	3	1	-	-	-	-	-	-	-	-	1	-	2
C201.3	3	3	2	-	-	-	-	-	-	-	-	1	-	2
C201.4	3	3	2	-	-	-	-	-	-	-	-	1	-	1
C201.5	3	3	3	-	-	-	-	-	-	-	-	1	-	2
Average	3.0	3.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	1.8

Course Name: C202 CS8351 Digital Principles and System Design **Year of Study: 2019 – 20**

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C202.1	3	-	3	2	-	2	3	3	-	-	-	-	-	2
C202.2	3	-	2	1	-	2	2	2	-	-	-	-	-	2
C202.3	2	-	3	1	-	3	2	2	-	-	-	-	-	1
C202.4	2	-	3	2	-	3	3	3	-	-	-	-	-	2
C202.5	2	-	3	1	-	3	3	3	-	-	-	-	-	1
Average	2.4	0.0	2.8	1.4	0.0	2.6	2.6	2.6	0.0	0.0	0.0	0.0	0.0	1.6

Course Name: C203 - CS8391 Data Structures **Year of Study: 2019 – 20**

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C203.1	3	2	3	-	-	-	-	-	-	-	-	2	3	-
C203.2	2	3	2	-	-	-	-	-	-	-	-	2	2	-
C203.3	3	3	3	-	-	-	-	-	-	-	-	2	3	-
C203.4	3	3	3	-	-	-	-	-	-	-	-	2	2	-
C203.5	2	2	2	-	-	-	-	-	-	-	-	2	2	-
Average	2.6	2.6	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	2.4	0.0

Course Name: C204 - CS8392 Object Oriented Programming **Year of Study: 2019 – 20**

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C204.1	2	2	3	-	3	-	-	-	-	-	-	-	2	-
C204.2	2	3	3	-	2	-	-	-	-	-	-	-	2	-
C204.3	1	2	3	-	3	-	-	-	-	-	-	-	2	-
C204.4	2	2	2	-	3	-	-	-	-	-	-	-	2	-
C204.5	1	2	3	-	2	-	-	-	-	-	-	-	2	-
Average	1.6	2.2	2.8	0.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0

Course Name: C205 - EC8394 Analog and Digital Communication **Year of Study:** 2019 – 20

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C205.1	3	2	2	-	-	-	-	-	-	-	-	-	2	-
C205.2	3	3	1	-	-	-	-	-	-	-	-	-	2	-
C205.3	3	3	1	-	-	-	-	-	-	-	-	-	2	-
C205.4	3	3	2	-	-	-	-	-	-	-	-	-	2	-
C205.5	3	2	2	-	-	-	-	-	-	-	-	-	2	-
Average	3.0	2.6	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0

Course Name: C206 - CS8381 Data Structures Laboratory **Year of Study:** 2019 – 20

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C206.1	3	2	3	-	-	-	-	-	-	-	-	2	3	-
C206.2	2	3	2	-	-	-	-	-	-	-	-	2	2	-
C206.3	3	3	3	-	-	-	-	-	-	-	-	2	3	-
C206.4	3	3	3	-	-	-	-	-	-	-	-	2	2	-
C206.5	2	2	2	-	-	-	-	-	-	-	-	2	2	-
Average	2.6	2.6	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	2.4	0.0

Course Name: C207 - CS8383 Object Oriented Programming Laboratory **Year of Study:** 2019 – 20

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C207.1	3	2	3	-	3	-	-	-	-	-	-	-	2	-
C207.2	3	3	3	-	3	-	-	-	-	-	-	-	2	-
C207.3	3	2	3	-	3	-	-	-	-	-	-	-	2	-
C207.4	3	2	2	-	2	-	-	-	-	-	-	-	2	-
C207.5	3	2	2	-	3	-	-	-	-	-	-	-	2	-
Average	3.0	2.2	2.6	0.0	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0

Course Name: C208 - CS8382 Digital Systems Laboratory

Year of Study: 2019 – 20

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C208.1	3	3	2	-	3	-	-	-	-	-	-	-	1	-
C208.2	3	3	3	-	3	-	-	-	-	-	-	-	2	-
C208.3	2	2	2	-	2	-	-	-	-	-	-	-	2	-
C208.4	2	2	2	-	2	-	-	-	-	-	-	-	2	-
C208.5	3	3	3	-	3	-	-	-	-	-	-	-	2	1
<i>Average</i>	2.6	2.6	2.4	0.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	1.0

Course Name: C209 - HS8381 Interpersonal Skills/Listening & Speaking Year of Study: 2019 – 20

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C209.1	-	-	-	-	-	-	-	-	3	2	1	2	-	-
C209.2	-	-	-	-	-	-	-	-	3	3	3	1	-	-
C209.3	-	-	-	-	-	-	-	-	3	3	3	2	-	-
C209.4	-	-	-	-	-	-	-	-	3	3	2	2	-	-
C209.5	-	-	-	-	-	-	-	-	3	3	1	2	-	-
<i>Average</i>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	2.8	2.0	1.8	0.0	0.0

Course Name: C210 - MA8391 Probability and Statistics

Year of Study: 2019 – 20

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C210.1	3	3	2	-	-	-	-	-	-	-	-	-	2	1
C210.2	3	3	3	-	-	-	-	-	-	-	-	-	1	2
C210.3	3	3	3	-	-	-	-	-	-	-	-	-	1	1
C210.4	3	3	3	-	-	-	-	-	-	-	-	-	3	1
C210.5	3	3	3	-	-	-	-	-	-	-	-	-	3	3
<i>Average</i>	3.0	3.0	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	1.6

Course Name: C211 - CS8491 Computer Architecture**Year of Study:** 2019 – 20

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C211.1	3	2	3	-	-	-	-	-	-	-	-	-	2	-
C211.2	3	3	3	-	-	-	-	-	-	-	-	-	2	-
C211.3	3	2	3	-	-	-	-	-	-	-	-	-	2	-
C211.4	2	2	2	-	-	-	-	-	-	-	-	-	2	-
C211.5	2	2	3	-	-	-	-	-	-	-	-	-	2	-
Average	2.6	2.2	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0

Course Name: C212 - CS8492 Database Management Systems**Year of Study:** 2019 – 20

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C212.1	3	3	2	2	-	-	-	-	-	-	-	-	2	-
C212.2	2	3	2	3	-	-	-	-	-	-	-	-	2	-
C212.3	3	2	3	2	-	-	-	-	-	-	-	-	3	-
C212.4	3	2	3	2	-	-	-	-	-	-	-	-	2	-
C212.5	2	3	2	3	-	-	-	-	-	-	-	-	2	-
Average	2.6	2.6	2.4	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.0

Course Name: C213 - CS8451 Design and Analysis of Algorithms**Year of Study:** 2019 –

20

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C213.1	3	3	2	2	-	-	-	-	-	-	-	-	2	-
C213.2	2	3	2	3	-	-	-	-	-	-	-	-	2	-
C213.3	3	2	3	2	-	-	-	-	-	-	-	-	3	-
C213.4	3	2	3	2	-	-	-	-	-	-	-	-	2	-
C213.5	2	3	2	3	-	-	-	-	-	-	-	-	2	-
Average	2.6	2.6	2.4	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.0

Course Name: C214 - CS8493 Operating Systems

Year of Study: 2019 – 20

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C214.1	3	1	3	-	-	-	-	-	-	-	-	-	1	1
C214.2	3	1	3	-	-	-	-	-	-	-	-	-	1	1
C214.3	3	1	3	-	-	-	-	-	-	-	-	-	1	1
C214.4	3	1	3	-	-	-	-	-	-	-	-	-	1	1
C214.5	3	1	3	-	-	-	-	-	-	-	-	-	1	1
Average	3.0	1.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0

Course Name: C215 - GE8291 Environmental Science and Engineering Year of Study: 2019 – 20

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C215.1	-	-	-	-	-	-	3	-	-	-	-	-	-	-
C215.2	-	-	-	-	-	-	3	-	-	-	-	-	-	-
C215.3	-	-	-	-	-	-	3	-	-	-	-	-	-	-
C215.4	-	-	-	-	-	-	3	-	-	-	-	-	-	-
C215.5	-	-	-	-	-	-	3	-	-	-	-	-	-	-
Average	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Course Name: C216 - CS8481 Database Management Systems Laboratory Year of Study: 2019 – 20

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C216.1	3	2	3	-	3	-	-	-	-	-	-	-	2	-
C216.2	3	3	3	-	3	-	-	-	-	-	-	-	2	-
C216.3	3	2	3	-	3	-	-	-	-	-	-	-	2	-
C216.4	3	2	2	-	2	-	-	-	-	-	-	-	2	-
C216.5	3	2	2	-	3	-	-	-	-	-	-	-	2	-
Average	3.0	2.2	2.6	0.0	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0

Course Name: C302 - CS8591 Computer Networks

Year of Study: 2020 – 21

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C302.1	3	1	2	-	-	-	-	-	-	-	-	-	1	-
C302.2	2	1	1	-	-	-	-	-	-	-	-	-	2	-
C302.3	3	2	3	-	-	-	-	-	-	-	-	-	3	-
C302.4	3	2	3	-	-	-	-	-	-	-	-	-	2	-
C302.5	2	1	2	-	-	-	-	-	-	-	-	-	3	-
<i>Average</i>	2.6	1.4	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.0

Course Name: C303 - EC8691 Microprocessors and Microcontrollers

Year of Study: 2020 – 21

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C303.1	3	2	3	-	-	-	-	-	-	-	-	-	2	-
C303.2	2	2	3	-	-	-	-	-	-	-	-	-	2	-
C303.3	3	2	3	-	-	-	-	-	-	-	-	-	2	-
C303.4	2	3	2	-	-	-	-	-	-	-	-	-	2	-
C303.5	3	2	3	-	-	-	-	-	-	-	-	-	2	-
<i>Average</i>	2.6	2.2	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0

Course Name: C304 - IT8501 Web Technology

Year of Study: 2020 – 21

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C304.1	3	1	1	-	3	-	-	-	-	-	-		2	-
C304.2	3	1	1	-	3	-	-	-	-	-	-		2	-
C304.3	2	1	1	-	2	-	-	-	-	-	-		2	-
C304.4	2	1	1	-	3	-	-	-	-	-	-		2	-
C304.5	3	1	1	-	3	-	-	-	-	-	-		2	-
<i>Average</i>	2.6	1.0	1.0	0.0	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0

Course Name: C308 - CS8581 Networks Laboratory**Year of Study: 2020 – 21**

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C308.1	3	1	2	-	2	-	-	-	-	-	-	-	3	0
C308.2	2	1	2	-	3	-	-	-	-	-	-	-	2	0
C308.3	3	1	2	-	3	-	-	-	-	-	-	-	2	0
C308.4	2	1	2	-	2	-	-	-	-	-	-	-	2	0
C308.5	3	2	2	-	2	-	-	-	-	-	-	-	1	0
Average	2.6	1.2	2.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0

Course Name: C309 - IT8511 Web Technology Laboratory**Year of Study: 2020 – 21**

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C309.1	3	1	1	-	3	-	-	-	-	-	-	-	2	-
C309.2	2	1	1	-	3	-	-	-	-	-	-	-	2	-
C309.3	3	1	1	-	3	-	-	-	-	-	-	-	2	-
C309.4	3	1	1	-	3	-	-	-	-	-	-	-	2	-
C309.5	3	1	1	-	2	-	-	-	-	-	-	-	2	-
Average	2.8	1.0	1.0	0.0	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0

Course Name: C310 - IT8601 Computational Intelligence**Year of Study: 2020 – 21**

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C310.1	3	3	3	3	-	2	-	-	-	-	-	3	2	-
C310.2	3	2	3	2	-	2	-	-	-	-	-	3	2	-
C310.3	2	3	3	3	-	2	-	-	-	-	-	3	2	-
C310.4	2	3	2	2	-	2	-	-	-	-	-	3	2	-
C310.5	3	3	3	3	-	2	-	-	-	-	-	3	2	-
Average	2.6	2.8	2.8	2.6	0.0	2.0	0.0	0.0	0.0	0.0	0.0	3.0	2.0	0.0

Course Name: C311 - CS8592 Object Oriented Analysis and Design **Year of Study:** 2020 – 21

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C311.1	3	3	3	3	-	-	-	-	-	-	-	-	-	2
C311.2	3	3	3	3	-	-	-	-	-	-	-	-	-	2
C311.3	2	3	3	2	-	-	-	-	-	-	-	-	-	2
C311.4	3	3	2	3	-	-	-	-	-	-	-	-	-	2
C311.5	3	2	3	3	-	-	-	-	-	-	-	-	-	2
Average	2.8	2.8	2.8	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0

Course Name: C312 - IT8602 Mobile Communication **Year of Study:** 2020 – 21

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C312.1	3	-	3	2	-	2	3	3	-	-	-	-	-	2
C312.2	3	-	2	1	-	2	2	2	-	-	-	-	-	2
C312.3	2	-	3	1	-	3	2	2	-	-	-	-	-	1
C312.4	2	-	3	2	-	3	3	3	-	-	-	-	-	2
C312.5	2	-	3	1	-	3	3	3	-	-	-	-	-	1
Average	2.4	0.0	2.8	1.4	0.0	2.6	2.6	2.6	0.0	0.0	0.0	0.0	0.0	1.6

Course Name: C313 - CS8091 Big Data Analytics **Year of Study:** 2020 – 21

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C313.1	3	2	3	3	0	2	0	0	0	0	0	0	2	0
C313.2	3	3	3	3	0	2	0	0	0	0	0	0	3	0
C313.3	3	3	3	3	0	2	0	0	0	0	0	0	2	0
C313.4	3	3	2	1	0	1	0	0	0	0	0	0	1	0
C313.5	3	2	2	3	0	1	0	0	0	0	0	0	1	0
Average	3.0	2.6	2.6	2.6	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0

Course Name: C317 - CS8582 Object Oriented Analysis and Design Laboratory

Year of Study: 2020 – 21

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C317.1	3	3	3	2	3	-	-	-	-	-	-	-	3	-
C317.2	3	3	3	2	3	-	-	-	-	-	-	-	3	-
C317.3	3	3	3	2	3	-	-	-	-	-	-	-	3	-
C317.4	3	3	3	2	3	-	-	-	-	-	-	-	3	-
C317.5	3	3	3	2	3	-	-	-	-	-	-	-	3	-
Average	3.0	3.0	3.0	2.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0

Course Name: C318 - IT8611 Mini Project

Year of Study: 2020 – 21

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C318.1	3	3	3	1	1	3	3	0	0	0	0	0	2	1
C318.2	3	3	3	1	2	3	3	0	0	0	0	0	2	1
C318.3	3	3	3	1	3	3	3	0	0	0	0	0	2	3
C318.4	3	3	3	1	3	3	3	0	0	0	0	0	2	2
C318.5	3	3	3	1	3	3	3	0	0	0	0	0	3	2
Average	3.0	3.0	3.0	1.0	2.4	3.0	3.0	0.0	0.0	0.0	0.0	0.0	2.2	1.8

Course Name: C319 - HS8581 Professional Communication

Year of Study: 2020 – 21

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C319.1	-	-	-	-	-	-	-	-	3	2	1	2	-	-
C319.2	-	-	-	-	-	-	-	-	3	3	1	2	-	-
C319.3	-	-	-	-	-	-	-	-	2	3	2	2	-	-
C319.4	-	-	-	-	-	-	-	-	2	3	1	1	-	-
C319.5	-	-	-	-	-	-	-	-	3	2	2	1	-	-
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	2.6	1.4	1.6	0.0	0.0

Course Name: C401 - MG8591 Principles of Management**Year of Study: 2021 – 22**

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C401.1	-	-	-	-	-	-	-	2	2	3	3	2	-	1
C401.2	-	-	-	-	-	-	-	2	2	3	3	2	-	2
C401.3	-	-	-	-	-	-	-	2	2	3	3	2	-	2
C401.4	-	-	-	-	-	-	-	2	2	3	3	2	-	2
C401.5	-	-	-	-	-	-	-	2	2	3	3	2	-	2
Average	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	2.8	2.8	1.8	0.0	1.8

Course Name: C402 - CS8792 Cryptography and Network Security**Year of Study: 2021 – 22**

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C402.1	3	3	3	2	-	2	-	-	-	-	-	-	2	-
C402.2	3	2	2	2	-	1	-	-	-	-	-	-	2	-
C402.3	1	1	3	1	-	2	-	-	-	-	-	-	2	-
C402.4	2	2	2	1	-	1	-	-	-	-	-	-	2	-
C402.5	3	3	3	2	-	2	-	-	-	-	-	-	2	-
Average	2.4	2.2	2.6	1.6	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0

Course Name: C403- CS8791 Cloud Computing**Year of Study: 2021 – 22**

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C403.1	3	3	3	3	-	3	-	-	-	-	-	2	-	2
C403.2	2	2	3	2	-	2	-	-	-	-	-	2	-	2
C403.3	2	3	3	3	-	2	-	-	-	-	-	2	-	2
C403.4	2	3	2	2	-	2	-	-	-	-	-	2	-	1
C403.5	3	3	2	2	-	2	-	-	-	-	-	2	-	2
Average	2.4	2.8	2.6	2.4	0.0	2.2	0.0	0.0	0.0	0.0	0.0	2.0	0.0	1.8

Course Name: C407 - IT8711 FOSS and Cloud Computing Laboratory Year of Study: 2021 – 22

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C407.1	3	3	3	2	3	2	-	-	-	-	-	-	3	0
C407.2	2	3	3	3	3	2	-	-	-	-	-	-	2	0
C407.3	3	3	3	2	3	2	-	-	-	-	-	-	2	0
C407.4	2	3	3	2	3	1	-	-	-	-	-	-	2	0
C407.5	2	3	2	2	2	2	-	-	-	-	-	-	1	0
Average	2.4	3.0	2.8	2.2	2.8	1.8	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0

Course Name: C408 - IT8761 Security Laboratory Year of Study: 2021 – 22

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C408.1	3	3	3	2	0	3	0	0	0	0	0	0	3	0
C408.2	3	3	3	2	0	3	0	0	0	0	0	0	2	0
C408.3	3	3	3	2	0	3	0	0	0	0	0	0	2	0
C408.4	3	3	3	2	0	3	0	0	0	0	0	0	2	0
C408.5	3	2	3	2	0	2	0	0	0	0	0	0	1	0
Average	3.0	2.8	3.0	2.0	0.0	2.8	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0

Course Name: C409 - IT8073 Information Security Year of Study: 2021 – 22

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C409.1	3	3	3	3	-	-	-	-	-	-	-	-	2	-
C409.2	3	3	3	3	-	-	-	-	-	-	-	-	2	-
C409.3	2	3	3	2	-	-	-	-	-	-	-	-	1	-
C409.4	3	3	2	3	-	-	-	-	-	-	-	-	2	-
C409.5	3	2	3	3	-	-	-	-	-	-	-	-	2	-
Average	2.8	2.8	2.8	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.0

Course Name: C410 - CS8080 Information Retrieval Techniques**Year of Study:** 2021 – 22

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C410.1	3	3	3	-	-	-	-	-	-	-	-	-	2	-
C410.2	3	2	3	-	-	-	-	-	-	-	-	-	2	-
C410.3	3	3	3	-	-	-	-	-	-	-	-	-	2	-
C410.4	3	2	2	-	-	-	-	-	-	-	-	-	2	-
C410.5	2	3	3	-	-	-	-	-	-	-	-	-	2	-
Average	2.8	2.6	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0

Course Name: C411 - IT8811 Project Work**Year of Study:** 2021 – 22

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C411.1	3	3	3	3	3	2	2	1	3	3	3	2	3	2
C411.2	3	3	3	3	2	2	2	1	3	3	3	2	3	2
C411.3	3	2	3	3	2	2	3	1	3	3	3	2	3	2
C411.4	3	3	2	3	3	2	2	1	3	2	3	1	3	2
C411.5	3	2	3	2	3	2	1	1	2	2	2	2	3	2
Average	3.0	2.6	2.8	3.0	3.0	2.0	2.0	1.0	3.0	3.0	3.0	2.0	3.0	2.0