Course Outcome

Session 2018-19 (Even Sem)

Department of Information Technology

Index

4th Semester		
S No.	**Subject Code**	**Subject Name**
1	ROE043	Laser System and Application
2	REC406	Information Theory & Coding
3	RCS401	Operating System
4	RCS402	Software Engineering
5	RCS403	Theory of Automata & Formal Language
6	RAS 402	Environment & Ecology
7	RCS451	Operating Systems Lab
8	RCS452	Software Engineering Lab
9	RCS453	Theory of Automata and Formal Language Lab
10	RCS454	Python Programming Lab

6th Semester		
S No.	**Subject Code**	**Subject Name**
1	RAS 601	Industrial Management
2	RAS 602	Industrial Sociology
3	RCS601	Computer Networks
4	RIT 601	Web Technology
5	RCS602	Compiler Design
6	RIT062	Data Warehousing & Data Mining
7	RCS651	Computer Networks Lab
8	RIT651	Web Technology Lab
9	RCS652	Compiler Design Lab
10	RCS654	Data Warehousing & Data Mining Lab

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Department of Information Technology

8th Semester		
S No.	**Subject Code**	**Subject Name**
1	NIT801	Mobile Computing
2	NCS082	Real Time System
3	NCS085	Data Compression
4	NIT-851	Seminar
5	NIT-852	Project

CO PO and Mapping of CO PO 2nd Year

(2017-2021 BATCH)

Session: - 2018-19 Semester:- 4th

Theory

Laser System and Application (ROE043)	CO1: Understand the basic principle of laser and basic in quantum mechanics.
	CO2: Describe the elements and Techniques of Laser: and solve simple problems.
	CO3: Describe the Principle of Laser & General Lasers: Main components of Laser.
	CO4: Define Types of Laser Systems and working principle of LASER and its basic industrial and scientific applications.
	CO5: Describe Laser Applications in industry and different areas in an optical fiber and secure foundation for optical fiber communication systems to attain a sound level in 3-d photography.

CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	1										2	2	1	1
CO2	1	1											1	1
CO3	1	1	1										1	1
CO4	2	2	2	2	2	2	2	1			1	1	1	1
CO5	2	2	2	2	1	1	1	1	1		1	1	1	1
Average	1.40	1.50	1.67	2.00	1.50	1.50	1.50	1.00	1.00		1.33	1.33	1.00	1.00

Information Theory & Coding (REC406)	CO1: Understand and explain the basic concepts of information theory.
	CO2: Understand source coding, channel and channel capacity, channel coding and relation among them.
	CO3: Describe the real-life applications based on the fundamental theory.
	CO4: Calculate entropy, channel capacity, bit error rate, code rate and so on.
	CO5: Implement the encoder and decoder of one block code or convolution code using any programming language.

CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	1	3	1	1	1	1	1	1	1	2	1	1
CO2	3	3	1	1	1	1	1	1	1	1	1	2	1	1
CO3	3	3	1	1	3	1	1	1	1	1	1	2	1	1
CO4	3	3	1	1	1	1	2	1	1	1	1	2	1	1
CO5	3	3	1	1	1	1	2	1	1	1	1	2	2	1
Average	3.00	3.00	1.00	1.40	1.40	1.00	1.40	1.00	1.00	1.00	1.00	2.00	1.20	1.00

Operating System (RCS401)	CO1: Gain in depth knowledge about the structures of the operating system, different types of operating system and functions performed by modern operating systems.
	CO2: Identify and apply knowledge of various software and hardware synchronization tools for solving critical section problems in concurrent processes.
	CO3: Learn about Processes, Threads, and gain knowledge of various scheduling algorithm designs.
	CO4: Understand and apply process management and memory management concepts to solve various hardware and software problems.
	CO5: Identify various file management and security mechanisms in order to design efficient software system by using various access control techniques.

CO \ PO Mapping	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**
CO1	3	2	1	1	1	1	2	1	1	1	1	1	2	2
CO2	3	3	2	2	3	1	1	2	1	1	1	2	3	2
CO3	3	3	1	1	3	1	1	1	1	1	1	2	1	1
CO4	3	1	3	3	3	3	1	1	1	1	1	3	2	2
CO5	3	2	3	2	3	1	2	1	1	1	1	2	2	2
Average	3	2.2	2	1.8	2.6	1.4	1.4	1.2	1	1	1	2	2	1.8

Software Engineering (RCS402)	CO1: Understanding the basics of software engineering and software process models.
	CO2: Identify, formulate, analyze and solve problems as well as identify the computing requirements appropriate to their solutions.
	CO3: Design, implement and evaluate software-based systems, components or programs of varying complexity that meet desired needs, satisfy realistic constraints and demonstrate accepted design and development principles.
	CO4: Apply knowledge of computing, mathematics, science and engineering appropriate to the discipline, particularly in the modelling and design of software systems and in the analysis of trade-offs inherent in design decisions.
	CO5: Understanding ability to engage in life-long maintenance and continuing software development.

CO \ PO Mapping	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**
CO1	3	2	3	2	2	3	1	3	3	2	2	2	2	2
CO2	3	3	2	2	2	3	3	2	3	3	2	2	2	2
CO3	3	2	3	3	3	3	3	3	3	2	3	3	2	1
CO4	3	3	2	3	3	3	3	3	2	2	3	2	2	2
CO5	2	2	3	3	1	2	2	2	3	3	2	3	2	2
Average	2.80	2.40	2.60	2.60	2.20	2.80	2.40	2.60	2.80	2.40	2.40	2.40	2.00	1.80

Theory of Automata & Formal Language (RCS403)	CO1: Acquire a full understanding and applicability of Automata Theory as the basis of all computer science languages design													
	CO2: Identify different formal languages and design the recognizer for regular languages to establish their applicability in real life.													
	CO3: Ability to analyze & Design grammars for different formal languages.													
	CO4: Understand the designing of Pushdown Automata and Turing machines.													
	CO5: Determine the decidability and intractability of computational problems.													
CO \ PO Mapping	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**
CO1	2	2	2	1	2	1	1	1	2	1	1	2	1	1
CO2	2	2	2	1	2	1	1	1	2	1	1	2	1	1
CO3	2	2	3	1	2	1	1	1	2	1	1	2	1	2
CO4	2	2	2	1	2	1	1	1	2	1	1	2	2	2
CO5	2	2	2	1	1	1	1	1	2	1	1	2	2	2
Average	2.00	2.00	2.20	1.00	1.80	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.40	1.60

Environment & Ecology (RAS402)	CO1: To be able to plan importance of new techniques for human and environmental development by reducing low-rate consumption of natural resources through environmental impact assessment process.													
	CO2: To be able to plan the importance of sustainable use of natural resources with discussion about all conventional and non-conventional energy resources and their impact and implementation.													
	CO3: To be able to plan the importance of sustainable use of natural resources with discussion about all conventional and non-conventional energy resources and their impact and implementation.													
	CO4: To be able to understand the role of women education and individual NGOs and government for environmental activities.													
CO \ PO Mapping	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**
CO1	1	1	2	3	1	3	3	2	2	2	2	3	1	1
CO2	1	2	2	1	1	3	1	2	1	2	2	3	1	1
CO3	1	3	2	3	1	3	2	2	2	1	3	3	1	1
CO4	1	2	2	3	1	3	1	2	2	1	1	3	1	1
Average	1.00	2.00	2.00	2.50	1.00	3.00	1.75	2.00	1.75	1.50	2.00	3.00	1.00	1.00

Practical

Operating Systems Lab (RCS451)	CO1: Understand and apply knowledge of basic UNIX/LINUX commands to solve various software problems and to automate real time applications.
	CO2: Compare and contrast among various CPU scheduling algorithms and apply knowledge to identify the best scheduling algorithm as per software requirement.
	CO3: Understand and implement the concept of process synchronization tools like semaphore to solve mutual exclusion problems in order to coordinate concurrent processes.
	CO4: Apply knowledge of process management techniques to design and solve various process synchronization problems like Producer Consumer problem, Reader Writers problem and dining philosophers' problem.
	CO5: Understand and apply the concepts of deadlock in operating systems to design and implement various deadlock avoidance algorithms like anker's algorithm used in banking system.

CO \ PO Mapping	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**
CO1	3	2	1	1	2	2	1	1	2	2	2	1	2	2
CO2	3	2	1	2	2	1	1		2	2	2	1	1	1
CO3	2	2	1	2	1	2	2	1	2	2	2	1	2	1
CO4	3	2	1	2	3	1			2	2	2	1	1	1
CO5	3	3	1	2	3	2	2	1	2	2	2	1	2	1
Average	2.80	2.20	1.00	1.80	2.20	1.60	1.50	1.00	2.00	2.00	2.00	1.00	1.60	1.20

Software Engineering Lab (RCS452)	CO1: Extract and analyze software requirements specification for different projects.
	CO2: Select a software development process model for the project.
	CO3: Develop some basic level of software architecture/design using various standard tools.
	CO4: Study tools used in designing a software product.
	CO5: Applying knowledge of tools and converting design into specific codes.

CO \ PO Mapping	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**
CO1	3	2	3	2	2	3	3	3	3	2	2	2	2	2
CO2	3	3	2	2	2	3	3	2	3	3	2	2	2	2
CO3	3	2	3	3	3	3	3	3	3	2	3	3	2	2
CO4	3	3	2	3	3	3	3	3	2	2	3	2	2	2
CO5	2	2	3	3	3	2	2	2	3	3	2	3	2	2
Average	2.80	2.40	2.60	2.60	2.60	2.80	2.80	2.60	2.80	2.40	2.40	2.40	2.00	2.00

Theory of Automata and Formal Language Lab (RCS453)	CO1: Understand the DFA in JFLAP													
	CO2: Understand the NDFA in JFLAP													
	CO3: Understand the DPDA in JFLAP													
	CO4: Understand the NDPDA in JFLAP													
	CO5: Understand the Turing machine in JFLAP													
CO \ PO Mapping	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**
CO1	3	2	2	1	2	1	1	1	2	2	1	2	1	1
CO2	3	2	2	1	2	1	1	1	2	2	1	2	1	1
CO3	3	2	3	1	2	1	1	1	2	2	1	2	1	1
CO4	3	2	2	1	2	1	1	1	2	2	1	2	1	1
CO5	3	2	2	1	1	1	1	1	2	1	1	2	1	1
Average	3.00	2.00	2.20	1.00	1.80	1.00	1.00	1.00	2.00	1.80	1.00	2.00	1.00	1.00

Python Programming Lab (RCS454)	CO1: Learn the basics of Python													
	CO2: Apply the basics in real life problem.													
	CO3: Learn the advanced techniques of Python.													
	CO4: Apply advanced techniques of Python in real life problem.													
	CO5: Explain what competitive analysis is and to which situations it applies. Perform competitive analysis													
CO \ PO Mapping	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**
CO1	3	3	2	2	2	2	2	2	2	2	2	2	1	1
CO2	3	3	2	2	2	2	2	2	2	2	2	2	1	1
CO3	3	3	3	3	2	2	2	2	2	2	2	2	1	1
CO4	3	2	3	2	2	2	2	2	2	2	2	2	1	1
CO5	3	3	3	2	2	2	2	2	2	2	2	2	1	1
Average	3.00	2.80	2.60	2.20	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	3.00	3.00

CO PO and Mapping of CO PO 3rd Year

(2016-2020 BATCH)

Session: - 2016-20Semester:- 6th

Theory

Industrial Management (RAS601)	CO1: Understand the fundamentals of industrial management, business enterprises and production system.
	CO2: Understand and conclude the principles of management and focuses on matching the needs of the business with the needs and development of employees
	CO3: Understand and evaluate the concepts of inventory models and determine the best method of performing each operation and to eliminate wastage
	CO4: create and evaluate the concepts of quality, quality control tools and total quality management.
	CO5: create and manage the scope, cost, timing, and quality of the project, at all times focused on project success as defined by project stakeholders.

CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2	3	2				3	2	2	2	3	1	
CO2	3	2	3	3				3	2	1	2	3	1	
CO3	3	3	3	3				3	1	1	1	3	1	1
CO4	3	3	3	2				3	2	2	1	3	1	1
CO5	3	3	2	3				3	3	2	3	3	1	1
Average	2.80	2.60	2.80	2.60				3.00	2.00	1.60	1.80	3.00	1.00	1.00

Industrial Sociology (RAS602)	CO1: To provide students with an overview of industrial sociology and various theories of organization structure.
	CO2: To gain an insight into development and consequences of industrialization along with productive structure.
	CO3: To get the students acquainted with basic industrial policies in India and how Science & technology is shaping out the business world.
	CO4: To have a basic understanding of contemporary issues in industries like grievance, industrial disputes, collective bargaining etc. with their resolution.
	CO5: To enable students to visualize the future in industry with reference to Cultural issues, consumer society and sociological concerns.

CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	2	2	1	3	2	3	3	1	2	3	1	1
CO2	3	2	2	2	1	3	2	3	3	1	2	3	1	1
CO3	3	2	2	3	2	3	2	3	2	1	2	3	1	1
CO4	3	2	2	2	2	3	2	3	2	1	2	3	1	1
CO5	3	2	2	3	2	3	2	3	2	1	2	3	1	1
Average	3.00	2.00	2.00	2.40	1.60	3.00	2.00	3.00	2.40	1.00	2.00	3.00	1.00	1.00

Computer Networks (RCS601)	CO1: Build an understanding of the fundamental concepts and Layered Architecture of computer networking.
	CO2: Understand the basic concepts of link layer properties to detect error and develop the solution for error control and flow control.
	CO3: Design, calculate, and apply subnet masks and addresses to fulfill networking requirements and calculate distance among routers in subnet.
	CO4: Understanding the duties of transport layer, session layer and presentation layer and also focus on network security issues to secure communication towards society.
	CO5: Understand the features and operations of various application layer protocols such as DNS, HTTP, FTP, e-mail protocols and other applications.

CO \ PO Mapping	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**
CO1	3	2	2	2	3	3	3	3	3	3	3	3	3	3
CO2	3	3	3	3	3	3	3	3	3	3	3	2	3	3
CO3	3	3	3	2	3	3	3	3	3	3	3	2	3	3
CO4	3	2	2	2	3	3	3	3	3	3	3	2	3	3
CO5	3	2	2	3	3	3	2	2	3	2	3	2	3	3
Average	3.00	2.40	2.40	2.40	3.00	3.00	2.80	2.80	3.00	2.80	3.00	2.20	3.00	3.00

Web Technology (RIT601)	CO1: Understand the web application development and analyze the insights of intent programming to implement applications over the web.
	CO2: Understand, analyze and apply the role of markup languages like HTML, DHTML and XML in the working of the web applications.
	CO3: Build dynamic web pages using client-side scripting like Java Script and also the use of networking concepts.
	CO4: Understand the database connectivity with JDBC and learn EJB to design various applications for Enterprise.
	CO5: Use web application development tools and concepts like Servlet, JSP, Apache Tomcat, WAMP etc. to implement dynamic applications.

CO \ PO Mapping	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**
CO1	3	2	1	1	1	1	2	2	1	2	2	2	2	2
CO2	3	2	3	1	1	1	3	1	1	3	2	3	2	1
CO3	3	1	2	1	1	2	2	1	2	3	3	3	3	2
CO4	3	1	2	1	2	2	1	1	2	3	2	2	2	2
CO5	3	1	1	1	2	2	1	1	2	3	2	2	2	3
Average	3.00	1.40	1.80	1.00	1.40	1.60	1.80	1.20	1.60	2.80	2.20	2.40	2.20	2.00

Compiler Design (RCS602)	CO1: Acquire knowledge of different phases and passes of compiler and to give the essence of various compiler tools. Students will also be able to design multiple modules of a general compiling tool having realistic constraints of compilers.
	CO2: Understand the parser and its types and the construction of various types of parsing tables.
	CO3: Implement the compiler using syntax directed translation method and to get a better understanding of synthesized and inherited attributes.
	CO4: Acquire knowledge about run time data structure like symbol table organization and different techniques used in that.
	CO5: Understand the target machine's runtime environment, its instruction set for code generation and techniques used for code optimization.

CO \ PO Mapping	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**
CO1	3	3	3	1	2	2	2	3	3	2	2	2	3	3
CO2	3	3	2	2	2	3	3	2	3	3	2	3	3	3
CO3	3	2	3	2	2	2	2	2	3	3	3	3	3	3
CO4	2	3	2	2	3	3	1	1	2	3	2	2	3	3
CO5	2	2	2	2	3	2	1	1	2	3	2	2	3	3
Average	2.60	2.60	2.40	1.80	2.40	2.40	1.80	1.80	2.60	2.80	2.20	2.40	3.00	3.00

Data Warehousing & Data Mining (RIT062)	CO1: To understand the basic principles, concepts and applications of data warehousing.
	CO2: Ability to do conceptual, Logical, and Physical design of data warehouses. Design a data warehouse to present information needed by management in a form that is usable for management clients.
	CO3: To introduce the task of data mining as an important phase of knowledge recovery process
	CO4: Have a good knowledge of the fundamental concepts that provide the foundation of data mining.
	CO5: To have knowledge about Security, Backup and Recovery of data warehouse

CO \ PO Mapping	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**
CO1	3	2	3	1	2	3	2	1	3	2	2	2	3	3
CO2	3	3	3	2	2	3	3	2	3	3	2	3	3	3
CO3	2	2	3	2	1	2	2	2	3	3	3	3	2	3
CO4	2	3	2	2	3	3	2	1	2	3	2	2	3	2
CO5	3	2	3	2	3	2	3	1	2	3	2	2	2	3
Average	2.60	2.40	2.80	1.80	2.20	2.60	2.40	1.40	2.60	2.80	2.20	2.40	2.60	2.80

Practical

Computer Networks Lab (RCS651)	CO1: Understand the fundamental concepts of computer networking and Network topologies.
	CO2: Know about different types of network devices and design, implement, and analyze simple computer networks.
	CO3: Learn the basic network commands and use techniques, skills, and modern networking tools necessary for engineering practice.
	CO4: Formulate problems and their solutions, think creatively and communicate effectively.
	CO5: Describe how rapid progress of computer network technology can impact on the society and continue to advance personal knowledge and understanding.

CO \ PO Mapping	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**
CO1	3	2	2	2	2	3	3	2	3	3	3	2	3	3
CO2	3	2	3	2	2	2	3	2	2	2	3	3	3	3
CO3	3	2	3	2	3	2	2	3	2	2	2	3	3	3
CO4	2	2	3	2	3	2	2	2	3	3	2	2	3	3
CO5	3	2	2	2	2	3	2	2	3	2	2	2	3	3
Average	2.80	2.00	2.60	2.00	2.40	2.40	2.40	2.20	2.60	2.40	2.40	2.40	3.00	3.00

Web Technology Lab (RIT651)	CO1: Understand and analyze the role of markup languages like HTML, DHTML, and XML and implement it in the workings of the web applications.
	CO2: Use web application development software tools i.e., XML, Apache Tomcat etc. and identifies and applies the environments currently available on the market to design web sites.
	CO3: Able to build various Core Java concepts by implementing stand along application.
	CO4: Analyze and build dynamic web pages using client-side programming JavaScript and also develop the web application using servlet and JSP.
	CO5: Identify and implement the impact of web designing by database connectivity with JDBC in the current marketplace.

CO \ PO Mapping	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**
CO1	3	2	2	1	2	1	2	2	1	2	2	2	2	2
CO2	3	1	3	2	1	1	3	1	1	3	2	3	3	1
CO3	2	1	2	2	1	2	2	1	2	3	3	3	2	2
CO4	2	1	2	1	2	2	1	1	2	3	2	2	2	2
CO5	1	1	1	2	2	2	1	1	2	3	2	2	1	3
Average	2.20	1.20	2.00	1.60	1.60	1.60	1.80	1.20	1.60	2.80	2.20	2.40	2.00	2.00

Compiler Design Lab (RCS652)	CO1: Learn and use the new tools and technologies used to design a compiler and apply the knowledge of patterns, tokens and regular expressions in programming for solving a problem in the field of compiler.
	CO2: Develop program for solving parser problems.
	CO3: Create a program for intermediate code generation.
	CO4: Develop a program for implementing a symbol table.
	CO5: Learn the new code optimization techniques and apply it to improve the performance of a program in terms of time and space.

CO \ PO Mapping	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**
CO1	3	3	3	2	2	2	2	3	3	2	2	2	3	3
CO2	3	3	2	2	2	3	3	2	3	3	2	3	3	3
CO3	3	2	3	2	2	2	2	2	3	3	3	3	3	3
CO4	2	3	2	2	3	3	1	1	2	3	2	2	3	3
CO5	2	2	2	2	3	2	1	1	2	3	2	2	3	3
Average	2.6	2.6	2.4	2	2.4	2.4	1.8	1.8	2.6	2.8	2.2	2.4	3	3

Data Warehousing & Data Mining Lab (RCS654)	CO1: To preprocess and improve data quality.
	CO2: To select data and technique for the mining.
	CO3: To use Algorithms for data mining.
	CO4: To analyze data.
	CO5: To compare techniques based on result.

CO \ PO Mapping	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**
CO1	3	3	3	2	3	1	1	2	2	3	3	2	2	3
CO2	3	1	2	3	2	1	1	3	2	1	2	2	2	3
CO3	3	3	3	3	2	1	1	1	2	2	3	3	2	3
CO4	3	2	2	3	2	3	2	2	3	2	2	3	2	3
CO5	2	2	3	3	3	3	2	2	3	2	2	3	2	3
Average	2.80	2.20	2.40	2.60	2.40	1.60	1.20	1.80	2.20	2.20	2.40	2.40	2.20	3.00

CO PO and Mapping of CO PO 4th Year

(2015-2019 BATCH)

Session:- 2018-19 Semester:- 8th

Theory

Mobile Computing (NIT801)	CO1: Grasp the concepts and features of mobile computing technologies and applications.
	CO2: Understand the characteristics and limitations of mobile computing hardware device including their user-interface modalities.
	CO3: Analyze the functionalities and components of mobile computing technologies.
	CO4: Understand different cellular schemes, security and transaction processing used in mobile computing.
	CO5: Compare different routing protocols in Mobile Ad hoc Network that supports the connectivity to cellular networks for the appreciation of society.

CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	3	1	1	1	1	1	1	1	1	3	3	3
CO2	3	2	1	1	1	1	1	1	1	1	2	2	3	3
CO3	3	1	1	1	1	1	1	1	1	1	1	1	3	3
CO4	3	1	1	2	2	1	1	1	1	1	1	1	3	3
CO5	3	2	2	3	2	2	1	1	2	2	1	2	3	3
Average	3.00	1.60	1.60	1.60	1.40	1.20	1.00	1.00	1.20	1.20	1.20	1.80	3.00	3.00

Data Compression (NCS085)	CO1: Identify Lossless and lossy compression, Information Theory and Modelling.
	CO2: Acquire knowledge of generic Lossless (text) compression Algorithms.
	CO3: Apply Lossy (Image) Compression Algorithms.
	CO4: Analyze distortion and quantization techniques
	CO5: Demonstrate Advanced Quantization Techniques

CO \ PO Mapping	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	1	3	1	1	1	1	1	1	1	1	3	3
CO2	2	3	2	3	1	2	1	1	1	1	1	1	3	3
CO3	3	3	3	3	1	2	1	1	1	1	1	1	3	3
CO4	3		1	3	1	1	1	1	1	1	1	1	3	3
CO5	3	2	1	3	1	1	1	1	1	1	1	1	3	3
Average	2.80	2.40	1.60	3.00	1.00	1.40	1.00	1.00	1.00	1.00	1.00	1.00	3.00	3.00

Real Time System (NCS082)	CO1: Clearly differentiate the different issues that arises in designing soft and hard real-time concurrent, reactive, safety-critical and embedded systems.
	CO2: Understand the various concepts of time that arise in the real time systems and communicate effectively.
	CO3: Analyze and apply a variety of static and dynamic scheduling mechanisms suitable for soft and hard real time systems and utilize knowledge to solve real life problems.
	CO4: Understand the need and the challenges in the designing of soft and hard real time systems which can consider environmental factors.
	CO5: Compare and determine scheduling algorithms and the schedulable criteria of periodic tasks.

CO \ PO Mapping	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**
CO1	3	3	2	2	2	2	1	1	1	2	2	1	3	3
CO2	2	3	2	1	2	1	1	2	2	2	1	2	3	3
CO3	3	3	3	2	3	2	2	3	3	1	2	2	3	3
CO4	3	3	3	2	2	2	2	3	3	2	3	2	3	3
CO5	3	3	3	2	3	2	2	2	3	2	1	2	3	3
Average	2.80	3.00	2.60	1.80	2.40	1.80	1.60	2.20	2.40	1.80	1.80	1.80	3.00	3.00

Practical

Project (NIT852)	CO1: Select and summarize all aspects of the real-life problem through survey.
	CO2: Apply acquired knowledge to develop working model and plan different phases for its execution.
	CO3: Analyze outcome of each phase using various tools, techniques, and coding practices.
	CO4: Justify/defend opinions, validity of ideas or quality of work based on a set of criteria.
	CO5: Test the working model and modify related phase accordingly. Finally integrate all phases

CO \ PO Mapping	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**
CO1	3	3	3	3	3	2	1	1	3	3	3	3	3	3
CO2	3	3	3	3	2	2	1	1	3	2	3	3	3	3
CO3	3	3	3	3	2	2	1	1	3	2	3	3	3	3
CO4	3	3	3	3	2	2	1	1	3	2	2	3	3	3
CO5	3	3	3	3	2	2	1	1	3	2	1	2	3	3
Average	3.00	3.00	3.00	3.00	2.20	2.00	1.00	1.00	3.00	2.20	2.40	2.80	3.00	3.00

Seminar (NIT-851)	CO1: Develop presentation skills.
	CO2: Impart knowledge in different aspects of knowledge domains.
	CO3: Build confidence and improve communication skills.
	CO4: Sharpen their personality and intelligence.
	CO5: Share ideas among the team members.

CO \ PO Mapping	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PO12**	**PSO1**	**PSO2**
CO1	3	3	3	1	2	1	1	1	2	2	1	3	3	3
CO2	3	3	2	2	1	1	1	1	3	2	1	3	3	3
CO3	3	3	3	3	1	1	1	2	1	3	1	3	3	3
CO4	3	3	3	3	2	2	1	2	2	3	1	3	3	3
CO5	3	3	3	3	2	2	1	1	1	3	1	3	3	3
Average	3.00	3.00	2.80	2.40	1.60	1.40	1.00	1.40	1.80	2.60	1.00	3.00	3.00	3.00