

**Department of Information Technology**

Name of course	COs	Course Outcome
<b>FYIF - SEM I</b>		
Fundamentals of ICT 22001	22001.1	Use computer system and its peripherals
	22001.2	Prepare business documents using word processing tools.
	22001.3	Interpret data and represent it graphically using spreadsheet
	22001.4	Prepare professional presentations.
	22001.5	Use different types of web browsers.
Engineering Graphics 22003	22003.1	Draw regular geometric figure
	22003.2	Use drawing code, conventional and symbols as per IS SP46 in engineering drawing
	22003.3	Draw the view of given object using principle of orthographic projection
	22003.4	Draw isometric view of given component or from orthographic projection
	22003.5	Draw the free hand sketches of given engineering elements
	22003.6	Use computer aided drafting approach to create engineering drawing
Workshop Practice 22005	22005.1	User electrical tools, instruments, devices and equipment for basic level maintenance of computers and peripherals
	22005.2	Identify active and passive electronic components
	22005.3	Undertake basic level maintenance of a PC
	22005.4	User different kinds of printers and scanners
	22005.5	Identify the layout of wired and wireless LAN environment
English (22101)	22101.1	Formulate grammatically correct sentence
	22101.2	Summarize comprehensive passage
	22101.3	Compose dialog and paragraph for different situations.
	22101.4	Use relevant words as per word
	22101.5	Deliver prepare speech to express idea, thoughts and emotions
Basic Science 22102	22102.1	estimate the error in the measurement of physical quantities
	22102.2	Apply the principle of electricity and magnetism to solve the engineering problem
	22102.3	use the basic principle of heat and optics in related engineering applications
	22102.4	Apply the catalyst process measure in industry
	22102.5	use corrosion preventive measures in industry
	22102.6	use revalinet material in industry .
Mathematics 22103	22103.1	Apply the concept of Algebra to solve the engineering related problems
	22103.2	Utilize the basic concept of trigonometry to solve elementary engineering problem
	22103.3	Solve the basic engineering problem under the given condition of straight line
	22103.4	solve the problem based on measurement of regular closed

		shape figure and regular solids
	22103.5	use the basic concepts of statics to solve engineering related problems
<b>FYIF SEM II</b>		
Web page designing With HTML 22014	22014.1	Use block level formatting tags to present content on web page
	22014.2	Use text level formatting tags to present content on Webpage.
	22014.3	Apply hyper linking on Webpage.
	22014.4	Organize the content using tables and frames.
	22014.5	Apply presentation schemes on content using CSS
	22014.6	Publish websites on the internet or Intranet.
Elements of electrical engineering (22215)	22215.1	Use the concept of magnetic circuit
	22215.2	Use the single phase AC supply for electrical and electronics components
	22215.3	Use the single phase AC supply for industrial equipments and machines
	22215.4	connect transformer and dc motor for specific requirement
	22215.5	Use FHP motor for diversified applications
	22215.6	use relevant protective devices /switchgear for different applications
Applied Mathematics (22224)	22224.1	calculate the equation of tangent maxima ,minima ,radius of curvature by differentiation
	22224.2	solve the given problem of integration using suitable method
	22224.3	apply the concept of integration to find area and volume
	22224.4	solve the differential equation of first order and first degree using suitable method
	22224.5	Apply the concept of numerical method in computer programing languages
Basic Electronics (22225)	22225.1	Identify electronic components in electronic circuits.
	22225.2	Use diodes in different applications
	22225.3	Interpret the working of junction transistor in the electronic circuits.
	22225.4	Interpret the working of unipolar devices in the electronic circuits.
	22225.5	Use sensors and transducers
Programming in C (22226)	22226.1	Develop Flowchart & Algorithm to solve problem logically.
	22226.2	Write simple c program using arithmetic expression.
	22226.3	Develop C program using Control structure.
	22226.4	Develop C program using Array & Structure.
	22226.5	Develop/Use functions in C programs for modular programming approach.
	22226.6	Develop C program using Pointers.

Business communication using computer (22009)	22009.1	Communicate effectively by avoiding barriers in various formal and informal situations.
	22009.2	Communicate skillfully using non-verbal methods of communication.
	22009.3	Give presentations by using audio- visual aids.
	22009.4	Write reports using correct guidelines.
	22009.5	Compose e-mail and formal business letters.
Computer Peripheral and Hardware maintenance (22013)	22013.1	Identify different types of computer systems
	22013.2	Troubleshoot common motherboard problems
	22013.3	Select processors required for relevant systems
	22013.4	Partition / format hard disk drive
	22013.5	Troubleshoot peripherals and networks
	22013.6	Test power supplies
<b>SYIF SEM III</b>		
Object Oriented Programming using C++ 22316	22316.1	Develop C++ programs to solve problems using Procedure Oriented Approach.
	22316.2	Develop C++ programs using classes and objects.
	22316.3	Implement Inheritance in c++ program.
	22316.4	Use polymorphism in C++ program.
	22316.5	Develop C++ programs to perform file operations.
Data structure using C ( 22317)	22317.1	Develop flowchart and algorithm to solve problems logically
	22317.2	Write simple 'C' programs using arithmetic expression
	22317.3	Develop 'C' programs using control structure
	22317.4	Develop 'C' programs using arrays and structures
	22317.5	Develop / User functions in C programs for modular programming approach
	22317.6	Develop 'C' programs using pointers
Principal of Database (22321)	22321.1	Use Fundamental concept of Database in Database system
	22321.2	Choose relevant Data model to Solve model.
	22321.3	Develop relational database using ER modeling approach.
	22321.4	Apply constrain for Data integrity in Relational Database.
	22321.5	Apply Data Normalization & Denormalization technique on Database.
Data communication (22322)	22322.1	Identify the process of data communication
	22322.2	Select the relevant types of transmission media depending upon requirement
	22322.3	Identify multiplexing and switching techniques use in digital communication
	22322.4	Identify the types of transmission error and error correction techniques
	22322.5	Select component of relevant IEEE standard for wireless communication
Digital Techniques and Microprocessor (22323)	22323.1	Test the digital systems, Logic Families and logic gates.
	22323.2	Construct Combinational logic circuit.
	22323.3	Construct Sequential logic circuit.

	22323.4	Use registers and instructions of 8086.
	22323.5	Use assembly language programs using 8086
AMT 22024	22024.1	Prepare images using different color models
	22024.2	Edit images using graphical processing tools.
	22024.3	Build website with multimedia contents
	22024.4	Develop 2D animation objects
	22024.5	Develop 3D animation objects
<b>SYIF SEM IV</b>		
Java Programming (22412)	22412.1	Develop programs using Object Oriented methodology in java
	22412.2	Apply concept of inheritance of code reusability.
	22412.3	Develop programs using multithreading
	22412.4	Implement Exception handling.
	22412.5	Develop program using graphics and applet
	22412.6	Develop programs for handling I/O and File Streams
software Engineering (22413)	22413.1	Select suitable software process model for software development
	22413.2	Prepare software requirement specifications
	22413.3	Use software modelling to create data design
	22413.4	Estimate size and cost of software product
	22413.5	Apply project management and quality assurance principles in software development
Database Management 22416	22416.1	Create Database design using SQL Command
	22416.2	Manage Database design using SQL Command
	22416.3	Implement advanced SQL Concept on Database.
	22416.4	Write PL/SQL code for database application.
	22416.5	Apply security & safety on Database
Computer Networking (22417)	22417.1	Use basic concept of networking for setting up computer network
	22417.2	setup computer network for specific network requirements
	22417.3	configure basic network services
	22417.4	configure the basic TCP/IP services
	22417.5	Implement subnetting for improved network address management
GAD 22034	22034.1	User Visual Studio IDE to design application
	22034.2	Develop GUI Application using Form Controls and its events
	22034.3	Apply Object Oriented concepts in GUI Application
	22034.4	Use data access controls to store data in Database and retrieve it
	22034.5	Use data binding in GUI application
<b>TYIF SEM V</b>		
Entrepreneurship Development (22032)	22032.1	Identify your entrepreneurial traits
	22032.2	Identify the business opportunities that suits you
	22032.3	Use the support system to zero down to your business idea
	22032.4	Developed comprehensive business plans

	22032.5	Prepare plan to manage the enterprise effectively
Environmental Studies (22447)	22447.1	Develop Public awareness about the environment.
	22447.2	Select alternative energy resources for Engineering Practice.
	22447.3	Conserve Ecosystem and Biodiversity
	22447.4	Apply techniques to reduce Environmental Pollution
	22447.5	Manage social issues and Environmental Ethics as lifelong learning.
Operating system (22516)	22516.1	Install operating system and configure it .
	22516.2	use operating system tool to perform various functions.
	22516.3	Execute the process command for performing the process management operation .
	22516.4	Apply schedule algorithms to calculate turnaround time and average waiting time
	22516.5	calculate efficiency of different memory management techniques
	22516.6	apply file management techniques
Advanced java programming (22517)	22517.1	Develop programs using GUI Framework(AWT and Swing) .
	22517.2	Handle Events of AWT and Swing Components.
	22517.3	Develop programs to handle events in Java Programming.
	22517.4	Develop Java Programs using networking concepts.
	22517.5	Develop programs using database.
	22517.6	Develop programs using Servlets.
Open source operating system and scripting language (22522)	22522.1	Install Linux operating system
	22522.2	Use the basic Linux commands and utilities
	22522.3	Developed shell program for solving the different problems
	22522.4	Maintain the Linux operating system
	22522.5	Maintain linux operating network
Industrial Training (22057)	22057.1	Communicate effectively (verbal as well as written) the work carried out.
	22057.2	Prepare and present the report of the work carried out
	22057.3	Exercise time management and safety in the work environment.
	22057.4	Working in a team.
	22057.5	Demonstrate various quality assurances.
	22057.6	Exhibit the work carried out
Capstone project planning (22058)	22058.1	write the problem /task in specification of existing system related to the occupation
	22058.2	Select and collect and use of required information /knowledge to solve problem of task
	22058.3	logically choose the relevant possible solutions

	22058.4	consider the ethical issues related to project
	22058.5	Assess the impact of project on society
	22058.6	prepare the project proposal with the action plan and time plan before starting of project
<b>TYIF SEM VI</b>		
Management (22509)	22509.1	Use the basic management principles to execute the daily activities
	22509.2	use the principles of planning and organize accomplished the task
	22509.3	use principle of directing and controlling for implementation of plans
	22509.4	Apply the principles of safety management in all activities
	22509.5	Understand the various provisions of industrial act .
Mobile Application Development (22617)	22617.1	Interprete the features of Android Operating System
	22617.2	Configure Android Environment and Development Tools
	22617.3	Develop rich user interfaces by using layouts and controls
	22617.4	Use user interface component for android application development
	22617.5	Create android application using database
	22617.6	Publish android applications
Emerging trends in Computer and Information Technology (22618)	22618.1	Describe Artificial intelligence , Machine learning and Deep learning
	22618.2	Interpret IOT concepts
	22618.3	Compare models of digital forensic Investigation
	22618.4	Describe Evidence Handling process
	22618.5	Describe Ethical Hacking process
	22618.6	Detect Network ,operating system and applications of vulnerabilities
Network and Information Security 22620	22620.1	Identify risk related to Computer security & Information hazard in various situations.
	22620.2	Apply user identification & authentication methods.
	22620.3	Apply cryptographic algorithm & protocol to maintain computer security.
	22620.4	Apply measures to prevent attack on the network using a firewall.
	22620.5	Maintain secured network & describe Information Security Compliance standards.
Wireless and mobile network (22622)	22622.1	Select cellular Mobile system standard.
	22622.2	Maintain wireless network Technologies.
	22622.3	Maintain wireless mobile application.
	22622.4	Interpret the components of WLL Applications.
	22622.5	Maintain Adhoc and wireless sensor network.
Capstone project - execution and report writing (22060)	22060.1	Implement the plan activity individually and or team
	22060.2	select collect and used required information /knowledge to solve the identified problem

	22060.3	Take appropriate decision based on collected and analysed information
	22060.4	Ensure quality in product
	22060.5	Incorporate the energy and environment conversation principal
	22060.6	consider ethical issues related to project
	22060.7	Assess the impact of project on society
	22060.8	communicate effectively and confidently as a member and leader of team
	22060.9	prepare a project report after performing due plagiarism check using appropriate tools .