

JP COLLEGE OF ENGINEERING
DEPARTMENT OF INFORMATION TECHNOLOGY
COURSE OUTCOME

REGULATION : 2021

S.No	Sem	Course Code	Course Name	Course Outcome	
1	I	HS3152	Professional English - I	CO1:To use appropriate words in a professional context	
				CO2:To gain understanding of basic grammatic structures and use them in right context.	
				CO3:To read and infer the denotative and connotative meanings of technical texts	
				CO4:To write definitions, descriptions, narrations and essays on various topics	
		2	MA3151	Matrices and Calculus	CO1:Use the matrix algebra methods for solving practical problems.
					CO2:Apply differential calculus tools in solving various application problems.
					CO3:Able to use differential calculus ideas on several variable functions.
CO4:Apply different methods of integration in solving practical problems.					
CO5:Apply multiple integral ideas in solving areas, volumes and other practical problems.					
3	PH3151	Engineering Physics	CO1:Understand the importance of mechanics.		
			CO2:Express their knowledge in electromagnetic waves.		
			CO3:Demonstrate a strong foundational knowledge in oscillations, optics and lasers.		
			CO4:Understand the importance of quantum physics.		
4	CY3151	Engineering Chemistry	CO5:Comprehend and apply quantum mechanical principles towards the formation		
			CO1:To infer the quality of water from quality parameter data and propose suitable treatment methodologies to treat water.		
			CO2:To identify and apply basic concepts of nanoscience and nanotechnology in designing the synthesis of nanomaterials for engineering and technology applications.		
			CO3:To apply the knowledge of phase rule and composites for material selection requirements.		
			CO4:To recommend suitable fuels for engineering processes and applications.		
5	GE3151	Problem Solving and Python Programming	CO5:To recognize different forms of energy resources and apply them for suitable applications in energy sectors.		
			CO1: Develop algorithmic solutions to simple computational problems.		
			CO2: Develop and execute simple Python programs.		
			CO3: Write simple Python programs using conditionals and loops for solving problems.		
			CO4: Decompose a Python program into functions.		
			CO5: Represent compound data using Python lists, tuples, dictionaries etc.		
6	HS3252	Professional English - II	CO6: Read and write data from/to files in Python programs.		
			CO1:To compare and contrast products and ideas in technical texts.		
			CO2:To identify and report cause and effects in events, industrial processes through technical texts		
			CO3:To analyse problems in order to arrive at feasible solutions and communicate them in the written format.		
			CO4:To present their ideas and opinions in a planned and logical manner		
7	MA3251	Statistics and Numerical Methods	CO5:To draft effective resumes in the context of job search.		
			CO1:Apply the concept of testing of hypothesis for small and large samples in real life problems.		
			CO2:Apply the basic concepts of classifications of design of experiments in the field of agriculture.		
			CO3:Appreciate the numerical techniques of interpolation in various intervals and apply the numerical techniques of differentiation and integration for engineering problems.		
				CO4:Understand the knowledge of various techniques and methods for solving first and second order ordinary differential equations.	

			CO5:Solve the partial and ordinary differential equations with initial and boundary conditions by using certain techniques with engineering applications.
8	II	PH3256 Physics for Information Science	CO1:gain knowledge on classical and quantum electron theories, and energy band CO2:acquire knowledge on basics of semiconductor physics and its applications in various devices CO3:get knowledge on magnetic properties of materials and their applications in data storage, CO4:have the necessary understanding on the functioning of optical materials for optoelectronics CO5:understand the basics of quantum structures and their applications and basics of quantum Computing
9		BE3251 Basic Electrical and Electronics Engineering	CO1: Compute the electric circuit parameters for simple problems CO2: Explain the working principle and applications of electrical machines CO3: Analyze the characteristics of analog electronic devices CO4: Explain the basic concepts of digital electronics CO5: Explain the operating principles of measuring instruments
10		GE3251 Engineering Graphics	CO1:Use BIS conventions and specifications for engineering drawing. CO2:Construct the conic curves, involutes and cycloid. CO3:Solve practical problems involving projection of lines. CO4:Draw the orthographic, isometric and perspective projections of simple solids. CO5:Draw the development of simple solids
11		CS3251 Programming in C	CO1: Demonstrate knowledge on C Programming constructs CO2: Develop simple applications in C using basic constructs CO3: Design and implement applications using arrays and strings CO4: Develop and implement modular applications in C using functions. CO5: Develop applications in C using structures and pointers. CO6: Design applications using sequential and random access file processing.
12		MA3354 Discrete Mathematics	CO1:Have knowledge of the concepts needed to test the logic of a program. CO2:Have an understanding in identifying structures on many levels. CO3:Be aware of a class of functions which transform a finite set into another finite set which relates to input and output functions in computer science. CO4:Be aware of the counting principles. CO5:Be exposed to concepts and properties of algebraic structures such as groups, rings and fields.
13		CS3351 Digital Principles and Computer Organization	CO1 : Design various combinational digital circuits using logic gates CO2 : Design sequential circuits and analyze the design procedures CO3 : State the fundamentals of computer systems and analyze the execution of an instruction CO4 : Analyze different types of control design and identify hazards CO5 : Identify the characteristics of various memory systems and I/O communication
14	III	CS3352 Foundations of Data Science	CO1: Define the data science process CO2: Understand different types of data description for data science process CO3: Gain knowledge on relationships between data CO4: Use the Python Libraries for Data Wrangling CO5: Apply visualization Libraries in Python to interpret and explore data
15		CD3291 Datastructures and algorithms	CO1: Explain abstract data types CO2: Design, implement, and analyze linear data structures, such as lists, queues, and stacks, according to the needs of different applications CO3: Design, implement, and analyze efficient tree structures to meet requirements such as searching, indexing, and sorting CO4: Model problems as graph problems and implement efficient graph algorithms to solve them
16		CS3391 Object Oriented Programming	CO1:Apply the concepts of classes and objects to solve simple problems CO2:Develop programs using inheritance, packages and interfaces CO3:Make use of exception handling mechanisms and multithreaded model to solve real world problems CO4:Build Java applications with I/O packages, string classes, Collections and generics concepts

				CO5: Integrate the concepts of event handling and JavaFX components and controls for developing GUI based applications
17	IV	CS3452	Theory of Computation	CO1: Construct automata theory using Finite Automata
				CO2: Write regular expressions for any pattern
				CO3: Design context free grammar and Pushdown Automata
				CO4: Design Turing machine for computational functions
				CO5: Differentiate between decidable and undecidable problems
18		CS3491	Artificial Intelligence and Machine Learning	CO1: Use appropriate search algorithms for problem solving
				CO2: Apply reasoning under uncertainty
				CO3: Build supervised learning models
				CO4: Build ensembling and unsupervised models
				CO5: Build deep learning neural network models
19	CS3492	Database Management Systems	CO1: Construct SQL Queries using relational algebra	
			CO2: Design database using ER model and normalize the database	
			CO3: Construct queries to handle transaction processing and maintain consistency of the database	
			CO4: Compare and contrast various indexing strategies and apply the knowledge to tune the performance of the database	
			CO5: Appraise how advanced databases differ from Relational Databases and find a suitable database for the given requirement	
20	IT3401	Web Essentials	CO1: Apply JavaScript, HTML and CSS effectively to create interactive and dynamic websites.	
			CO2: Create simple PHP scripts	
			CO3: Design and deploy simple web-applications.	
			CO4: Create simple database applications.	
			CO5: Handle multimedia components	
21	CS3451	Introduction to Operating Systems	CO1 : Analyze various scheduling algorithms and process synchronization.	
			CO2 : Explain deadlock prevention and avoidance algorithms.	
			CO3 : Compare and contrast various memory management schemes.	
			CO4 : Explain the functionality of file systems, I/O systems, and Virtualization	
			CO5 : Compare iOS and Android Operating Systems.	
22	GE3451	Environmental Sciences and Sustainability	CO1: To recognize and understand the functions of environment, ecosystems and biodiversity and their conservation.	
			CO2: To identify the causes, effects of environmental pollution and natural disasters and contribute to the preventive measures in the society.	
			CO3: To identify and apply the understanding of renewable and non-renewable resources and contribute to the sustainable measures to preserve them for future generations.	
			CO4: To recognize the different goals of sustainable development and apply them for suitable technological advancement and societal development.	
			CO5: To demonstrate the knowledge of sustainability practices and identify green materials, energy cycles and the role of sustainable urbanization.	