INDIRA COLLEGE OF ENGINEERING AND MANAGEMENT
Approved By AICTE New Delhi, DTE (MS) and Affiliated to Pune University
ACADEMIC YEAR 2021-22
COURSE OUTCOMES

COURSE PATTERN 2020 (FY & SY) 2019(TY)

YEAR	COURSE CODE	COURSE NAME	COURSE OUTCOME NO.	COURSE OUTCOMES
FYMCA Sem I	IT-11	Java Programming	CO1	Understand Basic Concepts of OOPs, Java, Inheritance, Package. (Understand)
			CO2	Understand Exception handling, arrays and Strings and multi-threading in Java (Understand.
			CO3	Understand collection framework (Understand)
			CO4	Develop GUI using Abstract Windows Toolkit (AWT) and event handling (Apply)
			CO5	Develop Web application using JSP and Servlet, JDBC (Apply)
	IT-12	Data Structure and Algorithms	CO1	: demonstrate linear data structures linked list, stack and queue (apply)
			CO2	implement tree, graph, hash table and heap data structures (apply)
			CO3	apply brute force and backtracking techniques (apply)
			CO4	demonstrate greedy and divide-conquer approaches (apply)
			CO5	implement dynamic programming technique (apply)
	IT-13	Object Oriented Software Engineering	CO1	: Distinguish different process model for a software development. (Understand)
			CO2	Design software requirements specification solution for a given problem definitions of a software system. (Analyze)
			CO3	: Apply software engineering analysis/design knowledge to suggest solutions for simulated problems (Analyze)
			CO4	Design user interface layout for different types of applications (Apply)
			CO5	Recognize and describe current trends in software engineering (Understand)
	IT-14	Operating Systems Concepts	CO1	Understand structure of OS, process management and synchronization. (Understand)
			CO2	Understand multicore and multiprocessing OS. (Understand)
			CO3	explain Realtime and embedded OS (Understand)
			CO4	understand Windows and Linux OS fundamentals and administration. (Understand)
			CO5	solve shell scripting problems (Apply)
	IT-15	Network Technologies	CO1	Understand the basic concepts of Computer Network, and principle of layering (Understand)
			CO2	Apply the error detection and correction techniques used in data transmission (Apply)
			CO3	Apply IP addressing schemes and sub netting (Apply)
			CO4	Understand the concept of routing protocols, Application layer protocols and Network Security (Understand)
			CO5	Apply the socket programming basics to create a simple chat application (Apply)
	IT-11L	Practicals	CO1	Demonstrate Collection framework (Apply)
			CO2	: Develop GUI using awt and swing (Apply)
			CO3	Develop Web application using JSP and Servlet, JDBC (Apply)
			CO4	Apply Data Structure to solve problems using JavaScript (Apply)
	ITC11	Mini Project	CO1	Create working project using tools and techniques learnt in this semester (Create)
	IT-21	Python Programming	CO1	Understand Demonstrate the concepts of python and modular programming. (Understand)
			CO2	Apply the concepts of concurrency control in python (Apply)
			CO3	Solve the real-life problems using object-oriented concepts and python libraries (Apply
			CO4	Demonstrate the concept of IO, Exception Handling, database (Apply)
			CO5	Analyze the given dataset and apply the data analysis concepts and data visualization. (Analyze)
			CO1	Understand the process of Software Project Management Framework and Apply estimation techniques. (Apply)

			CO2	: Learn the philosophy, principles and lifecycle of an agile project. (Understand)	
			CO3	Demonstrate Agile Teams and Tools and Apply agile project constraints and trade-offs for estimating project size and schedule (Apply)	
			CO4	: Explain Project Tracking and Interpretation of Progress Report (Understand)	
	IT-22	Software Project Management	CO5	Analyze Problem statement and evaluate User Stories (Analyze)	
			CO1	Understand the role and principles of optimization techniques in business world (Understand)	
			CO2	Demonstrate specific optimization technique for effective decision making (Apply)	
			CO3	Apply the optimization techniques in business environments (Apply)	
			CO4	Illustrate and infer for the business scenario (Analyze)	
FYMCA Sem II	MT-21	Optimization Techniques	CO5	Analyze the optimization techniques in strategic planning for optimal gain. (Analyze)	
			CO1	Outline the basic concepts of Advance Internet Technologies (Understand)	
			CO2	Design appropriate user interfaces and implements webpage based on given problem Statement (Apply	
			CO3	Implement concepts and methods of NodeJS (Apply)	
			CO4	Implement concepts and methods of Angular (Apply)	
	IT-23	Advanced Internet Technologies	CO5	Build Dynamic web pages using server-side PHP programming with Database Connectivity (Apply)	
			CO1	Describe the core concepts of DBMS and various databases used in real applications (Understand)	
			CO2	Design relational database using E-R model and normalization (Apply)	
			CO3	Demonstrate XML database and nonprocedural structural query languages for data access (Apply)	
			CO4	Explain concepts of Parallel, Distributed and Object-Oriented Databases and their applications (Understand)	
	IT-24	Advanced DBMS	CO5	Apply transaction management, recovery management, backup and security – privacy concepts for database applications (Apply)	
			CO1	: implement python programming concepts for solving real life problems. (Apply)	
	IT-21L	Practicals	CO2	: Implement Advanced Internet Technologies (Apply	
	ITC21	Mini Project	CO1	Create working project using tools and techniques learnt in this semester (Create)	
			CO1	Understand Various Mobile Application Architectures. (Understand)	
			CO2	Apply different types of widgets and Layouts. (Apply)	
			CO3	Describe Web Services and Web Views in mobile applications. (Understand)	
			CO4	Implement data storing and retrieval methods in android. (Apply)	
	IT-31	Mobile Application Development	CO5	Demonstrate Hybrid Mobile App Framework. (Apply)	
			CO1	Understand Data warehouse concepts, architecture and models (Understand)	
			CO2	: Learn and understand techniques of preprocessing on various kinds of data (Understand)	
			CO3	Apply association Mining and Classification Techniques on Data Sets (Apply)	
		Data Warehousing and Data Mining	CO4	Apply Clustering Techniques and Web Mining on Data Sets (Apply)	
	: IT-32		CO5	Understand other approaches of Data mining (Understand)	
			CO1	Understand the role of software quality assurance in contributing to the efficient delivery of software solutions. (Understand)	
			CO2	Demonstrate specific software tests with well-defined objectives and targets. (Apply)	
			CO3	Apply the software testing techniques in commercial environments. (Apply)	
		Software Testing and Quality Assurance	CO4	Construct test strategies and plans for software testing. (Analyze)	
SYMCA Sem III	IT-33		CO5	Demonstrate the usage of software testing tools for test effectiveness, efficiency and coverage (Apply	
			CO1	Understand basic building block of Artificial Intelligence and Knowledge Representation. (Understand)	
			CO2	Apply Propositional Logic for knowledge representation. (Apply)	
			CO3	Design various models based on Machine Learning methodology (Apply)	
		Knowledge Representation and	CO4	Design various models based on Deep Learning methodology (Apply)	
	IT-34	Artificial Intelligence: ML, DL	CO5	Understand various hardware and software aspect used for AI and its application. (Understand)	
			CO1	Describe the concepts of Cloud Computing and its Service Models& Deployment Models. (Understand)	
			CO2	Classify the types of Virtualization. (Understand)	

			CO3	Describe the Cloud Management and relate Cloud to SOA. (Understand)
			CO4	Interpret Architecture and Pharrell Programing of Cloud Computing. (Apply)
	IT-35	Cloud Computing	CO5	Demonstrate practical implementation of Cloud computing. (Apply)
	IT-31L	Practicals	CO1	Develop mobile application. (Apply
			CO2	Develop ML, DL models using Python (Apply)
	ITC31	Mini Project	CO1	Create working project using tools and techniques learnt in this semester (Create)
SYMCA Sem IV	BM-41	PPM and OB	CO1	Describe and analyze the interactions between multiple aspects of management. (Understand)
			CO2	Analyze the role of planning and decision making in Organization (Analyze)
			CO3	Justify the role of leadership qualities, Motivation and Team Building. (Analyze)
			CO4	Analyze stress management and conflict management (Analyze)
			CO5	Describe Personality and Individual Behavior (Understand)
	: IT-41	DevOps	CO1	describe the evolution of technology & timeline (Understand)
			CO2	explain Introduction to various Devops platforms (Remember)
			CO3	demonstrate the building components / blocks of Devops and gain an insight of the Devops Architecture. (Understand)
			CO4	apply the knowledge gain about Devops approach across various domains (Apply)
			CO5	: build DevOps application (Apply)
	ITC41	Project	CO1	Create working project using tools and techniques learnt in the programme (Create)
TYMCA Sem V	501	Social Media & Digital Marketing	CO1	Explain use of Social Media in Marketing (Understand)
			CO2	Demonstrate Digital Marketing Strategy (Apply)
			CO3	Summarize various tools of Social Media and Digital Marketing (Understand)
			CO4	Make use of SEO techniques for websites (Apply)
			CO5	Interpret SEM tools and techniques (Understand
	IT 52	Mobile Application Development	CO1	Understand Various Mobile Application Architectures (Understand)
			CO2	Use different types of widgets and Layouts. (Apply)
			CO3	Describe Web Services and Web Views in mobile applications. (Understand)
			CO4	: Implement data storing and retrieval methods in android. (Apply)
			CO5	Demonstrate Hybrid Mobile App Framework. (Apply)
	IT 53	Software Project Management	CO1	Understand the process of Software Project Management Framework and Apply estimation techniques. (Understand)
			CO2	Learn the philosophy, principles and lifecycle of an Agile project. (Understand)
			CO3	Demonstrate Agile Teams and Tools. (Apply)
			CO4	Apply Agile project constraints and trade-offs for estimating project size and schedule (Apply)
			CO5	Explain Project Tracking and Interpretation of Progress Report. (Understand)
	ITC51	Mini Project	CO1	Understand the real-world problem. (Understand)
			CO2	Express the need of the project through feasibility analysis and literature review. (Understand
			CO3	Determine the project plan using appropriate methodology. (Apply)
			CO4	Implement the project design pertaining to the problem. (Apply)
			CO5	Demonstrate communication and team-work skills. (Apply)
			CO6	: Build and test the solution. (Create)
	IT51L	Practical based on IT51 - Social Me	CO1	Create Marketing Strategy using various tools of Social Media and Digital Marketing. (Create)