PANIPAT INSTITUTE OF ENGINEERING & TECHNOLOGY
Department of Electronics & Communication Engineering

LESSON PLAN

Subject Name: -Essentials of Information Technology **Subject Code: - ES-219A**
Year: - 2nd **Semester: - 3rd**

Lecture No	Unit No	Topic	COs Covered
L 1	UNIT-I	Familiarization with the basics of Python programming	CO1
L 2		Process of writing a program, running it, and print statements	
L 3		Simple datatypes: integer, float, string.	
L 4		The notion of a variable, and methods to manipulate it	
L 5		Knowledge of data types and operators	
L 6		Accepting input from the console, assignment statement, expressions, operators and their precedence	
L 7		Conditional statements: if, if-else, if-elsif-else	
L 8		Notion of iterative computation and control flow: for, while	
L 9		Flowcharts, decision trees and pseudo code	
		Revisions	
L 10	UNIT-II	Idea of debugging: errors and exceptions	CO2
L 11		Debugging: pdb, break points	
L 12		Sequence datatype: Lists	
L 15		Tuples and dictionary	CO2
L16		Introduce the notion of accessing elements in a collection using numbers and names	
L17		Sorting algorithm: bubble sort and insertion sort; count the number of operations while sorting.	
L 18		Strings: Strings in Python : compare, concat, substring.	
L 19		Data visualization using Pyplot: line chart, pie chart, and bar chart.	
L 20		Revisions	

L 21	UNIT-III	Computer Systems and Organization: description of a computer system and mobile system	CO3
L 22		CPU, memory, hard disk, I/O, battery, power.	
L 23		Types of software: System Software, Utility Software and Application Software,	
L 24		How an operating system runs a program, operating system as a resource manager.	
L 25		Cloud Computing	
L 26		Cloud storage (public/private)	
L 27		Brief introduction to parallel computing.	
L 28		Concept of cloud computers	
L 29		Revision	
L 30	UNIT-IV	Relational databases: idea of a database and the need for it, relations	CO4
L 31		Keys, primary key, foreign key	
L 32		Use SQL commands to create a table	
L 33		Foreign keys, insert/delete an entry, delete a table	
L 34		SQL commands: select	
L 35		Project, and join	
L 36		Indexes	
L37		Basics of NoSQL databases	
L38		Mongo DB	
L39		Revision	

Text Books: 10(490) 1. Python Programming: A modular approach by Sheetal Taneja and Naveen Kumar Pearson

Reference Books:

1. Python Programming - Using Problem Solving Approach by Reema Thareja Oxford Publication.
2. Database Management System a Practical Approach by Rajiv Chopra by S. Chand