



DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS

LESSON PLAN & WORK-DONE DIARY FOR AY:2024-25,EVEN SEMESTER

Course with Code: Machine learning and Data analytics using Python				Faculty: Ms. Divyashree B K		Semester & Section: II Sem		
Class No.	Date planned (DD/MM)	Topics to be covered	TLP Planned	Class No.	Date of Conduction (DD/MM)	Topics Covered	TLP Executed	Remarks if any deviation
MODULE-1								
1		Machine Learning Importance and comparison with traditional programming	PPT & CHALK	1		Introduction to Machine Learning Importance and comparison with traditional programming	PPT	
2		Types of ML: Supervised, Unsupervised, Reinforcement	PPT & CHALK	2		Types of ML: Supervised, Unsupervised, Reinforcement	PPT	
3		Applications in domains: Healthcare, Finance, Retail	PPT & CHALK	3				
4		Basics of Python programming: Syntax, variables, loops	PPT & CHALK	4				
5		Python Libraries: NumPy – Arrays, operations	PPT & CHALK	5				
6		Pandas – Series, DataFrames, loading and cleaning data	PPT & CHALK	6				
7		Matplotlib – Line charts, bar graphs, histograms	PPT & CHALK	7				
8		Data preprocessing: Cleaning, missing values, outliers	PPT & CHALK	8				



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MODULE-2							
9		Introduction to Supervised Learning, data formats	PPT & CHALK				
10		Regression: Linear and Polynomial	PPT & CHALK				
11		Evaluation metrics: MAE, MSE, RMSE	PPT & CHALK				
12		Classification: Logistic Regression, Decision Trees	PPT & CHALK				
13		Classification: KNN, Random Forest	PPT & CHALK				
14		Evaluation Metrics: Accuracy, Precision, Recall, F1, ROC	PPT & CHALK				
15		Train-test split, K-fold cross-validation	PPT & CHALK				
16		Hyperparameter tuning: GridSearchCV, Overfitting vs Underfitting	PPT & CHALK				



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MODULE-3							
17		Software Design Process: Phases, Importance	PPT & CHALK				
18		Design Principles: Abstraction, Modularity, Refinement	PPT & CHALK				
19		Coupling and Cohesion with Examples	PPT & CHALK				
20		Functional Independence and Reusability in Design	PPT & CHALK				
21		Introduction to Design Patterns: MVC and Publish-Subscribe	PPT & CHALK				
22		Design Patterns Continued: Adapter, Command, Strategy	PPT & CHALK				
23		Architectural Styles: Layered, Client-Server, Tiered, Pipe-and-Filter	PPT & CHALK				
24		User Interface Design: Principles, Layouts, and Usability Case Study	PPT & CHALK				



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MODULE-4							
25		Introduction to Testing: Goals and types	PPT & CHALK				
26		Unit Testing: Techniques and tools	PPT & CHALK				
27		Black Box Testing: Equivalence and Boundary Testing	PPT & CHALK				
28		White Box Testing: Control flow, path testing	PPT & CHALK				
29		Integration, System, Regression Testing	PPT & CHALK				
30		Debugging Techniques, Program Analysis	PPT & CHALK				
31		Symbolic Execution and Model Checking	PPT & CHALK				
32		Case Study: Test Plan and Maintenance Strategy	PPT & CHALK				



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MODULE-5							
33		Software Project Management: Planning, Estimation	PPT & CHALK				
34		Software Configuration Management (SCM): Tools and workflow	PPT & CHALK				
35		Project Scheduling: Gantt, PERT, CPM	PPT & CHALK				
36		DevOps Overview: Principles and culture	PPT & CHALK				
37		Cloud as a Platform and DevOps Lifecycle	PPT & CHALK				
38		Deployment Pipeline: CI/CD Architecture	PPT & CHALK				
39		DevOps Tools: Jenkins, Docker, Git	PPT & CHALK				
40		Case Study: DevOps in a real software project	PPT & CHALK				



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	Activity	Planned	Actual	Remarks
1	Theory Classes	40+10	40+10	
2	Assignments/Quizzes/Activity/ Self-study	2/2	2/2	
3	Tutorials/ Extra classes	-	-	
4	Internal Assessments	2	2	
5	ICT based Teaching (% of usage in Curriculum)	100%	100%	
Planning			Execution	
Faculty Signature:			Faculty Signature:	
HoD Signature:			HoD Signature:	

Sd/-
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