

K. J. Somaiya Institute of Technology, Sion, Mumbai-22
(Autonomous College Affiliated to University of Mumbai)

July . Aug May-June 2025
Program: B. Tech. Scheme II B
Supp ~~Regular~~ Examination Semester: VIII
Course Code: EXDLC8034 Course Name: Fundamentals of Data Science
Date of Exam: 23/05/2025 *01-08-25* Duration: 02.5 Hours Max. Marks: 60

Instructions:

- (1) All questions are compulsory.
- (2) Draw neat diagrams wherever applicable.
- (3) Assume suitable data, if necessary.

Q. No.	Question	Max. Marks	CO	BT level
Q 1	Solve any two questions out of three: (05 marks each)	10		
a)	Discuss the Features of Python Programming Language		1	U
b)	Explain Data Accuracy, Data Completeness, Data Consistency, Data Quality		3	U
c)	Explain Data Structures in Pandas. Illustrate with suitable examples		2	U
Q 2	Solve any two questions out of three: (05 marks each)	10		
a)	Explain the role of knowledge-based systems in data mining.		4	AP
b)	State and explain Typical Requirements Of Clustering In Data Mining		5	AP
c)	Explain in Brief Autoregressive Integrated Moving average (ARIM)		6	AP
Q.3	Solve any two questions out of three. (10 marks each)	20		
a)	Demonstrate how Python libraries can be integrated to process a data science problem		1	U
b)	How can you identify and handle duplicate rows in a dataset using Pandas?		2	U
c)	Explain the process of handling outliers and their impact on model performance.		3	U

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Q.4 Solve any two questions out of three. (10 marks each)

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| a) | Compare KDD and CRISP-DM models in the context of real-world applications. | 4 | AP |
| b) | Evaluate the growth and importance of machine learning in data science. | 5 | AP |
| c) | Explain in Brief Autoregressive Moving average (ARMAX) | 6 | AP |
