

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

July - And 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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Seat No.:

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

- 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
