

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

May-June 2026		
(B. Tech) Program: Information Technology Scheme IIB		
Regular Examination: LY Semester: VIII		
Course Code: ITDLC8031 and Course Name: Explainable AI and Responsible AI		
Date of Exam: 23-05-2026	Duration: 2.5 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)	Explain the need and scope of Explainable AI.		CO1	U
b)	Demonstrate why Decision Tree models are considered highly interpretable machine learning models.		CO2	A
c)	Compare results of PDP plot with ICE plot.		CO3	An
Q 2	Solve any two questions out of three: (05 marks each)	10		
a)	Analyze how Decision Rules help in improving the interpretability of machine learning models.		CO4	An
b)	Demonstrate the role of ethics in Responsible AI decision making.		CO5	A
c)	Investigate the importance of accountability, transparency, and fairness in Responsible AI systems.		CO6	C
Q.3	Solve any two questions out of three. (10 marks each)	20		
a)	Discuss different visualization techniques used for presenting interpretable AI model explanations.		CO1	U
b)	Demonstrate the working of RuleFit model and discuss how it improves model interpretability with suitable example.		CO2	A
c)	Analyze the role of Accumulated Local Effects (ALE) plots in interpreting feature influence on model predictions.		CO3	An
Q.4	Solve any two questions out of three. (10 marks each)	20		
a)	Compare global and local model-agnostic interpretability methods used in Explainable AI.		CO4	An

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b)	Demonstrate the ethical and responsible AI considerations involved in developing AI-based e-commerce systems.	CO5	A
c)	Investigate the importance of Responsible AI practices in improving business reliability and customer trust.	CO6	C
