Reg No.: _____ Name : _____

Jyothi Engineering College(Autonomous)

M.Tech Degree S2 (R) Examination, May 2026 (2025 Scheme)

25PTET244 - ROAD SAFETY AND ACCIDENT INVESTIGATION

Total Mark: 60 **Total Time: 2hr 30mm**

(CO MARK)

PART A

Answer All Questions

1. A road stretch shows a high accident rate during peak hours. Apply traffic studies and traffic stream characteristics to identify possible causes and suggest improvements. CO1 (5)
2. Explain how road safety audits and traffic management systems can be applied to improve safety at a hazardous urban location. CO2 (5)
3. An four legged intersection experiences frequent accidents due to poor design. Apply geometric design principles to suggest improvements for safer operation. CO3 (5)
4. Explain how cost-effectiveness analysis can be used in road safety awareness programs to select suitable safety measures. CO4 (5)
5. Given accident data from a location, apply methods to identify hazardous locations and suggest appropriate countermeasures. CO5 (5)

PART B

Answer Any Five Question(s)

6. Analyze the role of statistical methods in traffic safety analysis and accident prediction. CO1 (7)
7. Differentiate between site-level and system-level safety management in traffic engineering. CO2 (7)
8. Analyze the role of urban infrastructure design and sustainable transport modes in improving road safety. CO2 (7)
9. Discuss how road design elements such as cross-section improvements, junction redesign, and road equipment can be applied to enhance road safety. CO3 (7)
10. Analyze the working of crash prediction, severity prediction, and benefit–cost analysis modules in road safety evaluation. CO4 (7)
11. Evaluate the effectiveness of traffic management measures and safety design features in accident prevention. CO5 (7)
12. Develop a comprehensive accident investigation and risk management framework for a high-risk road corridor, including data collection, analysis, and countermeasure implementation. CO5 (7)

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