

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY GURAJADA VIZIANAGARAM
III B.Tech II Semester Supplementary Examinations, November-2025
TRAFFIC ENGINEERING
(Civil Engineering)

Time: 3 hours

Max. Marks: 70

Answer any **FIVE** Questions **ONE** Question from **Each unit**
All Questions Carry Equal Marks

		<u>UNIT-I</u>	
1.	a)	Explain the human factors that influence road user behavior and safety.	[7M]
	b)	Describe the functional classification of rural and urban roads as per IRC.	[7M]
		(OR)	
2.	a)	Explain the moving observer method and its applications in traffic flow analysis.	[7M]
	b)	Discuss the various types of pedestrian studies and their significance in traffic engineering.	[7M]
		<u>UNIT-II</u>	
3.	a)	Define traffic flow, speed, and density. Explain their interrelationship with suitable diagrams.	[7M]
	b)	Discuss the role of statistical analysis in speed studies and explain the concept of speed distribution curves.	[7M]
		(OR)	
4.	a)	Explain the methods used to measure traffic density on highways.	[7M]
	b)	Describe the basic assumptions and limitations of car-following models.	[7M]
		<u>UNIT-III</u>	
5.	a)	Explain the classification of traffic signs and describe their characteristics with neat sketches.	[7M]
	b)	Discuss the step-by-step procedure of Webster's method for designing traffic signals.	[7M]
		(OR)	
6.	a)	Explain the method of designing a two-phase traffic signal as per IRC recommendations.	[7M]
	b)	Write a brief note on the importance and stages of road safety audit.	[7M]
		<u>UNIT-IV</u>	
7.	a)	List out the different sources of vehicular air pollution and suggest suitable control measures.	[7M]
	b)	Explain the noise pollution due to traffic and methods to reduce it in urban areas.	[7M]
		(OR)	
8.	a)	Describe the effects of traffic-generated air pollution on environment and human health.	[7M]
	b)	Explain the role of urban planning and green buffers in mitigating traffic noise and air pollution.	[7M]
		<u>UNIT-V</u>	
9.	a)	Explain the factors affecting the level of service (LOS) on highways.	[7M]
	b)	Discuss how the capacity of an urban arterial road is estimated.	[7M]
		(OR)	
10.	a)	Write short notes on advanced traffic surveillance systems used in Intelligent Transportation Systems (ITS).	[7M]
	b)	Explain the applications of Intelligent Vehicle Highway Systems (IVHS) for improving road safety.	[7M]