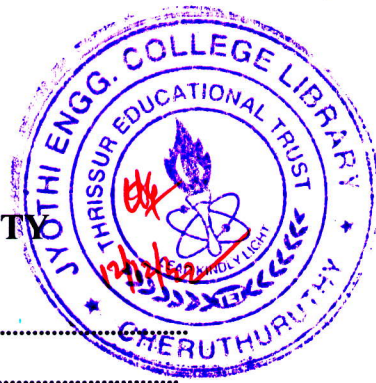


APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY  
08 PALAKKAD CLUSTER



Q. P. Code: TE0822301-I

(Pages: 2)

Name: .....

Reg. No: .....

THIRD SEMESTER M.TECH DEGREE EXAMINATION DECEMBER 2022

Branch: Civil Engineering

Specialization: Transportation Engineering

08CE7201 HIGHWAY GEOMETRIC DESIGN

(Use of design tables are permitted)

Time: 3 hours

Max. Marks: 60

Answer all six questions.

Modules 1 to 6: Part 'a' of each question is compulsory and answer either part 'b' or part 'c' of each question.

Q. No.	Module 1	Marks
1.a.	What are the functional classifications of a highway?	3
	<b>Answer b or c</b>	
b.	Determine the height of the crown with respect to the edges of the road in the following cases. i) WBM road 3.8m wide in areas of low rainfall ii) WBM road 7.0m wide in areas of heavy rainfall	6
c.	Discuss the various factors affecting the practical capacity of roads.	6
Q. No.	Module 2	Marks
2.a.	What are the objectives of horizontal curves?	3
	<b>Answer b or c</b>	
b.	Calculate the overtaking sight distance on a four lane divided SH in a plain terrain. Compare this with IRC recommendations.	6
c.	The design of a road is 65kmph, the friction coefficient is 0.36 and reaction time of driver is 2.5sec. Calculate the values of (a) Head light sight distance and (b) Intermediate sight distance required for the road.	6
Q. No.	Module 3	Marks
3.a.	What are the different types of gradients?	3

**Answer b or c**

