M.E. Second Semester (Civil Engineering (Transpo. Engg. & Manag.)) (New CGS)

13114 : Elective-II : 1) Geometric Design of Transportation Facilities : 2 SFTR 4

P. Pages : 1

Time : Three Hours

AU - 3339

Max. Marks : 80

Notes : 1. All question carry equal marks.
2. Assume suitable date wherever necessary.
3. Illustrate your answer necessary with the help of neat sketches.
4. Use of pen Blue/Black ink/refill only for writing book
5. Answer **any five** questions.

1. a) What are the factors on which geometric design of highways depends? Explain briefly. **8**

   b) Derive an expression for finding the overtaking Sight Distance with neat sketch. **8**

2. a) Find the Sight Distance for a design speed of 80 kmph. Assume suitable data. What are the requirements at a gradient of 1 in 20. **8**

   b) What are the objects of providing transition curves on horizontal alignments of highways? Explain. **8**

3. a) What are the objects of widening of pavement on horizontal curve? How is the widening of pavements introduced in feild? Explain with neat sketch. **8**

   b) What are the various pavement surface characteristics. **8**

4. a) Write shorts notes on:- **8**
   i) Krebs ii) Shoulders
   iii) Right of way iv) Road margin

   b) Discuss in detail the design considerations for urban arterial. **8**

5. a) Show the conflicts point at the intersection of the following types. **8**
   i) T - intersection, both two way
   ii) Y - intersection, one way

   b) Describe with neat sketch full cloverleaf intersection. **8**

6. a) What are the relative advantages and dis-advantages of over pass and under pass. **8**

   b) Explain briefly the various design factors that are to be considered in rotary intersection design. **8**

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