

Roll No.

Total Pages : 3

002403

May, 2023

**B.Tech. (Civil) IV SEMESTER
Highway Engineering (PCC-CED-206)**

Time : 3 Hours]

[Max. Marks : 75

Instructions:

- 1. It is compulsory to answer all the questions (1.5 marks each) of Part-A in short*
- 2. Answer any four questions from Part-B in detail.*
- 3. Different sub-parts of a question are to be attempted adjacent to each other.*

PART-A

1. (a) What is meant by superelevation? (1.5)
(b) Define-Stopping Sight Distance. (1.5)
(c) What is mean by Flexible Pavements? (1.5)
(d) What are the desirable properties of Soil used for highway construction? (1.5)
(e) What is unevenness index? (1.5)
(f) What is pavement evaluation? (1.5)
(g) Define spot speed. (1.5)
(h) Explain the term traffic volume. (1.5)

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[P.T.O.]



- (i) What are classified roads in Nagpur plan? (1.5)
(j) Define obligatory point? (1.5)

PART-B

2. (a) What are the various requirements of an ideal highway alignment? Discuss briefly. (10)
(b) Explain the role of transportation in rural development in India. (5)
3. (a) Explain total reaction time of driver and the factors on which it depends. (5)
(b) Calculate the safe overtaking sight distance for a design speed of 96 kmph. Assume all other data suitably. (10)
4. List the various traffic engineering studies. Mention the objectives and importance of each study. (15)
5. (a) What are the various tests carried out on bitumen? (5)
(b) Explain the desirable properties of aggregates to be used in different types of pavement construction. (10)
6. (a) What are the factors to be considered for the design of flexible pavements. Discuss significance of each. (10)
(b) Explain ESWL. (5)

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7. (a) Classify different type of joints in CC pavements and mention the objects of each with neat diagrams. (10)
(b) With sketch show the different components of a rigid pavement and mention the functions of each. (5)

