



GOVERNMENT COLLEGE OF ENGINEERING, JALGAON

(An Autonomous Institute of Government of Maharashtra)

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Name of Examination : **Summer 2021** - (Preview)

Course Code & Course Name : **CE452 - Transportation Engineering**

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Maximum Marks : **60**

Duration : **3 Hrs**

[Edit](#) [Print](#) [View Answer Key](#) [Close](#) **Answer Key Submission Type:** Marking scheme with model answers and solutions of numerical

Instructions:

1. All questions are compulsory.
2. Illustrate your answer with suitable figures/sketches wherever necessary.
3. Assume suitable additional data; if required.
4. Use of logarithmic table, drawing instruments and non programmable calculators is allowed.
5. Figures to the right indicate full marks.

1) Attempt any questions FOUR of the following.

- a) State the classification of urban roads. [3]
- b) Explain term: Tar [3]
- c) State the factor affecting the road alignment. [3]
- d) Draw the cross section of national highway in hilly area showing all the details. [3]
- e) State the causes of road accidents. [3]

2) Attempt any questions THREE of the following.

- a) What are the various requirements of an ideal highway alignment. Discuss briefly. [4]
- b) Discuss the various traffic studies and their importance. [4]
- c) Write a short note on Nagpur road plan. [4]
- d) While aligning a hill road of 6 percent, a horizontal curve of radius 60 m is encountered. Find the compensated gradient at the curve. [4]

3) Attempt any questions THREE of the following.

- a) Explain the various measures that may be taken to prevent accidents. [4]
- b) Differentiate between Bituminous pavement and Cement concrete pavement. [4]
- c) Calculate (i) Head light sight distance (ii) Intermediate sight distance for a highway with a design speed of 65 kmph. Assume suitable data. [4]
- d) Explain the routine maintenance operation of bituminous road is carried out [4]

4) Attempt any questions TWO of the following.

- a) What is the significance of road user characteristics in traffic engineering? Discuss briefly the various factors which affect the road user characteristics and their effects in traffic performance. [6]
- b) Explain camber. Discuss the factors on which the amount of camber to be provided. Specify the recommended ranges of camber for different types of pavement surfaces. [6]
- c) Explain various wheel load factors to be considered in pavement design. [6]

5) Answer the following Questions.

- a) Explain the construction procedure of earthen road with its typical cross section. [6]
- b) Write a short notes on [6]
 1. PMGSY
 2. NHAI

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