

7E7064

Roll No.

Total No of Pages: 4

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B. Tech. VII Sem. (Main / Back) Exam., Nov. - Dec. - 2018

Civil Engineering

7CE4A Transportation Engineering - II

Time: 3 Hours

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Maximum Marks: 80
Min. Passing Marks: 26

Instructions to Candidates:

Attempt any five questions, selecting one question from each unit. All questions carry equal marks. Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly.

Units of quantities used/calculated must be stated clearly.

Use of following supporting material is permitted during examination.

(Mentioned in form No. 205)

1. NIL

2. NIL

UNIT-I

Q.1 (a) Describe the requirements for an ideal permanent way. Also sketch the neat diagram of Permanent way. [8]

(b) State the classification of gradients and explain each in detail. [8]

OR

Q.1 (a) Write the design parameter of marshalling yard. Define the different types of marshalling yards. Give a sketch of a marshalling yard. [8]

(b) Discuss different types of rail section used on B. G. and M. G. in India. Mention the relative merits and demerits of any two of them. [8]

UNIT- II

Q.2 Explain in brief –

[8×2=16]

- (a) Symmetrical Split
- (b) Diamond Crossing
- (c) Scissors Crossover
- (d) Single Slip and Double Slip
- (e) Gauntlet Track & Fixed Point System
- (f) Gathering Lines
- (g) Triangle
- (h) Double Junction

OR

- Q.2 (a) What are the different types of stress induced in railway track? [8]
- (b) Discuss the objectives of Urban Transport. Explain the major issues relating to the development of the Metropolitan transport system. [8]

UNIT- III ✓

- Q.3 (a) What are the objects of providing transition curves? Explain briefly the essential requirements of an ideal transition curve. [8]
- (b) Explain Grade compensation and its necessity at curves. What should be the allowable ruling gradient, if the ruling gradient is 1 in 150 on a particular section of B. G. and at the same time a curve of 4 degree is situated on this ruling gradient. [8]

OR

- Q.3 (a) Explain the terms 'Super elevation' and 'Cant deficiency' in brief. Also write the limits of Super elevation and Cant deficiency for Indian Railway. [8]
- (b) If a 8 degree curve of track diverges from a main curve of 5 degree in an opposite direction in the layout of B. G. yard, calculate the super elevation and the speed on the branch line, if the maximum speed permitted on the main line is 45 kmph. [8]

UNIT- IV ✓

- Q.4 (a) Write a brief note on "Airport Classifications". [8]
- (b) What is Wind Rose diagram? Explain briefly with a neat sketch any one method of orientation of runway. [8]

OR

- Q.4 (a) Enlist the various factors considered for the airport site selection. Explain any five important factors in brief out of the various factors listed. [8]
- (b) Explain the factors controlling taxiway layout and turn around taxiway. [8]

UNIT- V ✓

- Q.5 (a) Write detail note on the various methods for designing flexible airport pavements. ersahilkagyan.com [8]
- (b) What are the various factors to be considered in airport pavement design? Discuss the significance of each. [8]

OR

Q.5 (a) What are imaginary surface? Explain in detail.

[8]

(b) Explain ESWL method of designing of rigid pavement.

[8]
