



**C20-C-404**

**7427**

**BOARD DIPLOMA EXAMINATION, (C-20)  
OCTOBER/NOVEMBER—2023  
DCE – FOURTH SEMESTER EXAMINATION  
TRANSPORTATION ENGINEERING**

*Time : 3 Hours ]*

*[ Total Marks : 80*

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**PART—A**

**3×10=30**

- Instructions :** (1) Answer **all** questions.  
(2) Each question carries **three** marks.  
(3) Answers should be brief and straight to the point and shall not exceed five simple sentences.

1. State the functions of Indian Road Congress.
2. Define superelevation and state the necessity of providing superelevation.
3. Define the terms (a) ultimate bearing capacity and (b) safe bearing capacity of soil.
4. State the impotence of traffic census.
5. List the road machinery used in laying B.T roads.
6. State any three advantages of bituminous pavement over W.B.M. pavement.
7. State the necessity of providing uniform gauge in India.
8. Define the terms (a) points and crossings and (b) actual nose of crossing.
9. Explain the necessity of maintaining a railway track.
10. Write any three duties of permanent way inspector.

**PART—B**

8×5=40

- Instructions :** (1) Answer **all** questions.  
(2) Each question carries **eight** marks.  
(3) Answers should be comprehensive and criterion for valuation is the content but not the length of the answer.

**11.** (a) State various types of surveys conducted for the proposed for road project and explain the objects of each survey.

**(OR)**

(b) List the data required for the preparation of a highway project.

**12.** (a) What is W.B.M road? Explain briefly the various stages involved in construction of W.B.M road.

**(OR)**

(b) Explain different types of joints used in cement concrete roads with sketches and their necessity.

**13.** (a) Explain different types of rail joints used in Indian railways with an aid of sketches.

**(OR)**

(b) What is ballast? State any six characteristics of good ballast.

**14.** (a) Explain the factors influencing the selection of site for a rail station.

**(OR)**

(b) Explain the layout of a marshalling yard and a loco yard with a neat sketch.

**15.** (a) State and explain the classification of bridges as per Indian Road Congress.

**(OR)**

(b) Explain in detail various types of cause ways along with neat sketches.

**PART—C**

10×1=10

- Instructions :** (1) Answer the following question.  
(2) The question carries **ten** marks.  
(3) Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer.

- 16.** Explain different methods of providing surface and sub-surface drainage with help of neat sketches.

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