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## BOARD DIPLOMA EXAMINATION, (C-16)

MARCH / APRIL — 2021

DCE — FOURTH SEMESTER EXAMINATION

TRANSPORTATION ENGINEERING

Time : Three Hours]

[Maximum Marks : 80

## PART-A

3×10=30

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

1. Define Super elevation. What is the necessity of providing it? 2+1
2. Define Camber. State any two advantages of providing camber. 1+2
3. State any three surveys required for fixing the alignment of a highway. 1+1+1
4. State any three reasons for providing road drainage. 1+1+1
5. Draw a neat sketch of a permanent way and label the components parts. 2+1
6. Draw a neat sketch of 'scissors crossover'. 3
7. State functions of a marshalling yard and types of it. 1.5+1.5
8. Explain the following terms : 1+1+1
  - (a) Linear water way
  - (b) Economic span
  - (c) Afflux
9. Define the following : 1+1+1
  - (a) High level bridge
  - (b) Culvert
  - (c) Low level causeway
- \*10. List the different types of bridge super structures. 3

- \* **Instructions :** (i) Answer any **five** questions.  
(ii) Each question carries **ten** marks.  
(iii) Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer.

11. (a) State any four reasons for widening the road in horizontal curves of small radius. 4  
(b) Explain the following with a neat sketch : 3+3  
(i) Sight distance  
(ii) Stopping distance
12. (a) Define road alignment. 2  
(b) List any eight factors that influence the highway alignment in plain areas. 8
13. Explain any five road intersections with neat sketches.
14. (a) List the surface drainage structure of roads. 2  
(b) Explain any four drainage structure. 8
15. (a) List the three types of Transverse Joints. 3  
(b) Explain any two of the transverse joints with neat sketches. 7
16. What is Ballast ? State any eight characteristics of a good ballast. 2+8
17. (a) Draw the neat sketch of Right hand turnout and indicate salient features. 2+4  
(b) Explain Turn table with a neat sketch. 3+1
18. (a) State any six factors influencing the selection of site for a bridge. 6  
(b) Define economical span and scour depth. 2+2

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