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C16-C-404

6427**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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