4428

BOARD DIPLOMA EXAMINATION, (C–14)

SEPTEMBER/OCTOBER - 2020

DCE—FOURTH SEMESTER EXAMINATION

TRANSPORTATION ENGINEERING

Time : 3 hours]   [*Total Marks* : 80

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. Define superelevation. State the necessity of providing super-elevation.

2. Explain any three types of horizontal curves adopted in roads.

3. State any three surveys required for fixing the alignment of a highway.

4. Draw neat sketch of an expansion joint in concrete road and explain.

5. Draw a neat sketch of a permanent way and label the components.

6. Explain diamond crossing with the help of a sketch.

7. Draw neat sketch of a marshalling yard and label the components.

8. Define *(a)* economic span, *(b)* afflux and *(c)* scour depth.

9. State any three functions of abutment of a bridge.

10. State any three factors influencing selection of site for a bridge.

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PART—B 10×5=50

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Instructions : (1) Answer *any* **five** questions.

               (2) Each question carries **ten** marks.

               (3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

11. Explain IS classification of soils.

12. Explain the engineering surveys to be conducted to fix the alignment of a road.

13. *(a)* State any four functions of traffic signs.

     (b) State any three types of traffic signs and give two examples of each type.

14. Explain the methods of providing surface drainage and subsurface drainage.

15. Write the construction procedure of WBM roads.

16. *(a)* State any five requirements of a good sleeper.

     (b) State any five characteristics of a good ballast.

17. Draw a neat sketch of a left-hand turnout and label the component parts.

18. Draw a neat sketch of a pipe culvert and explain it.

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