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Question Paper Code : 31207

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2013.

Fifth Semester

Civil Engineering

CE 2303/CE 52 — RAILWAYS, AIRPORT AND HARBOUR ENGINEERING

(Common to PTCE 2303 — Railways Airport and Harbour Engineering for
B.E. (Part-Time) Fourth Semester — Civil Engineering — Regulation 2009)

(Regulation 2008)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What are the uses of Remote Sensing in route alignments?
2. Mention the functions of formation.
3. Differentiate between 'gravity yard' and 'hump yard'.
4. What is meant by track circuiting?
5. What are the factors influencing the runway length based on safety requirements?
6. State the primary functions of an airport drainage system.
7. Distinguish between 'runway capacity' and 'gate capacity'.
8. What are the components of a heliport?
9. Write down the equation used for finding the harbour entrance.
10. Differentiate between a 'wharf' and a 'jetty'.

PART B — (5 × 16 = 80 marks)

11. (a) (i) What are the elements of transport? (4)
(ii) Illustrate the advantages of railways. (12)

Or

- (b) (i) What are the requirements of an ideal rail joint? (4)
(ii) Explain the various rail joints used in railways with neat sketches. (12)

12. (a) A 5° curve diverges from a main curve of 4° in an opposite direction in the layout of a B.G yard. If the speed on the main curve is restricted to 54.53 kmph, determine the speed restriction on the branch line. Assume permissible cant deficiency as 7.5 cm.

Or

- (b) Describe the operations involved in plate laying by the telescopic method.

13. (a) What is an airport master plan? Briefly describe the steps in its formulation.

Or

- (b) Bring out the purposes of airport imaginary surfaces.

14. (a) Enlist and explain the factors to be considered for the selection of site of an airport. Discuss the critical issues involved.

Or

- (b) (i) What are the different types of terminals? Explain its concepts with neat sketches. (8)

- (ii) Describe the principle of operation of ILS with the help of a diagram. (8)

15. (a) Describe briefly the functions of fixed and floating signals with necessary sketches.

Or

- (b) Explain the different types of wind-rose diagrams used for finding the harbour entrance.

