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Question Paper Code : 21255

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2015.

Fifth Semester

Civil Engineering

CE 2303/CE 52/10111 CEE 49 – RAILWAYS, AIRPORTS AND HARBOUR
ENGINEERING

(Regulations 2008/2010)

(Common to PTCE 2303/10111 CEE 49 Railways, Air ports and Harbour
Engineering for B.E. – (Part–Time) Fourth Semester – Regulations 2009/2010)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Write the classification of gradients.
2. On a Broad gauge track of 4° curve equilibrium cant is provided for a speed of 60 Km/hr calculate value of equilibrium cant.
3. List the type of signals based upon functional characteristics.
4. What is a buffer stop?
5. What are the factors influencing the runway length based on safety requirements?
6. State the primary functions of an airport drainage system.
7. List the factors affecting airport operating capacity.
8. What are the different types of aircraft parking systems?
9. Distinguish between 'tides' and 'waves'.
10. Why is dredging so essential in port operations?

PART B — (5 × 16 = 80 marks)

11. (a) Explain the permanent way components with a neat sketch.

Or

- (b) Explain in detail about rail fastenings and fixtures with a suitable figure.

12. (a) Illustrate with a neat sketch, the turnout, points and crossings and explain their working principles.

Or

- (b) How are Railway stations classified? Explain the features of each station.

13. (a) What are the basic patterns of runway configurations? Discuss each pattern.

Or

- (b) The length of runway under standard conditions is 1620 m. The airport site has an elevation of 270 m. Its reference temperature is 32.90° C. If the runway is to be constructed with an effective gradient of 0.20%, determine the corrected runway length.

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) (i) What are the requirements of a good port? (6)
(ii) Classify harbours on the basis of utility and explain them. (10)

Or

- (b) Distinguish between wet docks and dry docks. Describe the operation of the various dry docks with sketches.