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Question Paper Code : 20339

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2022.

Seventh Semester

Civil Engineering

CE 8702 — RAILWAYS, AIRPORTS, DOCKS AND HARBOUR ENGINEERING

(Regulations 2017)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. State the main objects of reconnaissance survey for a new railway line.
2. Mention any four functions of ballast
3. What is meant by Co-acting signal?
4. What is called as marshalling yard?
5. How are airports classified based on airport approach category?
6. What ICAO stands for?
7. Mention the design elements of taxiway.
8. What are the corrections that has to be included for determining runway length?
9. Define "Break water".
10. Mention the types of harbor based on its informations.

PART B — (5 × 13 = 65 marks)

11. (a) Write the advantages and disadvantages of (i) wooden sleepers and (ii) Pre-stressed sleeper.

Or

- (b) State the objectives of providing superelevation in railway track and elaborate on the various types of gradients used on the railway trucks.

12. (a) List out and elaborate on the three methods of plate laying.

Or

- (b) Explain in detail the conventional method of track maintenance.

13. (a) Explain the various parameters considered for the site selection of an airport.

Or

- (b) List out the characteristics of aircraft that are needed to be studied for planning and designing an airport. Also elaborate on any four in detail.

14. (a) Elaborate on the three criteria for the calculation of runway length. Also highlight on the correction factors needed to include from the calculation of basic runway length.

Or

- (b) With a neat sketch show the various facilities and services provided in an airport terminal building.

15. (a) Mention the purpose of providing break water. Elaborate on the types of breakwater in detail.

Or

- (b) How harbours are classified based on the formation and function. Explain each type of harbours in brief.

PART C — (1 × 15 = 15 marks)

16. (a) Write about a Case study of any one Typical airport layout.

Or

- (b) What is an airport master plan? Explain the steps in its formulation.