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Question Paper Code : 80366

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2024.

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. Mention the various advantages of Flat Footed Rails.
2. List the purpose of providing adzing of sleepers.
3. Write the steps involved in the construction of new railway track by telescopic method.
4. Write the functions of locomotive yard.
5. List the various surveys carried out during secondary survey in airport planning.
6. Define Airport reference Point.
7. State Outer Horizontal Surface.
8. Give the general facilities provided in the airport.
9. Differentiate Harbour and Port.
10. Write any four prohibited activities with in Coastal Regulation Zone.

PART B — (5 × 13 = 65 marks)

11. (a) Elaborate the various fastenings used to fasten the rails to sleepers with neat sketches. Discuss their merits and demerits.

Or

- (b) Discuss the objectives and methodologies for different route alignment survey in a sequential order.

12. (a) Elaborate the drainage system requirements for the Station platforms and areas between stations with neat sketch.

Or

- (b) Explain the different types of signal depending upon their function.

13. (a) Discuss briefly the purpose of classifying airports and also mention the classification of airport as per AAI.

Or

- (b) Discuss the key factors to be considered while choosing an appropriate location for an airport.

14. (a) With the help of neat sketches, explain the various airport zones.

Or

- (b) Elaborate the various types of markings on a taxiway with neat diagrams.

15. (a) Summarize with neat sketch, any four types of navigational aids used in harbours and state their functions.

Or

- (b) Explain with neat sketches any four types of coastal protection works.

PART C — (1 × 15 = 15 marks)

16. (a) Calculate the super elevation and the maximum permissible speed for a 3° BG transitioned curve on a high-speed route with a maximum sanctioned speed of 120 km/h. The speed for calculating the equilibrium super elevation as decided by the chief engineer is 70 km/h and the booked speed of goods trains is 40 km/h.

Or

- (b) An Airport is proposed at an elevation of 700 m above the mean sea level where the mean of maximum and average daily temperature of the hottest months are 47°C and 30°C respectively. Maximum elevation difference along the proposed profile of a runway is 7 m. Basic length of runway is 1300 m. Determine the actual runway length to be provided.