H 1135

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2006.

Sixth Semester

Civil Engineering

CE 338 — TRANSPORTATION ENGINEERING — II

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is grade compensation?

2. Define coning of wheel.

3. What is a marshalling yard?

4. Define GPS.

5. What is ICAO?

6. Define holding apron.

7. What is a mooring buoy?

8. Differentiate fender and dolphin.

9. What is Internal Rate of Return?

10. Define benefit-cost ratio.

PART B — (5 × 16 = 80 marks)

11. (i) What is basic runway length? List the corrections that need to be applied to this length. (6)

(ii) Sketch a typical wind rose diagram. (5)

(iii) Discuss the different runway patterns with the help of sketches. (5)

12. (a) (i) Define gauge. What are the different rail sections used in Indian Railway? (8)

(ii) The average speed on a B.G. 4° curve is 70 kph. Compute the equilibrium cant and the maximum permissible speed allowing for cant deficiency. (8)

Or

(b) (i) Draw the cross-section of a two track permanent way in embankment and indicate the elements. (8)

(ii) List the functions of sleepers. Compare the different types of sleepers used in Indian Railways. (8)

13. (a) (i) Distinguish between crossing and cross-over. Explain using sketches. (8)

(ii) Discuss how interlocking is used to enhance the safety aspects of signalling. (8)

Or

(b) (i) Discuss the importance of track drainage. How is this achieved? (8)

(ii) Draw the layout of a junction station and indicate the facilities. (8)

14. (a) (i) Discuss in detail the factors to be considered while locating port. (8)

(ii) What are the advantages of container transport? Discuss the facilities required to handle containers. (8)

Or

(b) (i) Draw the layout of a typical harbour and indicate the various facilities. (8)

(ii) Compare the characteristics of pipeline and ropeway modes of transport. (8)

15. (a) (i) What are BOT projects? Discuss the recent trends in private participation in highway and railway projects. (8)

(ii) What is Net Present Value? Explain how the NPV of a highway project can be computed. (8)

Or

(b) (i) Define First Year Rate of Return. How is it used in economic evaluation? (8)

(ii) What is Environmental Impact Assessment? Discuss how the EIA of a railway project is conducted. (8)