B.E / B.Tech. (Full Time) DEGREE END SEMESTER EXAMINATIONS
APRIL / MAY 2014 (Arrear)

Civil Engineering Branch

Seventh Semester – (R 2008)

CE 9405 – Railways and Airports Engineering

Time: 3 Hours **Max. Marks: 100**

Instructions: 1. Answer All Questions
2. All Questions Carry Equal Marks

PART – A (10 x 2 = 20 Marks)

1. Draw with neat sketch typical cross section of a permanent way.
2. List out various fixing and fastenings in railway line laying?
3. Write any two track modernization techniques used in present days.
4. Draw a typical turnout with its various components.
5. What is the significance of 'Uni-guage' in railway planning?
6. List out various track maintenance treatment commonly on practice.
7. Differentiate between Runway and Taxiway airport components.
8. Write any one airport obstruction with its features?
9. How the correction for gradient is done in runway orientation as per international standards?
10. List out the terminal area components of an international airport.

PART – B (5 x 16 = 80 Marks)

11. Discuss in brief modern methods of laying permanent way with remote sensing and other innovative techniques.

12.a.) With neat sketches write the various types of railway stations with its salient features railway track construction.

(Or)

12.b.) Write in short the characteristics of different rail transport modes with its significance.

13.a. Draw with neat sketches the types of railway drainage in track laying.

(Or)

13.b.) i). Write shortly the 'Track Renewal' with its types in track maintenance.

ii). Write shortly stabilization of track on poor soils.

14.a.) Write in detail the various types of airport lighting' to be provided in runways and taxi ways as per International Civil Aviation Organization (ICAO) standards

(Or)

14.b.) Explain in detail the various factors to be kept in mind as an Airport Planner for selecting a site for an international airport.

15.a.) Length of a runway at mean sea level, standard temperature and zero gradients is 1550m. The site has an elevation of 320m with a reference temperature 34 degree centigrade .The runway has to be constructed with an effective gradient of 0.26%. Determine the actual length of the runway at the site.

(Or)

15.b.) Write in detail the various geometric design elements to be followed as per the ICAO standards for runway design.

****