Reg. No. : | | | | | | | | | | |

Question Paper Code: 31153

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2017

Fifth Semester

Civil Engineering

01UCE503 – RAILWAYS, AIRPORTS AND HARBOUR ENGINEERING

(Regulation 2013)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions.

PART A - (10 x 2 = 20 Marks)

1. List out the types of gauges in a railway track.
2. What are the functions of formation?
3. What are different methods of tunneling in railways?
4. State the principles of interlocking.
5. How airports are classified?
6. What are the different types of airport parking system?
7. What is meant by orientation of runway?
8. List the various airport imaginary zones.
9. Distinguish between harbor and port.
10. What is a break water?

PART - B (5 x 16 = 80 Marks)

11. (a) Explain the various conventional surveys for track alignment. (16)

Or

(b) A 5° curve diverges from a main curve of 4° in an opposite direction in the layout of a BG yard. Determine speed restriction on the main line if speed on the branch line is restricted to 40 *km/h*. Assume permissible deficiency in cant as 7.5 *cm*. (16)

12. (a) How stations are classified? Explain the features of each station. (16)

Or

(b) Discuss the conventional methods of track maintenance. (16)

13. (a) Explain parking and circulation areas in an airport. (16)

Or

(b) Explain in detail the socio-economic characteristics of catchment areas with respect to airport planning. (16)

14. (a) The length of the runway under standard conditions is 2100*m*. The airport is located at an elevation of 280*m* above mean sea level with a reference temperature of 38°. If the effective gradient is 0.21 percent, determine the length of runway at the site. (16)

Or

(b) Discuss various runway and taxiway markings. (16)

15. (a) List the common types of breakwaters in use, and bring out the advantages of each of them. (16)

Or

(b) Explain the classification of harbors. (16)