

(Following Paper ID and Roll No. to be filled in your Answer Books)

Paper ID : 2289543

Roll No.

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## B.TECH.

Regular Theory Examination (Odd Sem - V), 2016-17

### TRANSPORTATION ENGINEERING - I

Time : 3 Hours

Max. Marks : 100

**Note: Attempt all questions.**

**1 Attempt all parts. Each parts carries equal marks.**

**(10×2=20)**

- What is super elevation?
- Differentiate between Prime coat & Tack coat.
- Define SSD?
- Define temperature stresses in concrete pavement.
- What is design speed?
- What is O.S.D?
- Define rotary Intersection.
- What is kerbed stone?
- Define the term GRADIENTS?
- Define Camber with shapes.

2. Attempt any five questions (5×10=50)
- a) Explain water bound macadam and bitumen bound macadam.
  - b) What is surface dressing? Write the construction procedure for surface dressing.
  - c) A cement concrete pavement is to be designed. Present traffic is 3000 commercial vehicles per Day. Design life is 20 years and rate of traffic increase is 5.5%. Calculate the design traffic as per IRC 58-2011.
  - d) What are the various types of traffic control devices. Discuss.
  - e) Describe CBR method for the design of flexible pavement.
  - f) The radius of a horizontal circular curve is 100 m. The design speed is 50 km/ph and the design Coefficient of lateral friction is 0.15. Calculate the super elevation required if full lateral friction is assumed to develop.
  - g) Discuss the Bombay Road Plan.
  - h) Enumerate the various types of intersection and the basic principles involved

3. Attempt any two parts of the following (2×15=30)
- a) Discuss Westergaards concept of temperature stresses in concrete pavement.
  - b) Write the construction procedure for cement concrete pavement and explain different types of joints in cement concrete pavement.
  - c) Write the flexible pavement design steps and describe the procedure in brief as per IRC:37-2012.

