

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

Paper ID : 2289543

Roll No.

**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)

- a) What is super elevation?
- b) Differentiate between Prime coat & Tack coat.
- c) Define SSD?
- d) Define temperature stresses in concrete pavement.
- e) What is design speed?
- f) What is O.S.D?
- g) Define rotary Intersection.
- h) What is kerbed stone?
- i) Define the term GRADIENTS?
- j) 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.

