Printed Pages: 3 NCE-502

(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.

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