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SE-8261

B. E. III (Sem. V) (Civil) Examination

April / May – 2011

Highway Engineering

(New Course)

Time : **3** Hours] [Total Marks : **100**

Instructions :

(1)

નીચે દર્શાવેલ ☛ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fillup strictly the details of ☛ signs on your answer book.

Name of the Examination :
☛ B. E. 3 (Sem. 5) (Civil)

Name of the Subject :
☛ HIGHWAY ENGINEERING

☛ Subject Code No. : 8 2 6 1 ☛ Section No. (1, 2,.....) : Nil

Seat No. :

Student's Signature

(2) Attempt all the questions.
(3) Figures to the right indicate full marks.
(4) Assume suitable data, if any necessary. Mention it clearly.
(5) Draw neat and labelleds ketch where necessary.

1 (a) Write classification of rural and urban roads. **15**

(b) What is Reconnaissance ? Write problems in rural and urban areas.

OR

(b) Write salient features of Nagpur road plan with formulae to calculate various categories of road length in km.

(c) Write about road authorities in India.

OR

(c) Explain need and method of aerial survey.

2 (a) Explain soil investigation for road subgrade. **15**

OR

(b) Write various types of low cost roads. Explain gravel roads.

(c) Discuss about maintenance of pavements.

OR

(c) Explain group index method for design of flexible pavement.

3 Write short notes : (any four) **20**

(i) Subsurface drainage
(ii) Hilly roads
(iii) Joints in rigid pavements
(iv) Lucknow road development plan
(v) Importance of highway drainage
(vi) Abrasion test

4 (a) Define following terms : **5**

(i) Shoulder
(ii) Kerb
(iii) Intersection
(iv) Reaction time
(v) Traffic capacity

(b) Give classification of A^+ grade Intersection. **7**

OR

(b) Discuss design features of summit and valley curves.

5 Attempt following questions : (any **three**) **18**

(i) An ascending gradient of 1 in 40 meets a descending gradient of 1 in 70. Determine the length of summit curve for SSD 200 m and OSD 360 m. Design speed is 80 kmph.

(ii) Calculate the extra width of pavement required on a horizontal curve of radius 750 m on a two lane highway, the design speed is 100 kmph. Assume wheel base l = 6m.

(iii) Discuss causes and preventive measures of accident studies.

(iv) Explain pavement marking.

6 Write short note on following : (any **four**) **20**

(i) Parking studies
(ii) Traffic management
(iii) Traffic signals
(iv) Financing of road projects
(v) Administration of road
(vi) Street lighting.
