(DCE 322)

B.Tech. DEGREE EXAMINATION, MAY - 2015

(Examination at the end of Third Year)

CIVIL ENGINEERING

Paper - II : Transportation Engineering - I

Time : 3 Hours   **Maximum Marks : 75**

<div align="center">

Answer question No.1 compulsory   *(15 × 1 = 15)*

Answer ONE question from each unit   *(4 × 15 = 60)*

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1) a) What are the recommendations given by the jayak's committee?

     b) Classify Urban roads.

     c) Define off-tracking.

     d) What is central road fund?

     e) Define highway alignment.

     f) What is meant by detailed survey?

     g) Define group index.

     h) What is map study?

     i) What is central road research institute?

     j) Define grade compensation.

     k) What do you know about chamber?

     l) What is equivalent radius of resisting section?

     m) What is roughness co-efficient with reference to highway drainage?

n) What are the general properties of Bitopmen?

o) List out various gradients.

UNIT - I

2) a) Explain the recommendation of Jayakar committee for road development.

b) What are the various methods of classification of roads?

OR

3) a) Explain Telford method of road construction with neat sketch.

b) Explain the necessity of highway planning.

UNIT - II

4) a) Define over taking sight distance? Derive the expression for calculating the over taking sight distance.

b) Explain the steps to be followed in the superelevation design.

OR

5) Write about different highway cross-section elements.

UNIT - III

6) a) Explain the construction procedure of bituminous roads.

b) Explain the necessity of providing dowel and tie bars in the rigid pavements?

OR

7) a) Describe the various temperature stresses developed in cement concrete pavements.

b) Explain the CBR method of flexible pavement design.

UNIT - IV

8) a) What are the various types of failures in flexible pavement? Explain the causes.

b) Describe the hydrologic analysis and hydraulic analysis of surface drainage system.

OR

9) a) Explain construction procedure of roads in water logged areas.

b) Explain the importance of highway drainage.

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CIVIL ENGINEERING

Paper - III : Water Resources Engineering - II

Time : 3 Hours   **Maximum Marks : 75**

<u>*Answer Question No.1 Compulsory*</u>   *(15)*

<u>*Answer ONE question from each unit*</u>   *(4 × 15 = 60)*

1)   a)   What is purpose of pitot tube?

       b)   What is meant by arch dam?

       c)   What is fore bay?

       d)   What is different types of dams?

       e)   How do you find life of reservoier?

       f)   How do you understanding by level crossing?

       g)   Name various forces acting on gravity dam?

       h)   Explain tail water curve.

       i)   What is the purpose of pen stock?

       j)   Give the classification of non-over flow dam's.

       k)   What is meant by spill way?

       l)   Define load factor.

       m)   What are galliers?