B.E./Insem./Oct.-502
B.E. (Civil)
TRANSPORTATION ENGINEERING
(2015 Pattern) (Semester - I)

Time : 1 Hour]   *[Max. Marks : 30*

Instructions to the candidates:
1) *Answer Q.1 or Q.2, Q.3 or Q.4, and Q.5 or Q.6.*
2) *Figures to the right indicate full marks*
3) *Use of logarithmic tables, slide rule, Mollies charts, electronics pocket calculator and steam tables is allowed.*
4) *Assume suitable data if necessary.*
5) *Neat diagrams must be drawn wherever necessary.*

Q1) a) Explain in brief the salient features of rural road development vision 2025. **[5]**

b) For economical road alignment shortest length is usually the best. What circumstances justify a deviation far from this principle. **[5]**

OR

Q2) a) Enlist the various surveys to be carried out before planning a highway system. Explain any one in brief. **[5]**

b) Discuss in brief the drawings to be prepared during highway alignment survey. **[5]**

Q3) a) Define camber. What are the objects of providing camber? In a locality where rainfall is heavy, it is proposed to construct a WBM pavement of 3.8 m width. What amount of camber would be required to keep the crown height of 5.75 cm. **[5]**

b) What do you mean by formation width and carriageway width .Draw the typical cross section of road in hilly area. **[5]**

P.T.O.

Q4) a) A falling gradient of 1 in 80 meets a rising gradient of 1 in 120 on a highway with a design speed of 80 Kmph. Design the length of valley curve to fulfill comfort condition only. Also calculate distance of the lowest point from the beginning of the curve. **[5]**

b) Discuss in brief the importance of the following in highway geometric design: **[5]**

   i) Super elevation on roads

   ii) Grade compensation on curves.

Q5) a) Explain in brief the importance and uses of Origin and Destination study. **[5]**

b) What is PCU? What are the factors on which PCU values depends? **[5]**

OR

Q6) a) Discuss in brief advantages and disadvantages of traffic signals. **[5]**

b) What is understood by the following terms : **[5]**

   i) 85th percentile speed

   ii) A.A.D.T.

   iii) Space Mean Speed

   iv) Parking Demand

   v) Grade separated Interchange

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