

Total No. of Questions : 6]

SEAT No. :

P5801

[Total No. of Pages : 2

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, Molli's 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.

OR

- 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 Km/h. 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

