Total No. of Questions : 4]

SEAT No. :

P5176

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B.E. (Civil Engineering) (Insem)
TRANSPORTATION ENGINEERING
(2019 Pattern) (Semester-VII) (401002) (Theory)

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

Instructions to the candidates:

1) ***Solve Q.1 or Q.2, Q.3 or Q.4.***
2) ***Figures to the right indicate full marks.***
3) ***Use of logarithmic tables. Slide rule, Mollies charts, electronic pocket calculator and steam tables allowed.***
4) ***Assume suitable data if necessary.***
5) ***Neat diagrams must be drawn wherever necessary.***

Q1) a) Enlist the various surveys to be carried out before planning a highway system. Explain any one in brief. **[5]**

b) Discuss briefly the various road patterns Draw a neat sketch to justify your answer. **[5]**

c) Enumerate the salient features of third Road Development plan. **[5]**

OR

Q2) a) With the help of a neat sketch explain the Macadam method of road construction. **[5]**

b) Explain how the master plan is prepared and the road development programme is phased. **[5]**

c) The area of one of the district of Maharastra is 10,000 sq. km. And there are 10 towns as per 1981 census. Determine the lengths of various categories of roads to be provided in this district by the method suggested during the 3rd Twenty year development plan period. you may assume any additional data suitable if required. **[5]**

P.T.O.

Q3) a) What are the objective of carrying out spot speed studies? **[5]**

b) Write short notes on- **[5]**

i) Traffic Islands.

ii) Rotary intersections

c) What are the various vehicular characteristic affect the road design. **[5]**

OR

Q4) a) 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.

b) What are the objectives of carrying accident studies? How are the results of this study used? **[5]**

c) Estimate the theoretical capacity of a traffic lane with one way traffic flow at a stream speed of 50 km/hr and assume average length of vehicles=5.1m. **[5]**