

Total No. of Questions : 4]

SEAT No. :

PE-175

[Total No. of Pages : 2

[6580]-532

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

Time : 1 Hour]

[Max. Marks : 30

Instructions to the candidates :

- 1) Answer Q1 or Q2 and Q3 or Q4.
- 2) Figures to the right indicate full marks.
- 3) Use of logarithmic tables, slide rule, Molli's charts, electronic pocket calculator and steam tables is allowed.
- 4) Assume suitable data, if necessary.
- 5) Neat diagrams must be drawn wherever necessary.

- Q1)** a) What are salient features of Road Development Plan Vision : 2021. [4]
b) What is role of Indian Road Congress in the development of road network in India? [5]
c) What is the purpose of the master plan? Explain it's necessity in the development of road network for a region. [6]

OR

- Q2)** a) Explain in brief significance of "BHARATMALA PARIYOJANA" in the regional development of India. [4]
b) An imaginary area with existing roads. There are four alternate plan proposals E, F, G, & H with different road lengths by adding extra road links to the existing roads in the area. The details of population and products are given below : [5]

Proposal	Total road length (km)	Number of towns and villages served with population range				Total Industrial and agricultural product served
		1001-2000	2001-5000	5001-10000	>10000	
E	500	150	40	20	3	170
F	600	250	68	28	3	245
G	700	350	82	36	4	335
H	800	410	91	41	4	442

P.T.O.

Workout the utility per unit length for each of the system and indicate which of the plan yield the maximum utility based on saturation system. Assume utility units of 0.25, 0.5, 1.0 and 2.5 for population range (1001-2000), (2001-5000), (5001-10000) and (> 10000) respectively.

- c) What is road pattern? Explain it's evolution with respect to development in technology. Draw neat sketches of it with labelling. [6]

Q3) a) What is Origin and Destination Study? List out applications of it. [5]

- b) What is speed-flow-density relation? Explain it with the help of suitable sketch. [5]

- c) What is PCU? Which are the factors affecting PCU values? [5]

OR

Q4) a) What is traffic signal system? Explain it in brief. [5]

- b) Estimate the theoretical capacity of a traffic lane with one-way traffic flow at a stream speed of 50 kmph and assume average length of vehicles = 5.0m. [5]

- c) Write short notes on - [5]

i) Road markings

ii) Intersections at Grade