



RM-7682

B. E. - IV (Sem. VIII) (Civil) Examination

May / June - 2010

Urban Transportation Planning

(Elective - I)

Time : 3 Hours]

[Total Marks : 100

Instructions :

(1)

नीचे दर्शायेव निशानीवाणी विगतो उत्तरवडी पर अवश्य कपवी. Fillup strictly the details of signs on your answer book.	Seat No. :
Name of the Examination :	<input type="text"/>
<input type="text" value="B. E. - 4 (Sem. 8) (Civil)"/>	<input type="text"/>
Name of the Subject :	<input type="text"/>
<input type="text" value="Urban Transportation Planning"/>	<input type="text"/>
Subject Code No. : <input type="text" value="7"/> <input type="text" value="6"/> <input type="text" value="8"/> <input type="text" value="2"/>	<input type="text" value="Student's Signature"/>
Section No. (1, 2,.....): <input type="text" value="1&2"/>	

- (2) Write answers of each section **separately**.
- (3) Figures to the right indicate full marks.
- (4) Assume with appropriate remarks missing data wherever necessary.
- (5) Draw sketches wherever necessary.
- (6) Answer should be to the point. Draw neat and labelled sketch wherever necessary.

SECTION - I

- 1 (a) Discuss stages of transportation planning process with flow chart. 7
- (b) Briefly discuss zoning. 4
- (c) A transit line employing nonarticulated vehicles is expected to carry 20,000 passengers during 3 hr morning peak hours. Given round trip time of 45 min. and average vehicle occupy of 100 passengers, calculate the hourly flow q and no. of vehicles F required to provide this flow. 5

OR

- (c) Define Transportation. Discuss scope of urban transportation planning in India. 5

- 2 (a) Attempt any **four** from the following : 16
- (i) Define: Headway, Flow, Concentration, Spacing
 - (ii) Differentiate between home-interview technique and commercial vehicle survey technique.
 - (iii) Discuss need for Economic Evaluation.
 - (iv) What is scheduling? Discuss factors affecting scheduling.
 - (v) A single lane road 60 km long is to be widened to two lanes at a cost of Rs. 10.00 lakhs per km, including all improvements. The cost of operation of vehicles on the single lane road is Rs. 1.5 per vehicle km, whereas it is Rs. 1.00 per vehicle km on the improved facility. The average traffic may be assumed 2700 vehicles per day over a design period of 20 years. The interest rate is 10% per annum. The cost of maintenance is Rs. 6000 per km on the existing road and Rs. 12,000 per km on the improved road. Is the investment in the improvement scheme worthwhile?
- 3 (a) Write brief notes : (any **three**) 18
- (i) Structure of lowry land use transportation model.
 - (ii) Fleet size and load factor.
 - (iii) Classification of public transportation system.
 - (iv) Basic movements for urban travel surveys.
 - (v) Compare various methods of economic evaluation.

SECTION - II

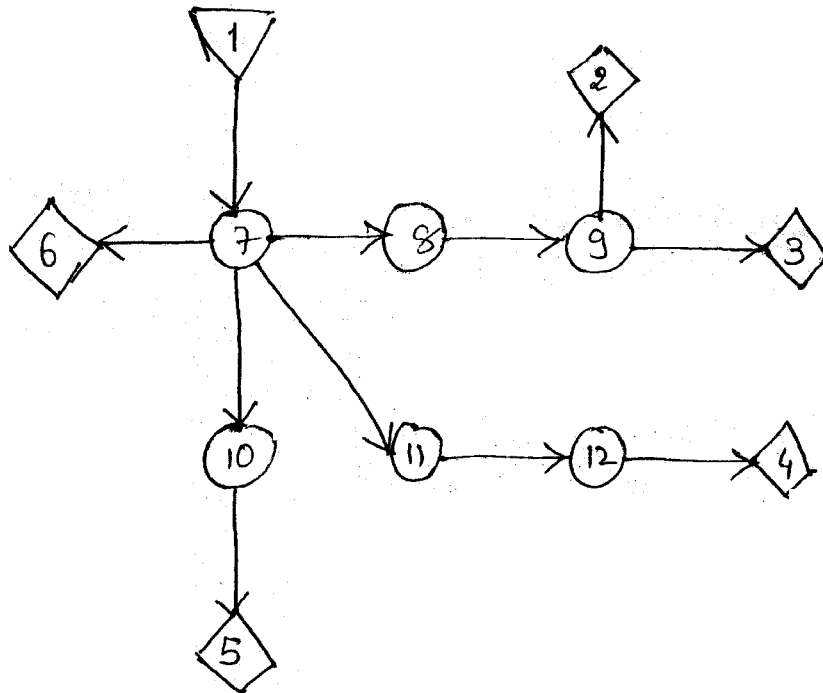
- 4 Attempt any **three** : 21
- (i) Enlist stages of transportation planning process. Discuss in detail trip generation and factors affecting trip generation.
 - (ii) Which are the methods used for trip distribution in transportation planning? Discuss any one in brief.
 - (iii) Enlist trip assignment techniques. Discuss any one in detail.
 - (iv) What is model split? Discuss the factors affecting model split.

- 5 (a) A town has five zones with present trip distribution as under. Future trip generation and attraction at the zonal level are also given. Distribute the trip using Fratar method. 10

O \ D	A	B	C	D	E	Present Generation	Future Generation
A	–	92	108	56	84	340	440
B	85	–	73	108	79	345	445
C	51	64	–	87	93	295	395
D	78	94	93	–	100	365	465
E	65	75	60	55	–	255	355
Present attraction	279	325	334	306	356	1600	–
Future attraction	379	425	434	406	456	–	2100

- (b) Assign the inter zonal vehicular trip emanating from Zone 1 for the following minimum path tree. 4

Zone	2	3	4	5	6
Q_{ij}	400	200	200	300	400



- 6** Write short notes : (any **three**) **15**
- (i) Multiple Linear Regression Analysis for trip generation
 - (ii) Calibration of Gravity Model
 - (iii) Logit Analysis
 - (iv) Profit Analysis
 - (v) Purpose of Traffic Assignment with example.
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