M.E. Second Semester (Civil Engineering (Transportation Engg. & Management)) (New CGS)
13116 : Elective-III : (1) Transportation Economics & Evaluation : 2 SFTR 5

P. Pages : 1
Time : Three Hours

AU - 3341
Max. Marks : 80

Notes : 1. All question carry equal marks.
2. Answer **any five** questions.
3. Assume suitable data wherever necessary.
4. Illustrate your answer necessary with the help of neat sketches.

1. a) Explain the concept and principles of Engineering economics. 8

   b) Describe Road user cost and its benefits. 8

2. a) Explain the terms – 8
   - VOC
   - Accident cost

   b) Explain Congestion cost and pricing. 8

3. a) Explain the model of IRR methods. 8

   b) It is proposed to widen a stretch of a single lane road of length 40 km to two lanes at a total 8
   cost of Rs. 6.5 lacs per km and the rate of interest is 10% per year. The annual cost of
   maintenance of the existing single lane road is Rs. 7000 per km and that of improved two
   lane road is Rs. 9000 per km. The average vehicle operation cost on the existing road is Rs
   1.30 per vehicle-km and that on the improved is estimated to be Rs. 1.10 per vch-km. If the
   present traffic is 2000 motor vehicles per day and by the end of 15 years design period the
   traffic is estimated to be doubled. Determine whether the investment on the improvement
   of the road is economically viable, during the 15 years period.

4. a) Explain sensitivity analysis. 8

   b) Explain economic evaluation of Null alternative. 8

5. a) Explain the terms 8
   - Depreciation
   - Taxes

   b) Explain Salvage value estimation. 8

6. a) Explain shift in supply and demand. 8

   b) Explain – Marginal cost, average cost and pricing. 8

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