

**GUJARAT TECHNOLOGICAL UNIVERSITY****M.E –II<sup>st</sup> SEMESTER–EXAMINATION – JULY- 2012****Subject code: 1721307****Date: 12/07/2012****Subject Name: Economics and Evaluation of Transportation Projects****Time: 10:30 am – 13:00 pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

**Q.1** (a) What are the basic principles of economic analysis? **07**  
 (b) What is utility? Describe forms of utility. **07**

**Q.2** (a) Differentiate between Economic costs & Financial costs? **07**  
 (b) What are the factors affecting road user costs? **07**

**OR**

(b) Write the stages involved in economic evaluation? **07**

**Q.3** (a) The annual cost of maintenance of a new road thrown open to traffic is Rs. 10,00,000. What is the future worth of this expenditure at the end of 10 years when the rate of interest is 10 per cent per annum? **07**

(b) The annual cost of maintenance of a major bridge is Rs. 20,000. What is the present worth of this cost incurred for 12 years after the opening of the bridge? The discount rate may be taken as 12 per cent per annum. **07**

**OR**

**Q.3** (a) John is willing to pay up to Rs. 100 to travel by bus once every month to visit his family Rs. 80 to travel second times and Rs. 60 to travel third times for the same purpose. **07**

i) If the price of bus ticket to visit his family is Rs. 70 what is John's consumer surplus?

ii) If bus company offers three ticket per month for a flat price of Rs. 190 will John accept the deal?

iii) What is maximum the bus company should charge for John to take three ticket offer?

(b) A contractor wants to setup a confirm payment. Period of payment to repay a debt of Rs. 10 lacs is 3 years making payment every year. Rate of interest is 12% per annum? What will be CRF? **07**

**Q.4** (a) What is national income? How it is calculated? **07**

(b) List the software available for Economic evaluation. **07**

**OR**

**Q.4** (a) Write short note on Highway financing. **07**

(b) Write short note on Road pricing. **07**

**Q.5** (a) Describe types of Inflation. **07**

(b) Briefly describe FIDIC contract. **07**

**OR**

**Q.5** (a) Define the terms, **07**

i) Shadow tolling.

ii) Shadow pricing.

iii) Discounting.

iv) Consumer surplus.

v) Sensitivity analysis.

vi) Opportunity cost

vii) Deflation.

(b) What are the factors causing inflation? **07**

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