

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

M. E. - SEMESTER – II • EXAMINATION – WINTER • 2013

Subject code: 1721307

Date: 02-01-2014

Subject Name: Evaluation of Transportation Project

Time: 10.30 am – 01.00 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) Explain the law of demand and supply. **07**

(b) Explain – Elasticity of Demand and Supply **07**

Q.2 (a) What is the role of shadow pricing in economic evaluation of the project? **07**

(b) Explain the methods of calculating National Income. **07**

OR

(b) Discuss about the economic cost and financial cost for economic evaluation of the project. **07**

Q.3 (a) What is the difference between Public and Private Finance? **07**

(b) What are the stages involved in Economic evaluation of project? **07**

OR

Q.3 (a) Explain – BOT, BTO, BOOS, BOOT, BOO **07**

(b) Explain the procedure of fixation of Toll taxes **07**

Q.4 (a) Define – Discounting, Rate of Return, Discount rate, Present worth, MARR **07**

(b) What are the factors affecting Road user cost? **07**

OR

Q.4 (a) Briefly explain - Gross Domestic Product, Gross National Product, Net National Product **07**

(b) Calculate the average annual growth rate and GDP for the following data **07**

Sr. No.	Year	Domestic Production in M. tones
1	2002-2003	52500
2	2003-2004	53800
3	2004-2005	55000
4	2005-2006	60000
5	2006-2007	70500
6	2007-2008	73000
7	2008-2009	80000
8	2009-2010	98000

Q.5 (a) (i) Find the future worth of R. 1,50,000/- at the end of 25 years invested at a rate of a compound rate of interest of 12% per annum **07**

(ii) What is the present worth of RS. 80,000/- at the end of 12 years when the discount rate is 10% per annum?

(b) Write a short note on “Sensitivity Analysis” **07**

OR

- Q.5 (a)** An existing single lane road of 40 km length is to be widened to two lanes. **07**
The cost of widening is 12 lacs per km. The vehicle operating cost, accident cost and maintenance cost is given in the following table. The discount rate is 12%. Find the viability of the project. Use Benefit cost ratio method.

Year	Road user cost		Accident cost		Maintenance cost	
	With widening	Without widening	With widening	Without widening	With widening	Without widening
1	102	160	2.5	3.2	12	8
2	106	170	2.6	3.3	12	8
3	110	176	2.7	3.3	12	8
4	118	185	2.8	3.4	12	8
5	125	195	3	3.5	12	8
6	130	200	3	3.5	12	8
7	136	220	3.2	3.8	12	8
8	145	225	3.2	3.8	12	8
9	150	230	3.2	3.8	12	8
10	156	245	3.2	3.9	12	8

- (b)** What are the benefits of Highway Improvement? **07**
