Seat No.: _____ Enrolment No._____

# GUJARAT TECHNOLOGICAL UNIVERSITY

**ME SEMESTER II EXAMINATION – SUMMER 2017**

**Subject Code: 2721307** **Date: 25/05/2017**

**Subject Name: Economic Evaluation of Transportation Projects**

**Time:02:30 PM to 05:00 PM** **Total Marks: 70**

**Instructions:**

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

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|---|---|---|---|
| **Q.1** | **(a)** | Explain Demand and Utility Concept. | **07** |
| | **(b)** | Briefly describe Ordinal analysis and Elasticity of supply. | **07** |
| **Q.2** | **(a)** | Write difference between GNP and GDP. How they are calculated? | **07** |
| | **(b)** | Define National Income and explain any one method of estimating the National Income. | **07** |
| | | **OR** | |
| | **(b)** | Describe in brief Total Transportation Cost components. | **07** |
| **Q.3** | **(a)** | What are the stages involved in Economic evaluation of project? | **07** |
| | **(b)** | Differentiate between: (I) Economic Evaluation and Economic Formulation of Engineering projects and (II) Economic Analysis and Financial Analysis. | **07** |
| | | **OR** | |
| **Q.3** | **(a)** | Write a short note on "Sensitivity Analysis". | **07** |
| | **(b)** | Explain with sketches factors affecting RUC and their evaluation. | **07** |
| **Q.4** | **(a)** | Discuss role of taxes and tolls in financing transportation projects. | **07** |
| | **(b)** | It is proposed to widen a stretch of single lane into double lane road length is 40km the cost per km is 6.5 lacs rate of interest is 10%. The annual cost of Maintenance of existing is Rs7000/km and after doubling Rs.9000/km the average vehicle operation cost is Rs1.35 per vehicle/km and after improvement 1.12Rs per vehicle km at present 2000 motor vehicles/day and at end of 15 years likely to be doubled. Determine whether the proposed improvement is economically viable or not? | **07** |
| | | **OR** | |
| **Q.4** | **(a)** | Write short note on appraisal model: HDM-IV. | **07** |
| | **(b)** | Explain in brief Transportation System evaluation. | **07** |
| **Q.5** | **(a)** | Differentiate between public and private finance. | **07** |
| | **(b)** | What are the sources of finance for any infrastructure project? | **07** |
| | | **OR** | |
| **Q.5** | **(a)** | Discuss national policy in context of fares and subsidy which are directly affecting transportation projects. | **07** |
| | **(b)** | Write a short note on any case study of analysis and evaluation of transportation projects. | **07** |

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