

Kadi Sarva Vishwavidyalaya, Gandhinagar
M.E. (Civil Infrastructure Engineering) Semester: III
(w.e.f. Academic Year 2017-18)

Subject Name: Economic Evaluation of Transportation Project

Subject code: MECV301-N

A. Learning objectives:

- To introduce remote sensing and GIS as an important enabling tool for earth surface research problems and applications.
- To introduce the basics of remote sensing and GIS and the main satellite/sensors systems in use.
- To provide information of different engineering fields using remote sensing and GIS.

B. Teaching Scheme (Credits and Hours):

Teaching Scheme				Credit Scheme			Evaluation Scheme				
Lect (Hrs)	Tu (Hrs)	Prac. (Hrs)	Total (Hrs)	Theory	Pra/TW	Total	UE	IE	CIA	Prac/Viva	Total
03	02	00	05	03	02	05	70	30	20	30	150

C. Detailed Syllabus:

Unit No.

Topics

1. Introduction :

Principles and stages involved in economic analysis.

2. Demands and Utility :

Laws of Demand, Utility analysis, Ordinal analysis ,income effect, Price effect, Demand curves, Elasticity of supply

3. Income :

National Income ,GNP, GDP, Methods of Estimating National Income

4. Project Appraisal:

Total cost, Principles of analysis, Road users cost-Factors ,Benefits.

5. Economic Evaluation:

Different Methods, Sensitivity analysis, Economic analysis of transportation projects ownership and financing of transport, economic function of transportation road user and transportation costs, highway finance and taxation, case studies of analysis and evaluation of transportation projects

6 Maintenance Cost:

Factors, Methods

7 Financing Mechanism :

Taxes, Tolls, Private Financing

8 Transport Cost :

Types, Factors, Cost analysis for Mass Transit System

9 Pricing :

Marginal cost Pricing, National Policy, Fares, Subsidy

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D. Lesson Planning:

Unit No.	Topics	Hours	Weightage (%)
1	Introduction	2	5
2	Demands and Utility	4	10
3	Income	4	10
4	Project Appraisal	7	10
5	Economic Evaluation	12	25
6	Maintenance Cost	4	10
7	Financing Mechanism	4	10
8	Transport Cost	4	10
9	Pricing	4	10
Total		45	100

E. List of Tutorials

1. Problem based on demand and supply, elasticity analysis
2. Problems based on estimation of National Income
3. Problems based on different methods of economic analysis, like B/C ratio, NPV ,IRR etc
4. Problems based on deriving transport cost
5. Cost analysis for mass transit system
6. Problems based on toll fixation
7. Computer application for the above problems

F. Instructional method and pedagogy (Continuous Internal Assessment) (CIA)

- Attendance is compulsory in lectures which carries 05 Marks.
- At regular intervals assignments is given to all students which carries 10 marks. Evaluation of these assignments will be observed under Daily Homework Daily Assessment (DHDA) System.
- One internal exam of 30 marks is conducted as a part of internal theory evaluation.

G. Students Learning Outcomes:

At the end of the course

- The students will gain an experience in the implementation any new transportation project with checking of different methods of economic evaluation and finally they decide the project is justified or not
- The students will get a information about the inflation and financial system of Indian economy.
- The students will learn different project like BOT,BOOT.

H. Text Books & Reference Books:

1. IRC-30,Manual on Economic Evaluation of Highway In India.
2. R. Winfrey, Economic Analysis for Highway International Textbook Co.Pennsylvania,USA-1969
3. D.M. Mihtani, Economic Analysis.
4. Fair and Williams, Economics of Transportation ,Harper and Brothers, publisher, New York,1959.