



# GUJARAT TECHNOLOGICAL UNIVERSITY

**CIVIL (Construction Engineering & Management)**

**Master of Engineering**

**Subject Code: 3731407**

**Semester – III**

**Subject Name: Project Formulation and Appraisal**

Type of Course: Elective

Prerequisite: NIL

## Rationale:

To explain project appraisal techniques, financial structuring and financing alternatives. This course intends to involve students to apply appraisal techniques for evaluating live projects.

## Teaching and Examination Scheme:

Teaching Scheme			Credits C	Examination Marks				Total Marks
L	T	P		Theory Marks		Practical Marks		
				ESE (E)	PA (M)	ESE (V)	PA (I)	
3	0	0	3	70	30	0	0	100

## Course Contents

Sr.No.	Topics	Hrs.
1	<b>Introduction:</b> Project appraisal and evaluation, Project cycle, Project cycle management, Private and Public sector Projects; Identification of investment opportunities – industry analysis review of project profiles, feasibility study, Project identification and formulation, Basic Principles of Project Analysis, Entrepreneurship – concept, theory and perspective	05
2	<b>Market Analysis:</b> Market analysis of a project, Need for market analysis, Demand and supply analysis, primary /secondary data, Forecasting techniques Technical appraisal of a project, Business and Technology Acquisition and management of technology.	09
3	<b>Investment Appraisal:</b> Introduction, Investment criteria and techniques- Discounted Cost Flow (DCF) and non-DCF, Capital Rationing, Project Appraisal parameters of Financial Institutions. <b>Social Cost benefit analysis:</b> value added concept, social surplus, indirect impact of projects	17
4	Project Assessment under risk and uncertainty: Risk and Sensitivity Analysis, probabilistic cash flow approaches, Application of Network Analysis and Monte Carlo Simulation techniques.	08
	<b>Total</b>	<b>39</b>



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### Reference Book(s)

- Prasanna Chandra, Project Preparation Appraisal Budgeting and Implementation, Tata McGraw.
- James Parkin, D. Sharma, Infrastructure Planning, Thomas Telford
- Bennet P. Lientz, Kathryn P. Rea, Breakthrough Technology Project Management (Second Edition), Academic Press
- W. Ronald Hudson, Waheed Uddin, Ralph C. Haas, Infrastructure Management: Integrating Design, Construction, Maintenance, Rehabilitation and Renovation, McGraw-Hill Professional,
- S. Goodman and M. Hastak, Infrastructure planning handbook: Planning, engineering, and economics, McGraw-Hill, New York
- J. D. Finnerty, Project financing - Asset-based financial engineering, John Wiley & Sons, New York
- Rajarshi Majumder, Infrastructure and Development in India, Interlinkages and Policy Issues, Rawat Publications
- Machiraju, H.R.: Introduction to Project Finance, Vikas Publishing House

### Course Outcome

Sr. No.	CO statement	Marks % weightage
CO-1	Student will be capable of identifying of a project and performing feasibility analysis including market, technical and financial appraisal of a project.	40%
CO-2	Student will be capable to understand the relevance of Alternative project appraisal techniques, financial structuring and financing alternatives.	30%
CO-3	Students will be able to apply appraisal techniques for evaluating live projects	30%

### **Suggested Specification table with Marks (Theory):**

<b>Distribution of Theory Marks</b>					
R Level	U Level	A Level	N Level	E Level	C Level
<b>10</b>	<b>25</b>	<b>20</b>	<b>20</b>	<b>15</b>	<b>10</b>

Legends: R: Remembrance; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create and above

List of Open Source Software/learning website: [www.nptel.ac.in/courses/](http://www.nptel.ac.in/courses/)