

INFRASTRUCTURE PLANNING ENGINEERING AND MANAGEMENT

Course Code: 19CE2101	I Semester		
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	3	0	3

Prerequisite: Construction Management

Course Outcomes:

At the end of the Course the student shall be able to

CO1 Discuss the infrastructure scenario in India

CO2 Describe and development of Infrastructure assets

CO3 Demonstrate the projects structuring, design and evaluate its performance

CO4 Explain the concepts of Infrastructure Interdependencies

CO5 Appraise the importance of Rural Infrastructure development and its adoptability

UNIT-I

(10 Lectures)

INTRODUCTION TO INFRASTRUCTURE : Concept, Historical background; brief classification of Infrastructure projects, Infrastructure development scenario in India, need of planning for development of Infrastructure, role of organisations.

Learning outcomes:

1. Illustrate the concepts and need for infrastructure planning (L1)
2. Classify infrastructure projects (L2)
3. Explain the role of organisation (L2)

UNIT-II

(10 Lectures)

INFRASTRUCTURE ASSETS AND DEVELOPMENTS: Identification of assets, Classification of Urban and Rural infrastructure, phases and development of different Infrastructure projects in Indian scenario, role of government, Public and private partnership in Infrastructure projects, brief issues of construction and maintenance of projects on Dams, Bridges, Housing, Roads.

Learning outcomes:

1. Illustrate the concepts of urban and rural infrastructure (L1)
2. Discuss the key issues of construction and maintenance of Projects (L2)
3. Analyze the role of government (L4)

UNIT-III

(10 Lectures)

PROJECT STRUCTURING : Project financing and Viability, Risk allocation and management, Design for service life of project, Performance assessment, life cycle cost and benefit analysis.

Learning outcomes:

1. Illustrate the structuring, financing and viability of projects (L1)
2. Design for service life of project (L2)
3. Appraise the life cycle cost and benefit analysis (L4)

UNIT-IV

(10 Lectures)

INFRASTRUCTURE INTERDEPENDENCIES: Role of sustainable Infrastructure; Privatization of Infrastructure projects, Design & Maintenance of Infrastructure projects, Case Study of Infrastructure planning of metro rail constructions in Indian scenario.

Learning outcomes:

1. Illustrate the concept of Sustainable Infrastructure(L1)
2. Discuss about Case Studies of Infrastructure Planning, Engineering and Management(L2)
3. Appraise the design and maintenance of Infrastructure projects (L4)

UNIT-V**(10 Lectures)**

RURAL INFRASTRUCTURE: Feasibility studies of Infrastructure projects in rural areas, opportunities and challenges related to rural developments in India, governance and funding of rural Infrastructures projects, use of alternate construction materials; Rural housing technology; Rural roads, water supply and sanitation.

Learning outcomes:

1. Explain some case studies of viability studies for infrastructure Projects (L2)
2. Illustrate the concept of feasibility studies for infrastructure Projects (L4)
3. Appraise the rural housing technology (L4)

Text Books:

1. Joshi P, *Law Relating to Infrastructure Projects*, Taxman Publishers, New Delhi, 2001.
2. Raghuram G, *Infrastructure Development and Financing: Towards a Public Private Partnership*, Macmillan Publishers, New Delhi, 2001.

References:

1. Alagiri D, *Infrastructure Development*, ICFAI University Press Hyderabad, 2007

2. NPTEL online course material related to Infrastructure Planning
– Engineering & management