

CM507: Infrastructure Project Management

Teaching Scheme			Credits	Marks Distribution				Total Marks
L	T	P		Theory Marks		Practical Marks		
			ESE	CE	ESE	CE		
3	2	0	5	70	30	30	20	150

Course Content:

Sr. No.	Topics	Teaching Hrs.
1	<p><u>Introduction:</u></p> <p>Definition of infrastructure, characteristics of infrastructure projects, scope of infrastructure management. Infrastructure in India: An Overview of the Power Sector in India. Water Supply and Sanitation Sector. The Road, Rail, Air and Port Transportation Sectors. Telecommunications Sector.</p> <p>The Urban Infrastructure, The Rural Infrastructure, An Introduction to Special Economic Zones, Organizations and Players in the field of Infrastructure.</p> <p>The Stages of an Infrastructure Project Lifecycle.</p> <p>An Overview of Infrastructure Project Finance.</p>	10
2	<p><u>Privatization of Infrastructures:</u></p> <p>A Historical Overview of Infrastructure Privatization.</p> <p>The Benefits of Infrastructure Privatization. Problems with Infrastructure Privatization. Challenges in Privatization of Infrastructure.</p> <p>Privatization of Infrastructures in India.</p> <p>Introduction to infrastructure development through PPP route; Benefits of PPP</p> <p>mode of procurement; Types of PPP Models and their contractual structure, Stakeholders' perspectives: Granting authority, Funders and Concessionaire, Government's role in successful PPP projects, Financial and Economic Appraisal of BOT Projects; VFM evaluation, PPP procurement process; Lifecycle of PPP projects,</p>	10

Contractual package of PPP project; Bankable concession agreement, Case study – Procurement process of Indian PPP projects.

3 **Challenges to Successful Infrastructure Planning and Implementation:** 10

Mapping and Facing the Landscape of Risks in Infrastructure Projects.

Economic and Demand Risks. Political Risks. Socio-Environmental Risks. Cultural Risks in Infrastructure Projects. Legal and Contractual Issues in Infrastructure. Challenges in Construction and Maintenance of Infrastructure.

Introduction to risk management concept, Risk analysis techniques, Risk mitigation strategies.

4 **Strategies for Successful Infrastructure Project Implementation:** 10

Shaping the Planning Phase of Infrastructure Projects to mitigate risks.

Designing Sustainable Contracts. Introduction to Fair Process and Negotiation.

Negotiating with multiple Stakeholders on Infrastructure Projects.

Sustainable Development of Infrastructure. Information Technology and Systems for Successful Infrastructure Management. Innovative Design and Maintenance of Infrastructure Facilities. Infrastructure Modeling and Life Cycle Analysis Techniques. Capacity Building and Improving the Governments Role in Infrastructure Implementation.

An Integrated Framework for Successful Infrastructure Planning and Management.

Total Hrs. 40

Reference Books:

1. Akintoye, A., Beck. M., and Hardcastle, C. (Eds.). (2003). Public-Private Partnerships “*Managing risks and opportunities*”. Oxford: Blackwell Science Limited.
2. Alvin Goodman, Makarand Hastak, Infrastructure Planning Handbook: Planning, “*Engineering and Economics*” 1st Edition, MH/ASCE press.
3. Raghuram G (2001) “*Infrasturcture Development and Finnancing*” Towards A Public Private Partenership, Macmillan Publishers, New Delhi

4. Alagiri, “*Infrastructure Development*”, ICFAI University press, Hyderabad
5. Marcel Hertogh, Stuart Baker, Pau Lian Staal-Ong and Eddy Westerveld, *Managing Large*.
6. *Infrastructure Projects*, ISBN/EAN 978-90-810025-2-3, NUR-code 801.
7. Finnerty, J. D. (1996). *Project financing - Asset-based financial engineering*. New York: John Wiley & Sons, Inc.
8. Merna, T., and Njiru, C. (2002). “*Financing infrastructure projects*” (First ed.). London: Thomas Telford.
9. Nevitt P. K., and Fabozzi F. J. (2000). “*Project financing*” (7 Ed.). London, UK: Euromoney Books.
10. Raghuram, G., Jain, R., Sinha, S., Pangotra, P., and Morris, S. (2000). “*Infrastructure Development and Financing*” Towards a Public-Private Partnership: MacMillan.
11. Tinsley, R. (2002). “*Project Finance in Asia Pacific*” Practical Case Studies. London, UK: Euromoney Books.
12. UNIDO. (1996). *Guidelines for infrastructure development through Build-Operate-Transfer (BOT) projects*. Vienna: UNIDO.
13. Walker, C., and Smith, A. J. (1995). “*Privatized infrastructure*” the Build Operate Transfer approach. London: Thomas Telford.
14. Yescombe, E. R. (2002). “*Principles of Project Finance*” California: Academic Press.
15. Kurowski, L., and Sussman, D. (2011). “*Investment project design*” - A guide to financial and economic analysis with constraints. New Jersey: John Wiley & Sons.
16. Pretorius, F., Lejot, P., McInnis, A., Arner, D., and Hsu, B. F.-C. (2008). “*Project finance for construction and infrastructure*” Principles and case studies. Oxford: Blackwell Publishing.
17. Weber, B., and Alfen, H. W. (2010). “*Infrastructure as an asset class - Investment strategies*”, project finance and PPP. West Sussex: John Wiley & Sons.