



**Kadi Sarva Vishwavidyalaya's**  
**LDRP Institute of Technology & Research**  
**Gandhinagar-382 015**



**M.E.(Civil) Infrastructure Engineering Semester: III**

**Subject Name: Infra Structure Engineering and Management (MECV 302-B)**

**A. Course objective :**

- To give basic idea of Infrastructure Engineering and Management and related terms.
- To make the students aware of using different methods for infrastructure Management Studies
- To make the students conversant with terms related to management

**B. Teaching /Examination Scheme :**

Teaching scheme				Total Credit	Evaluation Scheme					Total
L	T	P	Total		Theory		Mid Sem Exam	CIA	Pract/ Tut.	
Hrs	Hrs	Hrs	Hrs		Hrs	Marks	Marks	Marks	Marks	
04	02	00	06	05	03	70	30	20	30	150

**C. Detailed Syllabus:**

**UNIT**

**DETAILED SYLLABUS**

- 1 Challenges of managing infrastructure**
- 2 Life cycle cost analysis**
- 3 Infrastructures need assessment:** Infrastructures need assessment, Performance and Indicators.
- 4 Infrastructure Systems:** Various Infrastructure Systems such as Transportation Services, Water and Wastewater Systems, Buildings and Structures, Energy Facilities
- 5 Database Methods :**Database Management, Data Need and Data Analysis, Performance Evaluation Modeling and Failure Analysis
- 6 Maintenance :** Maintenance , Rehabilitation and Reconstruction Strategies, Compare Existing and New technique.



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- 7 **Integrated system** :Integrated infrastructure management systems, Infrastructure management techniques.
- 8 **Implement** different project management techniques.

**D. Lesson Planning**

Sr. No.	Title of the Unit	Minimum Hours	Weightage (%)
1	Challenges of managing infrastructure	5	5
2	Life cycle cost analysis concept	5	8
3	Infrastructures need assessment	10	18
4	Infrastructure Systems	10	18
5	Database Methods	10	18
6	Maintenance	10	18
7	Integrated system	5	8
8	Project management technique	5	7
		<b>60</b>	<b>100</b>

**E. List of Tutorial :**

1	Infrastructure and its impact on development
2	Infrastructure need assessment
3	Infrastructure systems
4	Study of transportation network and water resources
5	Collection and analysis of data
6	Infrastructure system application, and case study of any infrastructure project
7	Problems on CPM



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

- At the start of course, the course delivery pattern, prerequisite of the subject will be Discussed.
- Lecture may be conducted with the aid of multi-media projector, black board, OHP etc.
- Attendance is compulsory in lectures and practical which carries marks.
- At regular intervals assignments will be given. Students should submit all assignments during given period.
- Classroom participation and involvement in solving the problems in Tutorial rooms Carries Marks
- Internal exam of 30 marks will be conducted as a part of Mid semester evaluation.
- Experiments shall be performed in the field related to course contents.
- The course includes a practical, where students have an opportunity to build an appreciation for the concept being taught in lectures.

**G. Students Learning Outcomes:**

- The students will gain an experience in the implementation any new Infrastructure management project with checking of different methods of Management.
- The students will get a information about new technology introduced in Infrastructure management
- The students will learn CPM for project

**H. Recommended Study Materials :**

➤ **Text Books:**

- Grig N.S., Infrastructure engineering and management, Wiley
- Hudson W.R., Haas R., Uddin W., Infrastructure Management, McGraw-Hill, 1997