

## CM654: Maintenance Management of Construction Projects

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	Introduction to maintenance. Typical Maintenance Engineer's Duties, Functions and Responsibilities.  Deteriorations: Structural Deficiency, External Forces, Internal Forces, Problems of Substructures, Materials Deficiency, Dimensional Instability, Thermal Movements, Finishing, Coatings, Vandalism etc.	09
2	Definitions, Objectives of maintenance. Importance of maintenance,  Types of maintenance: Unplanned Maintenance: Break Down Maintenance, Planned Maintenance: Preventive Maintenance, Predictive Maintenance, and Reliability Centered Maintenance.	12
3	Maintenance Management, Objectives of Maintenance Management, Types of Maintenance Management. Maintenance Dimension, Maintenance Organization, Nature of Maintenance Work, Condition Assessment Procedure, Maintenance Planning and scheduling, Estimation of Maintenance, Maintenance Contracts, Execution of Maintenance.	09
4	Maintenance Management System.  Computerized Management System.	06
5	Maintenance management and Maintenance Management System for Buildings and other Construction Projects based on Condition, Safety, Optimization and Life cycle cost.	06
<b>Total Hrs.</b>		<b>42</b>

### References Books:

1. Dhillon and Balbir S. "*Maintainability, Maintenance, and Reliability for Engineers*", 2006.
2. CRC Press, ISBN 0-8493-7243-7, ISBN 978-0-8493-7243-8. , 2006.

3. Mobley, Keith R. and Higgins, Lindley R. & Wikoff, Darrin J. (2008) Maintenance, "*Engineering Handbook*", McGraw-Hill Professional, Seventh Edition, 2008, ISBN 0-07-154646-4, ISBN 978-0-07-154646-1.
4. Dip. Surv. Dip. Arch. Cons. FRICS FBEng. FRSA, Barrie Chanter, Peter Swallow, "*Building Maintenance Management*", Blackwell Publishing.
5. A.C. Panchdhari, Maintenance of buildings, New Age International, 1997, ISBN: 81-224-1012-X.
6. John D. Szewdo, Preventive, Predictive and Corrective Maintenance, "*Code of Practice on Building Management & Maintenance*"
7. Maintenance Management System Handbook, 2002.
8. O & M Best Practices Guide, Release 3.0.
9. Charles E. Ebeling, "*An Introduction to Reliability and Maintainability Engineering*" McGraw Hill College Division 1996.
10. Richard D. (Doc) Palmer, "*Maintenance Planning and Scheduling Handbook*", McGraw Hill, 1999.
11. Joseph D. Patton, Jr., "*Maintainability & Maintenance Management*", Instrument Society of America, 1994.