Sl. No.	Sub. Code	Theory	Contact Hours			Credit
			L	T	P/S	
2.	22AR023	Construction & Project Management	3	0	0	3

Course Objective	To equip students with a practical approach to implement building projects, basic knowledge about construction industry, project management techniques needed for managing and coordinating building projects in a professional manner.
Anticipated Learning Outcomes:	Ability to use project management techniques and quantitative methods in project definition, administration of contracts, billing and verification, monitoring quality at site and participating in preparation of Detailed Project Report.
Module 1 Introduction	Introduction to Construction Industry- Significance, objectives and functions, stakeholders, roles, responsibilities and functional relationships; Construction projects – objectives and lifecycle, existing construction practices and project management systems; Project scale. Project Team, organization, roles, responsibilities, Management Ethics (human aspects) in construction projects, Labour welfare, applicable labour legislations.
Module 2 Project Planning	Concepts of project planning, scheduling and controlling. Management Techniques-Planning for Construction Projects: Principles, objectives, advantages of planning, stages of planning; Scheduling: Definition, advantages, methods of scheduling: Bar chart, Milestone chart; Controlling, Work Break-down Structure (WBS)
Module 3 Project Scheduling & Resources Management	Project Management through Networks-Introduction, objectives, advantages, terms and definitions, types of networks, rules for drawing a network;

	Introduction to PERT, CPM, difference between PERT and CPM, Network analysis – forward and backward passes, finding critical path; Methods of material/resource management- Project time reduction and optimization, resource levelling and resource allocation.
Module 4 **Project Monitoring & Control**	Construction equipment types, characteristics and applications, Quality tests for construction material and processes, Quality control inspections. Site organization, Project progress tracking. Finance and Risk management - Financial analysis of projects, Project direct and indirect costs. Crashing Project Schedules, its impact on time, cost and quality. Safety in Construction Projects.
Module 5	To be decided by the Subject teacher and may include: Assignments/ exercises on preparing a project schedule; writing site inspection reports; sample correspondence for notices to contractors, work-orders, presentations for review meetings etc.

Note: Most Architectural subjects do not have Textbooks. The Reference books mentioned below are for reference only and University question paper should be prepared from the Syllabus descriptions.

References

1. *Punmia, B. C., and Khandelwal, K. K. (2006). Project planning and control with PERT and CPM. New Delhi: Laxmi Publications.*
2. *Wiest, J. D., and Levy, F. K. (1982). A Management Guide to PERT/CPM. New Delhi: Prentice Hall of India.*
3. *Chandra, P., Projects: Planning, Analysis, Selection, Financing, Implementation and Review, McGraw Hill Education (India) Private Limited.*
4. *Mukhopadhyay, S.P., (1974), Project Management for Architect's and Civil Engineers, IIT, Kharagpur.*
5. *Callahan, M. T., Quackenbush, D. G., and Rowings, J. E. (1992). Construction Project Scheduling. McGraw-Hill.*
6. *Chitkara, K. K. (2004). Construction Project Management: Planning, Scheduling and Controlling. Tata McGraw–Hill Education.*
7. *O'Brien, J. J., and Plotnick, F. L. (2009). CPM in Construction Management. Mc Graw Hill Professional.*