



RAJASTHAN TECHNICAL UNIVERSITY, KOTA

Syllabus

IV Year- VIII Semester: B. Tech. (Civil Engineering)

SCE4-01 Project Planning and Construction Management

Credit 3
3L+0T+0P

Max. Marks: 150(IA:30, ETE:120)
End Term Exam: 3Hours

SN	Course Content	Hours
1	INTRODUCTION: Objective, scope and outcome of the course	1
2	FINANCIAL EVALUATION OF PROJECTS AND PROJECT PLANNING: Capital investment proposals, criterions to judge the worthwhile of capital projects viz. net present value, benefit cost ratio, internal rate of return, <u>Risk cost management, main causes of project failure.</u> <u>Categories of construction projects, objectives,</u> project development process, Functions of project management, Project management organization and staffing, <u>Stages and steps involved in project planning,</u> Plan development process, <u>objectives of construction project management.</u> <i>→ Word "scheduling specific"</i>	7
3	PROJECT SCHEDULING: <u>Importance of project scheduling, project work breakdown process - determining activities involved, work breakdown structure,</u> assessing activity duration, duration estimate procedure, Project work scheduling, <u>Sequence of construction activities,</u> Project management techniques - <u>CPM and PERT</u> networks analysis, concept of precedence network analysis.	8
4	PROJECT COST AND TIME CONTROL: Monitoring the time progress and <u>cost controlling measures in a construction project,</u> Time cost trade-off process: direct and indirect project costs, cost slope, Process of <u>crashing of activities,</u> determination of the optimum duration of a project, updating of project networks, <u>resources allocation.</u> <i>(Numericals on Resource Allocation)</i>	8
5	CONTRACT MANAGEMENT: Elements of tender operation, <u>Types of tenders and contracts,</u> Contract document, <u>Legal aspects of contracts,</u> Contract negotiation & award of work, <u>breach of contract,</u> determination of a contract, arbitration. <i>← M: Imp →</i>	8
6	SAFETY AND OTHER ASPECTS OF CONSTRUCTION MANAGEMENT: <u>Safety measures to be followed in various construction works like excavation, demolition of structures, explosive handling, hot bitumen work.</u> Project Management Information System - <u>Concept, frame work, benefits of computerized information system.</u> Environmental and social aspects of various types of construction projects.	8
	Total	40

↳ Practice
 Numericals on CPM & PERT
 ↳ Dummy Activity
 (M)