

**IV Year – I SEMESTER**

<b>T</b>	<b>P</b>	<b>C</b>
<b>3+1*</b>	<b>0</b>	<b>3</b>

**CE703-CONSTRUCTION TECHNOLOGY AND MANAGEMENT**

Lecture :	3 hrs/Week	Internal Assessment :	Marks
Tutorial :	1 Hrs/Week	Semester End Examination :	Marks
Practical :	--	Credits :	3

**Course Learning Objectives:**

The objective of this course is:

1. To introduce to the student the concept of project management including network drawing and monitoring.
2. To introduce the various equipment related to construction like earth moving equipment, trucks and handling equipment, aggregate production and construction equipment and machinery.
3. To introduce the importance of safety in construction projects.

**Course Outcomes:**

Upon the successful completion of this course, the students will be able to:

1. Appreciate the importance of construction planning.
2. Understand the functioning of various earth moving equipment.
3. Know the methods of production of aggregate products and concreting.
4. Apply the gained knowledge to project management and construction techniques.

**SYLLABUS:****UNIT- I**

Construction project management and its relevance – qualities of a project manager – project planning – coordination –scheduling - monitoring – bar charts – milestone charts – critical path method.

**UNIT -II**

Project evaluation and review technique – cost analysis - updating – crashing for optimum cost – crashing for optimum resources – allocation of resources.

**UNIT- III**

Construction equipment – economical considerations – earthwork equipment – Trucks and handling equipment – rear dump trucks – capacities of trucks.

and handling equipment – calculation of truck production – compaction equipment – types of compaction rollers.

#### **UNIT -IV**

Hoisting and earthwork equipment – hoists – cranes – tractors - bulldozers – graders – scrapers– draglines - clamshell buckets.

#### **UNIT -V**

Concreting equipment – crushers – jaw crushers – gyratory crushers – impact crushers – selection of crushing equipment - screening of aggregate – concrete mixers – mixing and placing of concrete – consolidating and finishing.

#### **UNIT -VI**

Construction methods – earthwork – piling – placing of concrete – form work – fabrication and erection – quality control and safety engineering.

#### **TEXT BOOKS:**

1. 'Construction Planning , Equipment and Methods' by Peurifoy and Schexnayder , Shapira, Tata Mcgrawhill.
2. 'Construction Project Management Theory and Practice' by Kumar Neeraj Jha (2011), Pearson.
3. 'Construction Technology' by Subir K. Sarkar and Subhajit Saraswati, Oxford University press.

#### **REFERENCES:**

1. 'Construction Project Management - An Integrated Approach' by Peter Fewings , Taylor and Francis
2. 'Construciton Management Emerging Trends and Technologies' by Trefor Williams , Cengage learning .