**ACADEMIC – GRADUATE STUDIES AND RESEARCH DIVISION**

**BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE, PILANI-HYDERABAD CAMPUS**

**FIRST SEMESTER 2021-2022**

**Course Handout Part II**

**Date:** **12/08/2021**

In addition to part I (General Handout for all courses appended to the time table) this portion gives further specific details regarding the course.

## Course No. : CE G538

**Course Title : Project Planning and Management**

**Instructorincharge : Dr. Bahurudeen A**

**Description :**

Foundations of project management: project life cycle, environment, selection, proposal, scope, ToR standardization; work break down structure; network scheduling: critical path method (CPM), programme evaluation and review technique (PERT), planning and scheduling of activity networks; resource planning: allocation, schedule compression, precedence diagram, generalized activity network; estimation of project cost, earned value analysis, monitoring project progress; quality assurance; contract administration and management; mechanization and advanced process control; quality audit; milestones, bonus and penalties; dispute resolution; capacity building and skill development.

**1. Scope and Objective of the Course:**

The course deals with the fundamentals of construction planning and management techniques. Moreover, various planning and scheduling methods for effective assessment, estimation, control and systematic monitoring on the construction projects are discussed in detail. In addition, contracts and specifications related to Indian as well as international scenarios are also described, which is another imperative dimension of construction projects.

**2. Text Books and Reference Books:**

B1. Saleh Mubarak (2010), Construction Project Scheduling and Control. John Wiley & Sons, Inc., Hoboken, New Jersey. 2nd Edition.

B1. Chitkara, K.K. Construction Project Management: Planning, Scheduling and Control, Tata McGraw-Hill Publishing Company, New Delhi, 1998

B3. Chris Hendrickson and Tung Au, Project Management for Construction – Fundamental Concepts for Owners, Engineers, Architects and Builders, Prentice Hall, Pittsburgh, 2000

B4. Kumar Neeraj Jha, Construction Project Management, Pearson India publications

**3. Course Plan:**

|  |  |  |
| --- | --- | --- |
| **No. of Lectures** | **Learning Objective** | **Topics to be covered** |
| 1-6 | To An overview foundations of project management: | Introduction. General discussion on few prominent construction planning and management. Project life cycle, environment, selection, proposal, scope. Salient features. |
| 7-21 | To study elements of Planning and scheduling | Work break down structure, Grant charts or Bar charts, Basic Network, Arrow Networks, Node, networks, Lags and Leads, Graphical evaluation and review technique (GERT), Linear scheduling method (LSM), Network scheduling: critical path method (CPM), Programme evaluation and review technique (PERT), Precedence diagram. |
| 22-28 | To evaluate components of resource planning | Different resources (Part1: Materials resources for infra projects. Part 2: Equipment for infra projects), Resource levelling, Fundamentals, Allocation, schedule compression (Time-cost trade of analysis), generalized activity network. |
| 29-35 | To Estimate project cost and  monitoring project progress | Earned value analysis, Fundamentals of estimation of construction project, Methods,  Quality assurance; Mechanization and advanced process control; quality audit; milestones, bonus and penalties; dispute resolution; capacity building and skill development |
| 36-42 | To write salient features contract and Specifications | Fundamental of contract and specifications. Indian Scenario administration and management |
| Total = 42 |  |  |

4**. Reading Assignments:** Will be given as & when necessary.

1. **Evaluation Scheme:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Component** | **Duration** | **Weightage (%)** | **Date & Time** | **Remarks** |
| **Mid Semester Test** | 90 minutes | 30 | To be announced | Open Book |
| **Term Project** | - | 15 | - | Open book |
| **Assignments** | - | 15 | - | Open Book |
| **Comprehensive Exam** | 2 hours | 40 | 17/12 AN | Closed book |

1. Chamber Consultation Hour: *Wednesday 6:00 pm-6:50 pm*
2. Reading Assignments will be given as and when necessary
3. Notice: Notice concerning this course will be displayed on Google Classroom.
4. **Academic Honesty and Integrity Policy:** Academic honesty and integrity are to be maintained by all the students throughout the semester and no type of academic dishonesty is acceptable

**Instructor-in-charge**

**CE G538**