

VI Semester

CONSTRUCTION MANAGEMENT AND ENTPRENEURSHIP			
Course Code	21CV61	CIE Marks	50
Teaching Hours/Week (L:T:P: S)	3+0+0	SEE Marks	50
Total Hours of Pedagogy	40	Total Marks	100
Credits	3	Exam Hours	03
<p>Course objectives: This course will enable students to</p> <ol style="list-style-type: none"> 1. Understand the concept of planning, scheduling, cost and quality control, safety during construction, organization and use of project information necessary for construction project. 2. Inculcate Human values to grow as responsible human beings with proper personality. 3. Keep up ethical conduct and discharge professional duties 4. Develop an entrepreneurial outlook and mind set along with critical skills and knowledge to manage risks associated with entrepreneurs. 			
<p>Teaching-Learning Process (General Instructions) These are sample Strategies, which teacher can use to accelerate the attainment of the various course outcomes.</p> <ol style="list-style-type: none"> 1. Blackboard teaching/PowerPoint presentations (if needed) 2. Regular review of students by asking questions based on topics covered in the class. 			
Module-1			
<p>Management: Characteristics of management, functions of management, importance and purpose of planning process, types of plans.</p> <p>Construction Project Formulation: Introduction to construction management, project organization, management functions, management styles.</p> <p>Construction Planning and Scheduling: Introduction, types of project plans, work breakdown structure, Grant Chart, preparation of network diagram- event and activity based and its critical path critical path method, PERT method, concept of activity on arrow and activity on node.</p>			
Teaching-Learning Process	<ol style="list-style-type: none"> 1.Blackboard teaching/PowerPoint presentations (if needed) 2.Regular review of students by asking questions based on topics covered in the class. 		
Module-2			
<p>Resource Management: Basic concepts of resource management, class of lab our, Wages & statutory requirement, Labour Production rate or Productivity, Factors affecting labour output or productivity. Construction Equipments: classification of construction equipment, estimation of productivity for: excavator, dozer, compactors, graders and dumpers. Estimation of ownership cost, operational and maintenance cost of construction equipments. Selection of construction equipment and basic concept on equipment maintenance Materials: material management functions, inventory management.</p>			
Teaching-Learning Process	<ol style="list-style-type: none"> 1.Blackboard teaching/PowerPoint presentations (if needed) 2.Regular review of students by asking questions based on topics covered in the class. 		
Module-3			
<p>Construction Quality , safety and Human Values: Construction quality process, inspection, quality control and quality assurance, cost of quality, ISO standards. Introduction to concept of Total Quality Management HSE: Introduction to concepts of HSE as applicable to Construction. Importance of safety in construction , Safety measures to be taken during Excavation , Explosives , drilling and blasting , hot bituminous works , scaffolds / platforms / ladder , form work and equipment operation. Storage of materials. Safety through legislation, safety campaign. Insurances. Ethics : Morals, values and ethics, integrity, trustworthiness , work ethics, need of engineering ethics, Professional Duties, Professional and Individual Rights, Confidential and Proprietary Information, Conflict of Interest Confidentiality, Gifts and Bribes, Price Fixing, Whistle Blowing.</p>			
Teaching-Learning	<ol style="list-style-type: none"> 1.Blackboard teaching/PowerPoint presentations (if needed) 		

Process	2.Regular review of students by asking questions based on topics covered in the class.
Module-4	
<p>Introduction: Principles of Engineering Economy, Engineering Decision- Makers, Engineering and Economics, Problem solving and Decision making, Intuition and Analysis, Tactics and Strategy. Interest and Interest Factors: Interest rate, Simple interest, Compound interest, Cash- flow diagrams, Exercises and Discussion.</p> <p>Comparison of alternatives: Present worth, annual equivalent, capitalized and rate of return methods, Minimum Cost analysis and break even analysis.</p> <p>Replacement Analysis: Replacement studies, replacement due to deterioration, obsolescence, inadequacy, economic life for cyclic replacements, Exercises, Problems. Break- Even Analysis: Basic concepts, Linear Break- Even analysis, Exercises, Problems.</p> <p>Depreciation: Causes of Depreciation, Basic methods of computing depreciation charges, Exercises, Problems.</p>	
Teaching-Learning Process	1.Blackboard teaching/PowerPoint presentations (if needed) 2.Regular review of students by asking questions based on topics covered in the class.
Module-5	
<p>Introduction to Entrepreneurship – Learn how entrepreneurship has changed the world. Identify six entrepreneurial myths and uncover the true facts. Explore E-cells on Campus Listen to Some Success Stories: - Global legends Understand how ordinary people become successful global entrepreneurs, their journeys, their challenges, and their success stories. Understand how ordinary people from their own countries have become successful entrepreneurs.</p> <p>Characteristics of a Successful Entrepreneur Understand the entrepreneurial journey and learn the concept of different entrepreneurial styles. Identify your own entrepreneurship style based on your personality traits, strengths, and weaknesses. Learn about the 5M Model, each of the five entrepreneurial styles in the model, and how they differ from each other. Communicate Effectively: Learn how incorrect assumptions and limiting our opinions about people can negatively impact our communication. Identify the barriers which cause communication breakdown, such as miscommunication and poor listening, and learn how to overcome them.</p> <p>Business Planning Process: Business planning process, marketing plan, financial plan, project report and feasibility study, guidelines for preparation of model project report for starting a new venture. Introduction to international entrepreneurship opportunities, entry into international business, exporting, direct foreign investment, venture capital.</p>	
Teaching-Learning Process	1.Blackboard teaching/PowerPoint presentations (if needed) 2.Regular review of students by asking questions based on topics covered in the class.
<p>Course outcome (Course Skill Set)</p> <p>At the end of the course the student will be able to :</p> <ol style="list-style-type: none"> 1.Understand various management principles of construction industry (L2) 2.Use planning, organizing, scheduling, monitoring and controlling techniques for managing construction activity (L4) 3.Understand importance of quality control and safety in construction.(L2) 4. Understand managing data pertaining to construction project. (L4) 5. Evaluate alternatives and develop capital budget for different scenarios. 	

Assessment Details (both CIE and SEE)

The weightage of Continuous Internal Evaluation (CIE) is 50% and for Semester End Exam (SEE) is 50%. The minimum passing mark for the CIE is 40% of the maximum marks (20 marks out of 50). A student shall be deemed to have satisfied the academic requirements and earned the credits allotted to each subject/ course if the student secures not less than 35% (18 Marks out of 50)in the semester-end examination(SEE), and a minimum of 40% (40 marks out of 100) in the sum total of the CIE (Continuous Internal Evaluation) and SEE (Semester End Examination) taken together

Continuous Internal Evaluation:

Three Unit Tests each of **20 Marks (duration 01 hour)**

1. First test at the end of 5th week of the semester
2. Second test at the end of the 10th week of the semester
3. Third test at the end of the 15th week of the semester

Two assignments each of **10 Marks**

4. First assignment at the end of 4th week of the semester
5. Second assignment at the end of 9th week of the semester

Group discussion/Seminar/quiz any one of three suitably planned to attain the COs and POs for **20 Marks (duration 01 hours)**

6. At the end of the 13th week of the semester

The sum of three tests, two assignments, and quiz/seminar/group discussion will be out of 100 marks and will be **scaled down to 50 marks**

(to have less stressed CIE, the portion of the syllabus should not be common /repeated for any of the methods of the CIE. Each method of CIE should have a different syllabus portion of the course).

CIE methods /question paper is designed to attain the different levels of Bloom's taxonomy as per the outcome defined for the course.

Semester End Examination:

Theory SEE will be conducted by University as per the scheduled timetable, with common question papers for the subject (**duration 03 hours**)

1. The question paper will have ten questions. Each question is set for 20 marks.
2. There will be 2 questions from each module. Each of the two questions under a module (with a maximum of 3 sub-questions), **should have a mix of topics** under that module.

The students have to answer 5 full questions, selecting one full question from each module

1. P C Tripathi and P N Reddy, "Principles of Management", Tata McGraw-Hill Education
2. Chitkara, K.K, "Construction Project Management: Planning Scheduling and Control", Tata McGraw Hill Publishing Company, New Delhi.
3. Poornima M. Charantimath, "Entrepreneurship Development and Small Business Enterprise", Dorling Kindersley (India) Pvt. Ltd., Licensees of Pearson Education
4. Dr. U.K. Shrivastava "Construction Planning and Management", Galgotia publications Pvt. Ltd. New Delhi.
5. Bureau of Indian standards - IS 7272 (Part-1)- 1974 : Recommendations for labour output constant for building works:
5. Engineering Economy, Riggs J.L., 5th Edition, Tata McGraw Hill, ISBN 0-07-058670-5
6. Engineering Economics, R Panneerselvam, Eastern Economy Edition 2001, PHI, ISBN - 81- 203-1743-2.
7. Cost Accounting, Khan M Y, 2nd Edition, 2000, Tata McGraw-Hill, ISBN 0070402248
8. Mechanical Estimating & Costing, T.R.Banga, S.C.Sharma, 16th Edition, 2011, Khanna Publishers, ISBN 8174091009

Web links and Video Lectures (e-Resources):

- Online study material
- You Tube video lectures

Activity Based Learning (Suggested Activities in Class)/ Practical Based learning

- Seminars/Quizz(To assist in GATE Preparations
- Self Study on simple topics
- Case Study Presentation