

|| Jai Sri Gurudev||  
**Sri Adichunchanagiri Shikshana Trust (R)**  
**ADICHUNCHANAGIRI UNIVERSITY**  
**BGS Institute of Technology**

**B. E. CIVIL ENGINEERING**  
**Choice Based Credit System (CBCS) and Outcome Based Education (OBE)**

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|---|--------------------|---|------------------------|-----------------|------------------------|
| <b>18CV51</b>   | <b>Course Code</b> | <b>CONSTRUCTION MANAGEMENT AND ENTREPRENEURSHIP</b> | <b>Course Title</b>    | <b>V</b>        | <b>Semester</b>        |
| <b>3</b>  | <b>Credits</b>     | <b>2 – 2 – 0 – 4</b>                                | <b>L – T – P – TL*</b> | <b>50 Hours</b> | <b>Teaching Period</b> |
| <b>100 Marks</b>  | <b>Total</b>       | <b>60 Marks</b>                                     | <b>SEE*</b>            | <b>40 Marks</b> | <b>CIE*</b>            |
| <p style="text-align: center;">*NOTE: L – Lecture; T – Tutorial; P – Practical; TL – Total;<br/> CIE – Continuous Internal Evaluation; SEE – Semester End Examination</p> |                    |   |                        |                 |                        |

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| <p><b>Course Learning Objectives:</b><br/> This course will enable students to</p> <ol style="list-style-type: none"> <li>1. To study and understand the concept of management, construction organization, construction planning and scheduling.</li> <li>2. Understand importance of resource management, construction equipment and materials.</li> <li>3. Understand concept of construction quality, safety and human values.</li> <li>4. Understand importance of economics, time value money and factors governing.</li> <li>5. Ability to understand the concepts of entrepreneurship, MSME and business planning process</li> </ol> | <b>Teaching Hours</b> |
| <p><b>Module-1</b><br/> <b>Management:</b> Characteristics of management, functions of management, importance and purpose of planning process, types of plans<br/> <b>Construction Project Formulation:</b> Introduction to construction management, project organization, management functions, management styles<br/> <b>Construction Planning and Scheduling:</b> 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, concept of activity on arrow and activity on node.</p>                               | <b>10Hours</b>        |
| <p><b>Module-2</b><br/> <b>Resource Management:</b> Basic concepts of resource management, class of labour, Wages &amp; statutory requirement, Labour Production rate or Productivity, Factors affecting labour output or productivity.<br/> <b>Construction Equipment's:</b> classification of construction equipment, estimation of productivity for: excavator, dozer, compactors, graders and dumpers. Selection of construction equipment and basic concept on equipment maintenance<br/> <b>Materials:</b> Material management functions, inventory management.</p>   | <b>10Hours</b>        |

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| <p><b>Module-3</b></p> <p><b>Construction Quality, safety and Human Values:</b> Construction quality process, inspection, quality control and quality assurance, cost of quality, ISO standards. Introduction to concept of Total Quality Management</p> <p><b>HSE:</b> 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.</p> <p><b>Ethics :</b> 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> | <b>10Hours</b> |
| <p><b>Module-4</b></p> <p><b>Introduction to engineering economy:</b> Principles of engineering economics, concept on Micro and macro analysis, problem solving and decision making.</p> <p><b>Interest and time value of money:</b> concept of simple and compound interest, interest formula for: single payment, equal payment and uniform gradient series. Nominal and effective interest rates, deferred annuities, capitalized cost.</p> <p><b>Comparison of alternatives:</b> Present worth, annual equivalent, capitalized and rate of return methods, Minimum Cost analysis and break even analysis.</p>  | <b>10Hours</b> |
| <p><b>Module-5</b></p> <p><b>Entrepreneurship:</b> Evolution of the concept, functions of an entrepreneur, concepts of entrepreneurship, stages in entrepreneurial process, different sources of finance for entrepreneur, central and state level financial institutions.</p> <p><b>Micro, Small &amp; Medium Enterprises (MSME):</b> Definition, characteristics, objectives, scope, role of MSME in economic development, advantages of MSME, Introduction to different schemes: TECKSOK, KIADB, KSSIDC, DIC, Single Window Agency: SISI, NSIC, SIDBI, KSFC</p> <p><b>Business Planning Process:</b> 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>             | <b>10Hours</b> |
| <p><b>Course outcomes:</b></p> <p>After studying this course, students will be able to:</p> <ol style="list-style-type: none"> <li>1. Prepare a project plan based on requirements and prepare schedule of a project by understanding the activities and their sequence.</li> <li>2. Understand labour output, equipment efficiency to allocate resources required for an activity / project to achieve desired quality and safety.</li> <li>3. Analyze the economics of alternatives and evaluate benefits and profits of a construction activity based on monetary value and time value.</li> <li>4. Establish as an ethical entrepreneur and establish an enterprise utilizing the provisions offered by the federal agencies.</li> </ol>   |                |
| <p><b>Question paper pattern:</b></p> <ul style="list-style-type: none"> <li>• The question paper will have ten full questions carrying equal marks.</li> <li>• Each full question will be for 20 marks.</li> </ul>  |                |

- There will be two full questions (with a maximum of four sub- questions) from each module.
- Each full question will have sub- question covering all the topics under a module.
- The students will have to answer five full questions, selecting one full question from each module.

**Textbooks:**

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 McGrawHill 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:

**Reference Books:**

1. Robert L Peurifoy, Clifford J. Schexnayder, AviadShapira, Robert Schmitt, “Construction Planning,Equipment, and Methods (Civil Engineering), McGraw-HillEducation
2. Harold Koontz, Heinz Weihrich, “Essentials of Management: An International, Innovation, and Leadership perspective”, T.M.H. Edition, NewDelhi
3. Frank Harris, Ronald McCaffer with Francis Edum-Fotwe, “ Modern Construction Management”, Wiley-Blackwell
4. Mike Martin, Roland Schinzinger, “Ethics in Engineering”, McGraw-HillEducation
5. Chris Hendrickson and Tung Au, “Project Management for Construction - Fundamentals Concepts for Owners, Engineers, Architects and Builders”, Prentice Hall,Pitsburgh
6. James L.Riggs, David D. Bedworth , Sabah U. Randhawa “ Engineerng Economics” 4.