**19CE3102 – QUANTITY SURVEYING AND VALUATION**

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| **Course Category** | Professional Core | **Credits** | 3 |
| **Course Type** | Theory | **Lecture - Tutorial - Practical** | 2 - 1 - 0 |
| **Prerequisite** | Building Materials and Construction | **Sessional Evaluation** | 40 |
| **Semester End Exam Evaluation** | 60 |
| **Total Marks** | 100 |

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| **Course Objectives** | 1. To enhance skill of students in preparing estimate for civil engineering works. 2. To recognize the significance of specifications. 3. To perform the rate analysis for earthwork, various types of masonry, and flooring. 4. To perform the rate analysis for roofing, finishing, woodwork, and road work. 5. To familiarize students with the essentials of contracts. 6. To understand the principles of valuation. | |
| **Course Outcomes** | CO1 | Prepare approximate and detailed estimates of simple buildings and road works. |
| CO2 | Gain thorough knowledge of specifications of various materials and items of building construction. |
| CO3 | Perform rate analysis for earthwork, various types of masonry, and flooring. |
| CO4 | Perform the rate analysis for roofing, plastering, pointing, woodworks of simple buildings, and road works. |
| CO5 | Evaluate contracts and tenders in construction practices. |
| CO6 | Calculate the value of tangible assets. |
| **Course Content** | **UNIT – I**  **INTRODUCTION:** General items of work in buildings – Standard units – Principles of working out quantities for detailed and abstract estimates – Approximate and detailed estimates of simple buildings and road works.  **UNIT – II**  **SPECIFICATIONS:** Types – Standard specifications for different materials and items of building construction– Sand – Lime – Cement – Kankar – Mortars – Earth work for foundations – Foundation concrete – Reinforced concrete – Brick work – Stone masonry –Mosaic Flooring – R.C.C. roof and G.I. sheet roof – Plastering – Pointing – Painting and wood works.  **UNIT – III**  **RATE ANALYSIS-I:**  Earthwork for foundations and basement of buildings.  Mortars: Lime mortar (1:1.5) and Cement Mortar (1:4).  Foundation Concrete: Lime concrete (1:2:4) and Cement Concrete (1:5:10).  Reinforced Concrete: Lintels, Slabs, Beams, and Columns (1:2:4).  Brickwork: Constructed with first-class bricks with L.M. (1:1.5) and C.M.(1:6)  Stone Masonry: C.R.S. – 1st sort constructed with C.M. (1:2) and  R. R. Masonry: Lime mortar (1:1.5) and C.M. (1:2).  Flooring:   1. With Cuddapah or Shahabad slabs. 2. Ellis pattern flooring with 10cm concrete and 20mm cement concrete surface 3. Mosaic flooring.   **UNIT – IV**  **RATE ANALYSIS-II:**  Roofing: a) R.C.C. roof 10cm thick, two courses of flat tiles to top.  b) A.C. corrugated sheet roofing on steel purlins.  Plastering : a) With L.M. (1:1.5) 2 coats (20mm thick)  b) C.M. (1:4) 12mm thick.  Pointing: a) With C.M. (1:3) flush pointing to R.R. Masonry.  b) C.M. (1:3) for brick masonry.  Painting: a) Whitewashing and colour washing of walls: 2 coats.  b) Painting iron and woodwork: 3 coats.  Woodwork: Panelled doors and windows.  Road work: W.B.M. road with bituminous carpet 20mm thick.  **UNIT –V**  **CONTRACTS:** Essential requirements of a valid contract - Forms of contract-Types of contracts– Contract document – Conditions of contracts– Contract procedure – Termination of contracts – Specifications – Important conditions of contract – Arbitration and tenders.  **UNIT – VI**  **VALUATION:** Introduction – Technique of valuation–Elements of valuation and Factors affecting valuation–Methods of valuation of land property and building property– Rate of interest for sale– Purchase– Mortgage– Capital gain– Tax– Estate duty and death duty –Types of valuation – Valuation for renewal of lease– Extension of lease– Methods of Ascertaining standard rent– Easement rights– Preparation of feasibility reports– Valuation reports – Awards. | |
| **Textbooks and References** | **TEXTBOOKS:**   1. B.N. Dutta, *Estimating and Costing in Civil Engineering*, UBS Publishers' Distributors Ltd publications, 28th revised Edition, 2016. 2. G.S.Birdie, *A Textbook of* *Estimating and Costing in Civil Engineering,* Dhanpat Rai Publishing Company Private Limited, 6th Edition, 2014. 3. M.Chakraborti*, Estimation, costing, specifications and valuation in civil engineering*, Published by M. Chakraborthi, 29th revised Edition, 2006   **REFERENCE BOOKS:**   1. Andhra Pradesh Revised Standard Data Book Part-1, 2017-18 2. A.P. Department standard specifications. V. V. Narayana R&B, 2013 | |

**CO-PO Mapping:** 3-High Mapping, 2-Moderate Mapping, 1-Low Mapping, - -Not Mapping

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|  | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | **PO7** | **PO8** | **PO9** | **PO10** | **PO11** | **PO12** |
| **CO1** | 1 | - | - | - | - | 1 | - | 1 | - | - | 1 | - |
| **CO2** | 1 | - | - | - | - | 2 | - | - | - | - | - | 1 |
| **CO3** | 2 | - | - | - | - | 2 | - | 1 | - | - | 1 | - |
| **CO4** | 2 | - | - | - | - | 2 | - | 1 | - | - | 1 | - |
| **CO5** | - | - | - | - | - | 2 | - | 1 | 2 | - | 2 | 1 |
| **CO6** | 2 | - | - | - | - | 2 | - | 2 | - | - | 2 | 2 |