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| Image result for nit meghalaya logo | | | | **National Institute of Technology Meghalaya**  An Institute of National Importance | | | | | | | | | | | | | | | | | | | | | | | **CURRICULUM** | | | | | |
| Programme | | | | **Bachelor of Technology in Civil Engineering** | | | | | | | | | | | | | Year of Regulation | | | | | | | | | | **2020-21** | | | | | |
| Department | | | | **Department of Civil Engineering** | | | | | | | | | | | | | Semester | | | | | | | | | | **VIII** | | | | | |
| Course  Code | | Course Name | | | | | | | | **Pre requisite** | | | | Credit Structure | | | | | | | | Marks Distribution | | | | | | | | | | |
| L | | T | | | P | C | | INT | | | MID | | | END | | | Total | |
| **CE 416** | | **Estimation, Costing and Valuation** | | | | | | | | **Nil** | | | | **3** | | **0** | | | **0** | **3** | | **50** | | | **50** | | | **100** | | | **200** | |
| Course  Objectives | | **To develop in the student the art and skill whereby a monetary value can be placed on the volume of work previously measured** | | | | | | | | | | Course Outcomes | | | | CO1 | | | **Prepare cost estimate for different item of works in a masonary structures using various methods** | | | | | | | | | | | | | |
| **To develop an awareness of those factors that affect the cost of construction work and to analyze the influences that effect change in these factors** | | | | | | | | | | CO2 | | | **Prepare cost estimate for different item of works in a RCC works & Structures** | | | | | | | | | | | | | |
| **To encourage the habit of systematically recording all those statistics which are the stock in trade of the good estimator.** | | | | | | | | | | CO3 | | | **Prepare cost estimate for different item of works in a roads& bridges** | | | | | | | | | | | | | |
|  | | | | | | | | | | CO4 | | | **Identify the main sources of current and forecast labour rates, give at least three sources for labour production rates, calculate the production rates of a variety of tradesmen in a given job** | | | | | | | | | | | | | |
|  | | | | | | | | | | CO5 | | | **Understand and prepare specification for various items of work in a contract** | | | | | | | | | | | | | |
|  | | | | | | | | | | CO6 | | | **Describe the various method of valuation** | | | | | | | | | | | | | |
|  | | | | | | | | | |
| No. | COs | | Mapping with Program Outcomes (POs) | | | | | | | | | | | | | | | | | | | | | | | Mapping with PSOs | | | | | | |
| PO1 | | PO2 | PO3 | PO4 | PO5 | PO6 | | PO7 | | PO8 | | PO9 | | | PO10 | | | PO11 | | PO12 | | | PSO1 | | | PSO2 | | | PSO3 |
| 1 | CO1 | | **0** | | **0** | **0** | **2** | **2** | **2** | | **0** | | **0** | | **1** | | | **0** | | | **3** | | **1** | | | **0** | | | **3** | | | **1** |
| 2 | CO2 | | **0** | | **0** | **0** | **2** | **2** | **2** | | **0** | | **0** | | **1** | | | **0** | | | **3** | | **1** | | | **0** | | | **3** | | | **1** |
| 3 | CO3 | | **0** | | **0** | **0** | **2** | **2** | **2** | | **0** | | **0** | | **1** | | | **0** | | | **3** | | **1** | | | **0** | | | **3** | | | **1** |
| 4 | CO4 | | **0** | | **0** | **0** | **2** | **2** | **2** | | **0** | | **0** | | **1** | | | **0** | | | **3** | | **1** | | | **0** | | | **3** | | | **1** |
| 5 | CO5 | | **0** | | **0** | **0** | **2** | **0** | **2** | | **0** | | **0** | | **1** | | | **0** | | | **3** | | **1** | | | **0** | | | **3** | | | **1** |
| 6 | CO6 | | **0** | | **0** | **0** | **2** | **2** | **2** | | **0** | | **0** | | **0** | | | **0** | | | **3** | | **1** | | | **0** | | | **3** | | | **1** |
| SYLLABUS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| No. | Content | | | | | | | | | | | | | | | | | | | | | | | Hours | | | | | | COs | | |
| I | **Estimate of Building**  Different items of works as per CPWD/APWD schedule such as earthwork, brickwork, cement-concrete, RCC-floors, roofs, openings, painting, white & colour washing, plastering etc. | | | | | | | | | | | | | | | | | | | | | | | **6** | | | | | | **CO1** | | |
| II | **RCC Works & structures**  Different items of RCC work – RCC, shuttering, measurement of reinforcing bars, standard hooks & bends, Bar-bending schedule, Estimate of RCC beam, slab column, footing & staircase. | | | | | | | | | | | | | | | | | | | | | | | **6** | | | | | | **CO2** | | |
| III | **Roads & Bridges**  Introduction to the different items as per CPWD/APWD schedule, estimate of earthwork of road, estimate of metalled road, estimate of RCC slab culvert, T-beam decking, Pier & well foundation, Pipe Culvert | | | | | | | | | | | | | | | | | | | | | | | **6** | | | | | | **CO3** | | |
| IV | **Analysis of Rates**  Analysis of Rates of Building works-RCC, PCC, Brickwork, Plastering, flooring, colour wash, Distempering, cement painting, woodwork, DPC, Doors & Windows, Roofing. | | | | | | | | | | | | | | | | | | | | | | | **6** | | | | | | **CO4** | | |
| V | **Specifications**  General specifications for building works-RCC, Brickwork, Plastering, Flooring, Painting, white & colour wash, Woodworks, Doors & windows, DPC, terracing, rainwater exclusion, specifications for Roadwork. | | | | | | | | | | | | | | | | | | | | | | | **6** | | | | | | **CO5** | | |
| VI | **Valuations**  The mathematics of valuation, valuation of freehold & leasehold properties, Fixation of Rent, Methods of valuation, Investment Method, Comparison Method, Residual Method, rein-statement Method, Contractors Method. Methods of valuation of land-comparative method, abstractive method & belting method. | | | | | | | | | | | | | | | | | | | | | | | **6** | | | | | | **CO6** | | |
| Total Hours | | | | | | | | | | | | | | | | | | | | | | | | **36** | | | | | |  | | |
| **Essential Readings** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1. Dutta, S. “Estimating and Costing in Civil Engineering”, Datta & Co. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1. Bhasin, P.L., “Quantity Surveying”, 2nd Edition, S.Chand& Co.. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1. Kohli, D. D., “A Textbook of Estimating and Costing (Civil)” S.Chand& Co.. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Supplementary Readings** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1. Dutta, B.N., “Estimating and Costing”, Kalyani Publication, Calcutta. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1. Rangwala, S.C., “Valuation of Real Properties”, Charoter Publisher, Pune. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1. Patil, B.S.,”CivilEngg. Contracts & Estimates”, Orient-Longman Ltd., New Delhi. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1. CPWD, “CPWD specifications Vol-I, II, III, &IV”, Join Book Agency, New Delhi. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |