**NBKR INSTITUTE OF SCIENCE & TECHNOLOGY :: VIDYANAGAR**

*(AUTONOMOUS)*

**CIVIL ENGINEERING**

SCHEME OF INSTRUCTION AND EVALUATION

(With effect from the batch admitted in the academic year 2013-2014)

**IV YEAR OF FOUR YEAR B.TECH. DEGREE COURSE – I SEMESTER**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| S.No. | Course  Code | Course Title | Contact  Hours/  Week | | | Credits | Evaluation | | | | | | | | | |
| Sessional  Test-I | | | Sessional  Test-II | | Total Sessional Marks (Max. 40) | Semester  End Examination | | Max.  Total Marks | |
| **THEORY** | L | P | T |  | Duration  in Hours | | Max.  Marks | Duration  in Hours | Max.  Marks | 0.8(Better of two sessional tests)  +  0.2(Other) | Duration  in Hours | Max.  Marks |  | |
| 1 | 13CE4101 | Environmental Engineering – II | 4 | - | - | 4 | 2 | | 40 | 2 | 40 | 3 | 60 | 100 | |
| 2 | 13CE4102 | Irrigation & Hydraulic Struc.. | 4 | - | - | 4 | 2 | | 40 | 2 | 40 | 3 | 60 | 100 | |
| 3 | 13CE4103 | Quantity Surveying & Valuation | 3 | - | 1 | 4 | 2 | | 40 | 2 | 40 | 3 | 60 | 100 | |
| 4 | 13CE4104 | Construction Planning & Management | 3 | - | 1 | 4 | 2 | | 40 | 2 | 40 | 3 | 60 | 100 | |
| 5 | 13SH4101 | Economics & Accountancy | 4 | - | - | 4 | 2 | | 40 | 2 | 40 | 3 | 60 | 100 | |
| 6 | 13CE41EX | Elective – II | 4 | - | - | 4 | 2 | | 40 | 2 | 40 | 3 | 60 | 100 | |
|  | | **PRACTICALS** |  |  | | | | | | | |  |  | | | |
| 1 | 10CE41P1 | Concrete Technology Laboratory | - | 3 | - | 2 | | - | - | - | - | Day-to-day Evaluation and a test | 3 | 60 | | 100 |
| 2 | 10CE41P2 | Environmental Engineering Laboratory | - | 3 | - | 2 | | - | - | - | - | 3 | 60 | | 100 |
|  |  | **TOTAL** | **22** | **06** | **02** | **28** | | **12** | **320** | **12** | **320** | **24** | **480** | | **800** |

**Elective – II:**

13CE41E1 Prestressed concrete structures

13CE41E2 Advanced structural design

13CE41E3 Solid waste management

13CE41E4 Traffic engineering

13CE41E5 Applied soil mechanics

13CE41E6 Bridge engineering

**13CE4103 -QUANTITY SURVEYING AND VALUATION**

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| --- | --- | --- | --- |
| **Course category:** | Program core | **Credits:** | 4 |
| **Course Type:** | Theory | **Lecture - Tutorial - Practical:** | 3 - 1 - 0 |
| **Prerequisite:** | Building technology | **Sessional Evaluation :**  **Univ.Exam Evaluation:**  **Total Marks:** | 40  60  100 |

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| **Course Outcomes** | CO1 | Be able to prepare approximate and detailed estimates of simple buildings. |
| CO2 | Understand the specifications of various components of simple building. |
| CO3 | Be able to carry out rate analysis for various construction works for a simple building. |
| CO4 | Be able to prepare tenders and arbitration of tenders. |
| CO5 | Be able to prepare valuation document. |
| **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.  **UNIT – II**  **SPECIFICATIONS:** Types - Standard specifications for different items of building construction – Earth work for foundations, Sand, Cement, Kankar, mortars, foundation concrete, Reinforced concrete, Brick work, Stone masonry, Lime, Mosaic Flooring, RCC roof and GI sheet roof, plastering, , pointing , Painting and wood works.  **UNIT – III**  **RATE ANALYSIS:**  Earth work for foundations and basement of buildings.  Mortars : Lime mortar ( 1:1.5), Cement Mortar (1:4)  Foundation Concrete : Lime concrete (1:2:4), Cement Concrete (1:5:10)  Reinforced Concrete : Lintels, Slabs, Beams, Columns (1:2:4)  Brick work : Constructed with first class bricks with L.M. (1:1.5) and C.M.(1:6)  Stone Masonry : C.R.S. – Ist  sort constructed with C.M. (1:2) and R.R.Masonry in mud, lime mortar (1:1.5), C.M.(1:2)  Flooring: a) With Cuddapah or Shahbad slabs.  b) Ellis pattern flooring with 10cm concrete and 20mm cement concrete surface - Mosaic flooring.  Roofing: a) R.C.C. roof 10cm thick, 2 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) White washing and colour washing of walls: 2 coats.  b) Painting iron and wood work: 3 coats.  Wood work: a) Panelled doors and windows.  b) W.B.M. road with bituminous carpet 20mm thick.  **UNIT – IV**  **CONTRACTS:** Types of contracts, contract document, conditions of contracts, contract procedure, termination of contracts, specifications, important conditions of contract, arbitration and tenders.  **UNIT – V**  **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, standard rent, easement rights, preparation of feasibility reports, valuation of reports, awards. | |
| **Text Books and reference Books:** | **TEXT BOOKS:**   1. Text book of estimating and costing – B.N. Dutta. 2. Estimating Consting by G.S.Birdie.   **REFERENCEBOOKS**:   1. Valuation by Rangwala. 2. A.P.D.S.S. Standard data book Vol. II. 3. A.P. Department standard specifications. 4. Professional practice – by Roshan Namvati. | |