**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)

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

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| --- | --- | --- | --- | --- | --- |
| S.No. | CourseCode | Course Title | Contact Hours/Week | Cred-its | Evaluation |
| SessionalTest-I | SessionalTest-II | Total Sessional Marks (Max. 40) | SemesterEnd Examination | Max.Total Marks |
| **THEORY** | L | P | T |  | DurationIn Hours | Max.Marks | DurationIn Hours | Max.Marks | 0.8(Better of two sessional tests)+0.2(Other) | DurationIn Hours | Max.Marks |  |
| 1 | 13SH2102 | Computational Techniques, Statistics and Complex Analysis | 3 | - | 1 | 4 | 2 | 40 | 2 | 40 | 3 | 60 | 100 |
| 2 | 13CE2101 | Engineering Mechanics | 3 | - | 1 | 4 | 2 | 40 | 2 | 40 | 3 | 60 | 100 |
| 3 | 13CE2102 | Fluid Mechanics - I | 3 | - | 1 | 4 | 2 | 40 | 2 | 40 | 3 | 60 | 100 |
| 4 | 13CE2103 | Building Technology | 4 | - | - | 4 | 2 | 40 | 2 | 40 | 3 | 60 | 100 |
| 5 | 13CE2104 | Surveying – 1 | 3 | - | 1 | 4 | 2 | 40 | 2 | 40 | 3 | 60 | 100 |
| 6 | 13CE2105 | Engineering Geology  | 4 | - | - | 4 | 2 | 40 | 2 | 40 | 3 | 60 | 100 |
|  | **PRaCTICALS** |  |  |  |  |
| 7 | 13CE21P1 | Surveying Laboratory – I | - | 3 | - | 2 | - | - | - | - | Day-to-day Evaluation and a test | 3 | 60 | 100 |
| 8 | 13CE21P2 | Engineering Geology Laboratory | - | 3 | - | 2 | - | - | - | - | 3 | 60 | 100 |
|  |  | **TOTAL** | **20** | **06** | **04** | **28** | **-** | **-** | **-** | **-** | **-** | **-** | **800** |

**13CE2103 - BUILDING TECHNOLOGY**

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| --- | --- | --- | --- |
| **Course category:** | Program core | **Credits:** | 4 |
| **Course Type:** | Theory | **Lecture - Tutorial - Practical:** | 3 - 1 - 0 |
| **Prerequisite:** | None  | **Sessional Evaluation :****Univ.Exam Evaluation:****Total Marks:** | 4060100 |

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| **Course Outcomes** | CO1 | Understand the characteristics of the natural building materials, bricks and tiles. |
| CO2 | Understand the characteristics of various types of cements of, special material and laboratory testing of common building materials. |
| CO3 | Understand the terminology in the general building construction and construction practices using stone and brick. |
| CO4 | Understand and recognize types of frames structures and various building compounds. |
| CO5 | Understand and apply various types of building finishes. |
| **Course Content** | **UNIT – I****BUILDING MATERIALS -I:** Stones: Uses – Natural bed – Qualities of good building stones – common building stones of India – Bricks: Composition of good brick earth – Harm full ingredients – Manufacture of bricks – Classification of bricks – Size and shape – Aggregate – Sand – Tiles – Wood. **UNIT – II****BUILDING MATERIALS–II:** Ordinary and Special Cements – Plain & Reinforced Cement Concrete – Concrete and Mortar Admixtures – I.S.I. Standards and Laboratory Testing of Building Materials – Bricks, Stones, Aggregate, Sand and OPC – Modern renovation materials: Cement bound – polymer cement bound and pure polymer bound materials – their properties & uses. **UNIT – III****BUILDING STRUCTURES–I:** Types of foundation – Definitions of terms used in Stone and brick masonry – stone masonry: Classification – Supervision – Dressing – Brick masonry: Types of bonds – Defects in brick masonry– Brick Laying – Damp proof course – plinth beam – types of flooring. **UNIT – IV****BUILDING STRUCTURES–II:** Types of Framed Structures – lintels – arches – sunshades – Types of roofs and roof coverings – Staircases – Form works – doors – windows. **UNIT – V****BUILDING FINISHES:** Plastering and Pointing – Color Washing – Distempers – Painting and Varnishing: Characteristics – Ingredients – Types – Painting and Varnishing on Different Surfaces – Water Supply and Sanitary arrangements – Electrification and Weather proof Courses. |
| **Text Books and reference Books:** | **TEXT BOOKS:** 1. Building Construction by B.C. Punmia. 2. Building Construction by Sushil Kumar. 3. Materials of construction by RC Smith. **REFERENCE BOOKS:** 1. A Text Book of Building Construction by S.K. Sharma & B.K.Kaul. 2. Building Materials by Gurucharan Singh. 3. Concrete Technology by M. S. Shetty. |