**17CE32P1 – HIGWAY MATERIALS LABORATORY**

|  |  |  |  |
| --- | --- | --- | --- |
| **Course Category** | Professional Core | **Credits** | 2 |
| **Course Type** | Laboratory | **Lecture - Tutorial - Practical** | 0 - 0 - 3 |
| **Prerequisite** | Transportation Engineering – I | **Sessional Evaluation** | 40 |
| **Semester End Exam Evaluation** | 60 |
| **Total Marks** | 100 |

|  |  |  |
| --- | --- | --- |
| **Course Objectives** | 1. To assess the quality of bitumen and its suitability for highway construction works. 2. To learn the testing procedure of aggregate and able to judge its suitability as highway construction material. | |
| **Course**  **Outcomes** | CO1 | Determine various properties of bitumen. |
| CO2 | Conduct various tests on bitumen. |
| CO3 | Assess the quality of bitumen. |
| CO4 | Determine various properties of aggregate. |
| CO5 | Evaluate the quality of the aggregate and judging its suitability for highway construction. |
| CO6 | Choose the required materials based on field conditions. |
| **Course**  **Content** | **CYCLE – I: TESTS ON AGGREGATES**   1. Specific Gravity and Water Absorption Test. 2. Aggregate Impact Test 3. Elongation Index Test 4. Flakiness Index Test 5. Angularity Number Test 6. Los Angles Abrasion Test 7. Aggregate Crushing Test   **CYCLE – II: TESTS ON BITUMEN**   1. Flash & Fire Point Test 2. Softening Point Test 3. Specific Gravity Test 4. Penetration Test 5. Ductility Test 6. Stripping Value Test | |