**Test Case Generation:**

**Black Box Testing**

1: Equivalence Class Partitioning

2: Boundary Value Analysis

3: Cause Effect Graphing

**Equivalence Class Partitioning of Departments:**

|  |  |  |
| --- | --- | --- |
| **Equivalence Class** | **Test Domain** | **Test Data** |
| EC1 | Computer Science | 0801cs101, 0801cs111, 0801cs134, 0801cs160 |
| EC2 | Electronics And Telecommunication | 0801ec101, 0801ec145, 0801ec123, 0801ec167 |
| EC3 | Mechanical | 0801me101,0801me107, 0801me133,0801me107 |
| EC4 | Industrial Production | 0801ip101, 0801ip166, 0801ip134, 0801ip187 |
| EC5 | Civil | 0801ce101, 0801ce111, 0801ce134, 0801ce160 |
| EC6 | Information Technology | 0801it104, 0801it141, 0801it137, 0801it160 |
| EC7 | Electronics and Instrumentation | 0801ei107, 0801ei101, 0801ei138, 0801ei169 |

**Equivalence Class Partitioning of Students:**

|  |  |  |
| --- | --- | --- |
| **Equivalence Class** | **Test Domain** | **Test Data** |
| EC1 | First Year | 0801cs101, 0801me101, 0801ec134, 0801ce160 |
| EC2 | Second Year | 0801it101, 0801ec111, 0801ip134, 0801ei130 |
| EC3 | Third Year | 0801ec101, 0801ip111, 0801ei134, 0801cs160 |
| EC4 | Fourth Year | 0801ei101,0801cs111, 0801ec134,0801me160 |

**Boundary Value analysis Of Departments:**

|  |  |  |
| --- | --- | --- |
| **Equivalence Class** | **Test Domain** | **Test Data** |
| EC1 | Computer Science | 0801cs101, 0801cs111, 0801cs134, 0801cs160 |
| EC2 | Electronics And Telecommunication | 0801ec101, 0801ec145, 0801ec123, 0801ec167 |
| EC3 | Mechanical | 0801me101,0801me107, 0801me133,0801me107 |
| EC4 | Industrial Production | 0801ip101, 0801ip166, 0801ip134, 0801ip187 |
| EC5 | Civil | 0801ce101, 0801ce111, 0801ce134, 0801ce160 |
| EC6 | Information Technology | 0801it104, 0801it141, 0801it137, 0801it160 |
| EC7 | Electronics and Instrumentation | 0801ei107, 0801ei101, 0801ei138, 0801ei169 |

**Boundary Value analysis Of Students:**

|  |  |  |
| --- | --- | --- |
| **Equivalence Class** | **Test Domain** | **Test Data** |
| EC1 | First Year | 0801cs101, 0801me101, 0801ec134, 0801ce160 |
| EC2 | Second Year | 0801it101, 0801ec111, 0801ip134, 0801ei160 |
| EC3 | Third Year | 0801ec101, 0801ip111, 0801ei134, 0801cs160 |
| EC4 | Fourth Year | 0801ei101,0801cs111, 0801ec134,0801me160 |

(**Note**: Since Departments and Students year wise classification are mutually exclusive. So, there is no boundary value. Hence, class will be same as Equivalence Class partitioning. )

**Cause Effect Graphing of “Search Academic record of student”**

|  |  |
| --- | --- |
| **Cause (ID)** | **Description** |
| C1 | Valid Membership |
| C2 | User type is Teacher |
| C3 | Valid Student id |

|  |  |
| --- | --- |
| **Effect** | **Description** |
| E1 | Academic record of student is shown |

Cause-Effect Graph-

**E1**

**C1**

(E1=C1^C2^C3)

**C2**

**C3**

**Cause Effect Graphing of “To Change a password”**

|  |  |
| --- | --- |
| **Cause (ID)** | **Description** |
| C1 | Valid Membership |
| C2 | Verify Old password |
| C3 | Confirm new password |

|  |  |
| --- | --- |
| **Effect** | **Description** |
| E1 | Password Change Successfully |

Cause-Effect Graph-

**C1**

**C2**

**E1**

**C3**

(E1=C1^C2^C3)