

**Institutional Learning Outcomes (ILO's)**

1. communicate effectively
2. employ critical thinking [*& problem solving*]
3. possess specific knowledge and skills in a major discipline or professional program of study
4. take responsibility and develop skills for learning
5. interact responsibly with people, cultures, and their environment

**Program Learning Outcomes (PLO's)**

1. Practice safety and occupational health procedures in the workplace.
2. Use electricity hand and power tools competently.
3. Test electrical equipment.
4. Interpret schematic wiring diagrams and waveforms.
5. Determine the amount of load per circuit.
6. Install residential wiring circuits according to given specification and plan.
7. Identify and interpret basic solid state (electronics) symbols and circuits schematics commonly found in the electrical industry.
8. Analyze circuit operation on basic motors.
9. Perform basic troubleshooting on basic motors.
10. Install and perform basic maintenance on air-conditioning units.
11. Interpret and install circuits according to rules and regulations of the National Electrical Code book.
12. Install and analyze basic motor control circuits.

| SLO#   | PLO     | I, D, M                                |      | Reflection/Comment  |
|--|---------|--|------|---|
| SLO#1 Describe the purpose and operation of Unijunction Transistor (UJT) and Silicon Controlled Rectifier (SCR). | 4, 7    | I (introduced level)                   | 3    | 13 out of 15 students got the passing mark. 87% was achieved by the students in this SLO. |
| SLO#2 Describe UJT oscillator circuit operation.   | 3, 4, 7 | I,D (introduced and demonstrate level) | 3, 4 | 13 out of 15 students got the passing mark. 87% was achieved by the students in this SLO. |
| SLO#3 Describe SCR trigger circuit operation.  | 3, 4, 7 | I,D (introduced and demonstrate level) | 3, 4 | 11 out of 15 students got the passing mark. 73% was achieved by the students in this SLO. |

|  |         |  |      |   |
|--|---------|--|------|---|
| SLO#4 Describe SCR power control operation.  | 3, 4, 7 | D (demonstrate level)                  | 3, 4 | 11 out of 15 students got the passing mark. 73% was achieved by the students in this SLO. |
| SLO#5 Identify the relationship among Triac, SCRs, Diac and four-layered devices.                        | 4, 7    | I,D (introduced and demonstrate level) | 3    | 10 out of 15 students got the passing mark. 67% was achieved by the students in this SLO. |
| SLO#6 Describe the construction, operation and application of Programmable Unijunction Transistor (PUT). | 4, 7    | I,D (introduced and demonstrate level) | 3    | 12 out of 15 students got the passing mark. 80% was achieved by the students in this SLO. |

**Additional observations:** In reference with the data presented above, high percentage showed students are interested in combining theoretical and hands-on activities in the class.

**Special comments:** This assessment focuses on the theory and lab exercises that our students learned. Data showed that SLO's with hands-on activities marks average rate due to insufficient lab equipment per class. Once the students perform the given task, we can then recommend them either Pass or Failed.

**STUDENTS FINAL GRADES BREAKDOWN:**

A = 2  
 B = 7  
 C = 6  
 D = 0  
 F = 0

**Recommendations:** Laboratory equipments (NIDA cards) for discrete devices II must be purchased in able for the students to perform their required experiment. Data shows a low percentage on SLO #5 due to lack of experiment card and equipment to perform the experiment. A revision of this course is recommended to suit electrical students needs by combining discrete devices I and II into one 3 credit course.

Please check which of the following were assessed in this course:

**Institutional Learning Outcomes:**

COM-FSM graduates will demonstrate that they can:

- a. communicate effectively
- b. employs critical thinking (*& problem solving*)
- c. possess specific knowledge and skills in a major discipline or professional program of study
- d. takes responsibility and develops skills for learning
- e. interact responsibly with people, cultures, and their environment

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