| BASICELECTRICALENGINEERINGLABORATORY | | | |
|---|---|---|---|
| CourseCode | 21ELE17/27 | CIEMarks | 50 |
| TeachingHours/Week(L:T:P) | 0:0:2 | SEE Marks | 50 |
| Credits | 01 | ExamHours | 03 |

**Courseobjectives:**

Afterstudyingthis course,studentsshould beableto

1) explainhowto verifyKCL andKVLforDCcircuitandmaximumpower transfertheorem.
2) explainpowerandpowerfactormeasurementofdifferenttypesoflamps.
3) explainthe measurementofimpedanceforR-Lcircuits.
4) explainthe measurement of powerconsumed ina3-phaseload.
5) explainmethodsofcontrollingalampfromdifferent places.
6) explaintheeffectof openandshortcircuits insimplecircuitsand the suitabilityofearthresistance.

| Sl. NO | Experiments |
|---|---|
| 1 | VerificationofKCL andKVL forDCcircuits |
| 2 | Verificationofmaximumpowertheorem. |
| 3 | MeasurementofCurrent,Power,andPowerFactorofIncandescentLamp,FluorescentLamp and LEDLamp. |
| 4 | MeasurementofResistanceandInductanceofaChokecoil usingthreevoltmetermethod. |
| 5 | DeterminationofPhaseandLinequantitiesinthree-phasestaranddeltaconnectedloads. |
| 6 | Measurement of3 -phasePower usingTwoWattmeter Method. |
| 7 | Determinationofefficiencyofasingle-phasetransformerbydirectloadtest. |
| 8 | TwoWayandThree-WayControlof Lamp and Formation ofTruthTable. |
| 9 | MeasurementofEarthResistance |
| 10 | Studyof the effect of OpenandShortcircuitsinsimple circuits. |

**Courseoutcomes**

At theendofthecoursethestudent will beableto:

**CO1:**verifyKCLandKVLandmaximumpower transfertheoremforDCcircuits.

**CO2:**comparepowerfactorsofdifferenttypesoflamps.

**CO3:**demonstratethemeasurementofthe impedanceofanelectricalcircuitandpowerconsumedbya3-phase load.

**CO4:**analyzetwo-wayand three-waycontroloflamps.

**CO5:**explaintheeffectsofopenandshortcircuitsinsimplecircuits.

**CO6:**interpretthe suitabilityofearthresistance measured.

**Assessment Details (both CIE and SEE)**

The weightage of Continuous Internal Evaluation (CIE) is 50% and for Semester End Exam (SEE) is 50%. The minimum passing mark for the CIE is 40% of the maximum marks (20 marks). A student shall be deemed to have satisfied the academic requirements and earned the credits allotted to each course. The student has to secure not less than 35% (18 Marks out of 50) in the semester-end examination (SEE). A student has to secure overall 40% of the maximum marks of the course (CIE+SEE).

**Continuous Internal Evaluation (CIE):**

CIE marks for the practical course is **50 Marks**.

The split-up of CIE marks for record/ journal and test are in the ratio **60:40**.

- Each experiment to be evaluated for conduction with observation sheet and record write-

up. Rubrics for the evaluation of the journal/write-up for hardware/software experiments designed by the faculty who is handling the laboratory session and is made known to students at the beginning of the practical session.

- Record should contain all the specified experiments in the syllabus and each experiment write-up will be evaluated for 10 marks.
- Total marks scored by the students are scaled downed to 30 marks (60% of maximum marks).
- Weightage to be given for neatness and submission of record/write-up on time.
- Department shall conduct 02 tests for 100 marks, the first test shall be conducted after the 8th week of the semester and the second test shall be conducted after the 14th week of the semester.
- In each test, test write-up, conduction of experiment, acceptable result, and procedural knowledge will carry a weightage of 60% and the rest 40% for viva-voce.
- The suitable rubrics can be designed to evaluate each student's performance and learning ability. Rubrics suggested in **Annexure-II of Regulation book**
- The average of 02 tests is scaled down to **20 marks** (40% of the maximum marks).

**The Sum of scaled-down marks scored in the report write-up/journal and average marks of two tests is the total CIE marks scored by the student**.

**Semester End Evaluation (SEE):**

SEE marks for the practical course is 50 Marks.

SEE shall be conducted jointly by the internal and external examiners appointed by the University

All laboratory experiments are to be included for practical examination.

(Rubrics) Breakup of marks and the instructions printed on the cover page of the answer script to be strictly adhered to by the examiners. **OR** based on the course requirement evaluation rubrics shall be decided jointly by internal and external examiners.

Students can pick one question (experiment) from the questions lot prepared by the internal /external examiners jointly.

Evaluation of test write-up/ conduction procedure and result/viva will be conducted jointly by Internal and external examiners.

General rubrics for SEE are mentioned here, writeup-20%, Conduction procedure and result in -60%, Viva-voce 20% of maximum marks. SEE for practical shall be evaluated for 100 marks and scored marks shall be scaled down to 50 marks (however, based on course type, rubrics shall be decided by the examiners)

Change of experiment is allowed only once and 15% Marks allotted to the procedure part to be made zero.

The duration of SEE is 03 hours

Rubrics suggested in **Annexure-II of Regulation book**