The following information is specifically for the crediting folks. Please get acquainted with these guidelines and strictly adhere to the instructions laid herein:

* Follow the guidelines from Experiment 1 onwards. Final allotment will be made after add/drop on **Mookit** under **Resource** section.
* All students crediting course have to watch the experiment videos and read the handouts in complete detail **before** coming to the lab for every week's experiment. The material is largely self-contained and does not depend on the present coverage in the classroom lectures.
* Relevant material is attached below.
* Students can prefill their reports with content such as objective of the experiment, apparatus to be used, circuit diagram, equations to be used, expected results/waveforms, etc. before coming to the lab class.
* In lab sessions, students will be solely concerned with carrying out the experiments, recording, analyzing, tabulating & plotting the results in their report files & exhibiting their outputs to TA/ Tutors.
* Lab reports must be submitted to the TAs before leaving the lab. Students leaving the lab without handing in the report lose 40% of the marks.
* For grading the students, the following scheme will be followed:
  1. A total of 10 marks for each experiment has been allotted.
  2. Out of those, 60% (i.e., 6 marks) are for conducting the experiment and the remaining 40% (i.e., 4 marks) are for the lab reports.
  3. Upon completing the experiment, the students are supposed to report to the TAs present for submission of the Lab Reports so that they may be evaluated on spot for conduct of the experiment (60%).
* Attendance of the students has to be collected in the Lab by the TAs/Tutor present in the Lab. An offline sheet will be provided for the same.

|  |  |
| --- | --- |
| **ESC 201A: 2023-24 Sem-I** | **Lab Schedule & Material** |

* **Evaluation:**

Weekly Continuous Evaluation based on lab performance and lab record keeping: **10**

* **Experiment List and Materials:**

|  |  |  |
| --- | --- | --- |
| **Exp.** | **Topic** | **YouTube Video Link** |
| **E1.** | Lab Instruments Familiarization | <https://www.youtube.com/watch?v=djlfy3y3Di8> |
| **E2.** | Characterization of RLC elements | [Esc201A Lab Experiment 2.flv - YouTube](https://www.youtube.com/watch?v=MLH_Sto3sI8) |
| **E3.** | Time and Frequency Response of RLC Circuits | <https://www.youtube.com/watch?v=GEdfKbz2Qg0> |
| **E4.** | Resonance and Maximum Power Transfer | <https://www.youtube.com/watch?v=D5FKvW7BDXA> |
| **E5.** | Diode and DC Power Supplies | <https://www.youtube.com/watch?v=slILX1AUSF8> |
| **E6.** | BJT Circuits: Inverter, CE Amplifier | [ESC201 Lab Experiment BJT amplifier - YouTube](https://www.youtube.com/watch?v=SmPBjIMTgnQ) |
| **E7.** | Operational Amplifier | <https://www.youtube.com/watch?v=B8ynss0Mvqo> |
| **E8.** | Waveshaping | <https://www.youtube.com/watch?v=o7HLPO4UrnE>  <https://www.youtube.com/watch?v=R9yUCmTpm7U>  <https://www.youtube.com/watch?v=ZDnvfitoZJU> |
| **E9.** | Basic Combinational Circuits | <https://www.youtube.com/watch?v=IHoIvx9Xl9c> |
| **E10** | Sequential Circuits | [ESC201A lab Experiment10 - YouTube](https://www.youtube.com/watch?v=s7b0erWH4wA) |

* **Link for Handouts:**

PDF of the Lab Handouts are available here: [ESC 201A Lab Handouts](https://iitk-my.sharepoint.com/:f:/g/personal/hafeezraza22_iitk_ac_in/EkjFpDnSrOpHslLeatSYonsBWJHi_E7_MhAbJlid-udyBw?e=iGZb7f)

* **Weekly Schedule For 2023-24 Sem-I:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Week** | **Monday**  **M1 – M3** | **Tuesday**  **Tu1 – Tu3** | **Wednesday**  **W1 – W3** | **Thursday**  **Th1 – Th3** | **Friday**  **F1 – F3** | **Saturday** |
| **00: J31-A04** | **No Labs** | | | | | |
| **01: A07-A11** | **E1** | **E1** | **E1** | **E1** | **E1** | **Ex. Makeup** |
| **02: A14-A18** | **E2** | **Indep. Day** | **E2** | **E2** | **E2** | **E2 (Tu)** |
| **03: A21-A25** | **E3** | **E3** | **E3** | **E3** | **E3** |  |
| **04: A28-S01** | **E4** | **E4** | **E4** | **E4** | **E4** |  |
| **05: S04-S08** | **E5** | **E5** | **E5** | **Janmashtami** | **E5** | **E5 (Th)** |
| **06: S11-S15** | **Makeup** | | | | |  |
| **07: S18-S22** | **Mid Semester Exam** | | | | | |
| **08: S25-S29** | **E6** | **E6** | **E6** | **Eid e Milad** | **E6** | **E6 (Th)** |
| **09: O02-O06** | **G. Jayanti** | **E7** | **E7** | **E7** | **E7** | **E7 (Mo)** |
| **10: O09-O13** | **E8** | **E8** | **E8** | **E8** | **E8** |  |
| **11: O16-O20** | **E9** | **E9** | **E9** | **E9** | **E9** |  |
| **12: O23-O27** | **Mid Sem Recess** | | | | | |
| **13: O30-N03** | **E10** | **E10** | **E10** | **E10** | **E10** |  |
| **14: N06-N10** | **Makeup** | | | | |  |
| **15: N13-N17** | **End Semester Exam** | | | | | |
| **16: N20-N24** | **End Semester Exam** | | | | | |

xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx