



DRI - CONCEICAO COLLEGE OF ENGINEERING

Verna - Goa

## First Year of Engineering

## Internal Test-I

Semester &amp; Scheme: I (RC 2019- 20)

Course: FE130 Basic Electrical and Electronics Engineering

Course Instructor: Mahi Itagi/ Shivani Lotlikar (Div A&amp;C)

Date: 29/11/2021

Time: 12:00 noon- 1:00 pm

Max Marks: 25

**Instructions:** All questions are compulsory. Assume missing data, if any and justify.

| Q. No | Questions  | Marks | CO      | CL  |
|-------|--|-------|---------|-----|
| Q1.   | <b>Explain</b> Kirchhoff's laws.   | [2]   | FE130.1 | CL2 |
| Q2.   | <b>Compare</b> electric and magnetic circuit.  | [3]   | FE130.1 | CL2 |
| Q3.   | <b>Explain</b> the following:<br>i) Coal and ash handling unit<br>ii) Photovoltaic cells<br>iii) Penstock.<br>iv) Faraday's Law of Electromagnetic induction | [5]   | FE130.1 | CL2 |
| Q4.   | <b>Determine</b> the current through $1\ \Omega$ resistor using mesh analysis in the circuit given below.  | [5]   | FE130.2 | CL3 |
|       |  |       |         |     |
| Q5.   | With the help of neat sketches, <b>explain</b> the V-I Characteristics of a P-N Junction Diode.  | [5]   | FE130.3 | CL2 |
| Q6.   | <b>Differentiate</b> between Zener Breakdown and Avalanche breakdown.  | [3]   | FE130.3 | CL2 |
| Q7.   | <b>Draw</b> the symbol of Light Emitting Diode and <b>explain</b> its working principle.   | [2]   | FE130.3 | CL2 |