



Regulation R22

Subject code: 4E1AC

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A' Grade)

B.Tech I Semester Supplementary Examinations, September 2023

BASIC ELECTRICAL AND ELECTRONICS ENGINEERING

(CE)

Maximum Marks: 60

Date:04.10.2023 Duration: 3 hours

- Note: 1. This question paper contains two parts A and B.
2. Part A is compulsory which carries 10 marks. Answer all questions in Part A.
3. Part B consists of 5 Units. Answer any one full question from each unit.
4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks

(10x1M=10 Marks)

- 1.a What is KCL.
- b How to representation of sinusoidal waveforms.
- c Write the principle of transformer.
- d What is the function generator?
- e Define switch fuse unit (SFU).
- f What is the MCB.
- g What is doping?
- h What is the zener breakdown?
- i Define the different operating region of transistor.
- j Why is the transistor called a current controlled device?

Part-B

Answer All the following questions.

(5X10M=50Marks)

- 2 Explain about real power, reactive power, and apparent power with formulas. 10M
OR
- 3 Write and explain between single-phase AC circuits and Three-phase balanced circuits 10M
- 4 (a) Construction and working principle of Synchronous Generators. 8M
(b) Define the slip of induction motor. 2M
OR
- 5 (a) Explain Speed control methods of DC motors. 5M
(b) Classify dc motors. 5M
- 6 Draw the neat diagram and Explain about MCB, MCCB and ELCB. 10M
OR
- 7 Draw the neat diagram and Explain about Types of Wires and Cables 10M
- 8 Explain the transition and diffusion capacitance 10M
OR
- 9 Explain the PN junction diode forward bias and reverse bias with neat diagrams. 10M
- 10 Explain the transistor common emitter configuration and draw the V-I characteristics of transistor? 10M
- 11 Explain the transistor common base configuration and draw the V-I characteristics of transistor. 10M

