



R17 Regulation

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY
(Autonomous & Accredited by NAAC with 'A' Grade)

Subject: 1E1AK

B.Tech. I Year I Semester Supplementary Examinations, April 2023

Basic Electrical and Electronics Engineering

(Common to Electrical & Electronics Engineering, Electronics & Communication Engineering,
Computer Science & Engineering & Information Technology)

Maximum Marks: 70

Date: 17.04.2023 Duration: 3 hours

Part-A

Answer all the following questions

10x2M=20 Marks

1. Define Current and Voltage.
2. Define Mesh Analysis?
3. Write the Norton's theorem principle.
4. Define Non-Circuit theorem?
5. Write the PN junction diode applications.
6. Draw the symbol of Zener and Vector diode.
7. What is function of filters in Rectifiers?
8. Define Rectifier Efficiency?
9. Why transistor is considering as current controlled device.
10. Write the differences between BJT and FET.

Part B

Answer all the questions:

10x5M= 50M

11. Explain in detail the volt-ampere relationship of R, L and C elements with neat diagrams.
[10m]

(OR)

12. State and explain KCL and KVL with an example. [10m]
 13. State and explain Thevenin's theorem with example. [10m]
- (OR)
14. What is the Importance of Millman's theorem gives one Example. [10m]

15. Derive the expression for the current through a PN junction diode and its VI characteristics. [10m]

(OR)

16. With help of energy band diagram, Explain Principle of operation and characteristics of Tunnel diode. [10m]

17. Draw the full-Wave Rectifier and explain its operation with neat diagram. [10m]

(OR)

18. Draw the Half-wave Rectifier and explain its operation with neat diagrams. [10m]

19. Explain the operation of an N-Channel Enhancement type MOSFET with the help of its Drain and Transfer Characteristics. [10m]

(OR)

20. Sketch and explain the characteristics of N-Channel JFET. [10m]