

Reg.No.: 

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**VIVEKANANDHA COLLEGE OF ENGINEERING FOR WOMEN**  
[AUTONOMOUS INSTITUTION AFFILIATED TO ANNA UNIVERSITY, CHENNAI]  
Elayampalayam – 637 205, Tiruchengode, Namakkal Dt., Tamil Nadu.

**Question Paper Code: 80029**

**B.E. / B.Tech. DEGREE END-SEMESTER EXAMINATIONS – JAN. / FEB. 2025**

**Second Semester**

**Computer Science and Engineering**

**U23EE201 – BASIC ELECTRICAL AND ELECTRONICS ENGINEERING**

**(Common to IT, BT & CST)**

**(Regulation 2023)**

**Time: Three Hours**

**Maximum: 100 Marks**

**Answer ALL the questions**

Knowledge Levels	K1 – Remembering	K3 – Applying	K5 – Evaluating
(KL)	K2 – Understanding	K4 – Analyzing	K6 – Creating

**PART – A**

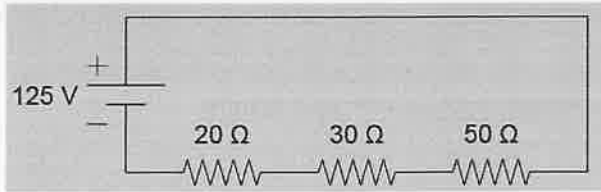
**(10 x 2 = 20 Marks)**

Q.No.	Questions	Marks	KL	CO
1.	State Kirchoff's Current Law.	2	K1	CO1
2.	What is power factor?	2	K1	CO1
3.	Define MMF.	2	K2	CO2
4.	State faraday's law of electromagnetic induction.	2	K1	CO2
5.	List the Advantage of Conduit Wiring Systems.	2	K2	CO3
6.	State Lambert's Cosine law.	2	K1	CO3
7.	What is forward bias of PN Junction Diode?	2	K4	CO4
8.	Draw the NPN configuration of transistor.	2	K1	CO4
9.	State De Morgan's law.	2	K1	CO5
10.	Convert : 15FA <sub>16</sub> into Binary.	2	K2	CO5

PART – B

(5 x 13 = 65 Marks)

Q.No.	Questions	Marks	KL	CO
11. a)	Determine the following quantities for the circuit shown below,	13	K4	CO1



- ❖ the equivalent resistance
- ❖ the current from the power supply
- ❖ the current through each resistor
- ❖ the voltage drop across each resistor
- ❖ the power dissipated in each resistor

(OR)

b)	Explain the Conversion from Delta to Star and Star to delta connections.	13	K4	CO1
12. a)	Explain the working principle and Applications of single phase Transformer.	13	K2	CO2
(OR)				
b)	Derive the torque equation of a DC motor. Also list the applications of DC motors.	13	K2	CO2
13. a)	With necessary circuits explain the operation of Staircase and Corridor wiring.	13	K2	CO3
(OR)				
b)	Extend the components of power system with the help of single line diagram and give one example for 11kv substation.	13	K3	CO3
14. a)	Explain the working of a NPN transistor with neat sketches. Also draw the input and output waveforms.	13	K2	CO4
(OR)				
b)	Discuss the operation of SCR with neat sketches. Mention the various applications of the same.	13	K2	CO4
15. a)	Convert the following;	13	K4	CO5
	i. $8002_{10}$ into binary			
	ii. $688_{10}$ into binary			
	iii. $110111010100_2$ into Decimal			
	iv. $1111100110111001_2$ into Decimal			

(OR)

16. b) Describe in detail the process of IC fabrication.

13 K2 CO5

**PART – C**

(1 x 15 = 15Marks)

Q.No.	Questions	Marks	KL	CO
17. a)	Explain the Operation and Characteristics of PN Junction Diode and derive the diode Current Equation.	15	K2	CO4

(OR)

b)	Explain the following:	15	K1	CO5
	i. Accuracy			
	ii. Precision			
	iii. Linearity			
	iv. Error			
	v. Sensitivity			

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