Roll No											

PRESIDENCY UNIVERSITY
BENGALURU

SCHOOL OF ENGINEERING
END TERM EXAMINATION - JUN 2023

Semester : Semester II - 2022

Course Code : EEE1001

Course Name : Sem II - EEE1001 - Fundamentals of Electrical and Electronics Engineering

Program : CIV&PET

Date : 9-JUN-2023

Time : 1.00PM -4.00PM

Max Marks : 100

Weightage : 50%

Instructions:

(i) Read all questions carefully and answer accordingly.
(ii) Question paper consists of 3 parts.
(iii) Scientific and non-programmable calculator are permitted.
(iv) Do not write any information on the question paper other than Roll Number.

PART A

ANSWER ALL THE QUESTIONS **(10 X 3 = 30M)**

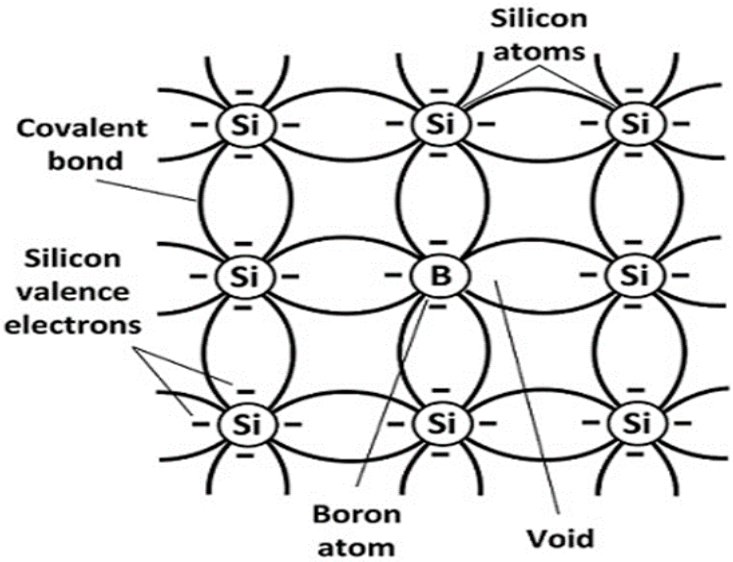
1. Write the emf equations of a transformer and hence show that emf / turn is the same in primary and secondary side

(CO2) [Knowledge]

2. Define RMS value of an ac wave form and the term Form Factor.

(CO1) [Knowledge]

3.



What inference you get from this diagram

(CO4) [Knowledge]

4. What are the important protection systems used in House wiring

(CO3) [Knowledge]

5. What is the action of brush and commutator in a dc machine

(CO2) [Knowledge]

6. Show that the current in a pure inductance lags the voltage across it by 90 degree

(CO1) [Knowledge]

7. What are the different essential torques required for functioning of any deflecting type of Instruments

(CO3) [Knowledge]

8. Compare Extrinsic semiconductors to Intrinsic Semiconductor

(CO4) [Knowledge]

9. Normal diodes are not designed to operate in the breakdown region, Name the diode ,that we can use in this region

(CO4) [Knowledge]

10.

a)

b)

c)

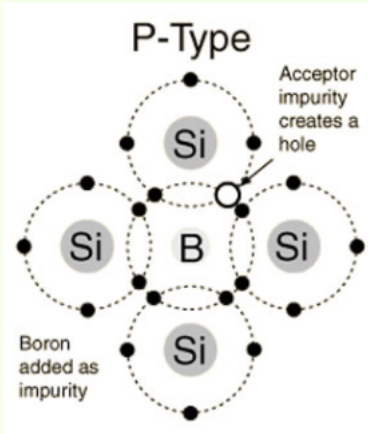
Identify the components that are shown in figure .

(CO4) [Knowledge]

PART B

ANSWER ALL THE QUESTIONS **(2 X 15 = 30M)**

11.



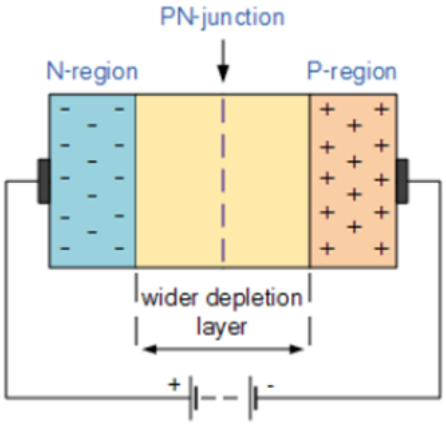
What inference you arrive from the given figure? Explain in brief with supporting figures.

(CO4) [Comprehension]

12. Electric utilities use meters installed at customers' premises for billing and monitoring purposes. Draw its constructional details and explain in brief

(CO3) [Comprehension]

13.



What inference you get from the given diagram. Explain in detail

(CO4) [Comprehension]

PART C

ANSWER ALL THE QUESTIONS **(2 X 20 = 40M)**

14. a) The primary winding of a 10 KVA transformer has 200 turns and is connected to 200V, 60 Hz supply. The secondary turns are 40. Determine by using suitable equations all the unknowns of the single phase transformer from the given details. The cross section of the core is 40 cm-sq

b) A 6 pole DC generator having wave-wound armature winding has 48 slots, each slot containing 16 conductors. What will be the voltage generated in the machine when driven at 1000 rpm assuming the flux per pole to be 6.0 mWb ?

(CO2) [Application]

15. A shunt generator delivers 450 A at 230 V and the resistance of the shunt field and armature are 50 Ω and 0.03 Ω respectively. Calculate the generated EMF?

(CO2) [Application]