PRN:		Course Code :	U15OE011

First Year B. Tech/Second Year B.Tech Semester End Examination Winter 2024

Open Elective-I(Semiconductor Devices) 00010

Day and Date: Sat 30 [illegible] 2024 Max Marks: **35**

Time : 10:30AM To 12:30PM Duration: **02** hrs

Instructions:
1. All questions are compulsory.
2. Assume suitable data wherever necessary.

			Marks	Bloom's Level	CLO
Q.1		**Answer the following questions**			
	a)	Define conductor, insulator and semiconductor.	1	1	1
	b)	What is doping.	1	1	1
	c)	What is extrinsic semiconductor.	1	1	1
	d)	Define rectifier.	1	1	1
	e)	Name the four regions of operation of transistor	1	1	1
	f)	Give the classification of FETs	1	1	1
	g)	What is Solar cell.	1	1	1
Q.2		**Answer the following questions**			
	a)	Explain how N-type semiconductor is formed with neat diagram	7	2	2
		OR			
	b)	Explain the operation of forward biased pn junction diode	7	2	2
Q.3		**Answer the following questions**			
	a)	Explain the input and output characteristics of transistor in CE mode	7	3	3
		OR			
	b)	Define current gains in transistor. Derive relation between α and β.	7	3	3
Q.4		**Answer the following questions**			
	a)	Explain drain characteristics of JFET with neat diagram	7	3	4
		OR			
	b)	Explain the operation of E-MOSFET with neat diagram.	7	3	4
Q.5		**Answer the following questions**			
	a)	Explain the construction and operation of LED with neat diagram	7	2	2
		OR			
	b)	Explain the construction and operation of Photodiode with neat diagram	7	2	2

****

ESE