

Reg.No. _____



Karunya UNIVERSITY

(Karunya Institute of Technology & Sciences)
(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

End Semester Examination – Nov/Dec – 2016

Code : 16PH2001

Sub. Name : SEMICONDUCTOR PHYSICS I

Semester : III

Duration : 3hrs

Max. marks : 100

ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)

Q. No.	Sub Div.	Questions	Course Outcome	Marks
1.	a.	Explain in detail about Drift and Diffusion current in semiconductor with neat diagram	CO1	12
	b.	Draw and explain the Energy Band Diagram for conductors, semiconductors and insulators.	CO1	8
(OR)				
2.	a.	Explain about Intrinsic and Extrinsic Semiconductor with neat diagram.	CO1	10
	b.	Discuss about optical communication using fibre optic cable.	CO3	10
3.	a.	Explain in detail about forward and reverse bias of PN diode with neat diagram	CO1	20
(OR)				
4.	a.	Discuss about the Full wave rectifier using PN diode with neat diagram.	CO1	20
5.	a.	Explain about working principles of Metal Oxide Semiconductor Field Effect Transistor (MOSFET) with neat diagram.	CO2	20
(OR)				
6.	a.	Explain about working principles of Junction Field Effect Transistor (JFET) with neat diagram.	CO2	20
7.	a.	Explain about the semiconductor memories and block diagram of the microcomputer.	CO2	8
	b.	Discuss about the Communication system with its block diagram	CO3	12
(OR)				
8.	a.	Explain about the various passive transducers with its neat diagram.	CO2	20
<u>Compulsory:</u>				
9.	a.	Derive and discuss about the Oscillator with Barkhausen criterion principle	CO2	20

ALL THE BEST