Dr. Babasaheb Ambedkar Technological University, Lonere

EXTC/Electrical/Computer/IT Department

Semester Examination EX106

Subject: Basic Electronics Engineering (BETX)
Date: 04 MAY 2017 Semester: I Max. Marks: 60
Time:- 2.00pm - 5:00pm

Instructions to students:

1. Attempt any five questions from question no. 1 to question no. 6.
2. Assume suitable data wherever necessary and mention it clearly.

Q. 1	A.	What is the need of Engineering materials? & classify them.	[8]
	B.	Summarise Quantum numbers	[4]
Q. 2	A.	Explain Drift current and diffusion current with neat diagrams	[6]
	B.	A cylindrically shaped section of n-type silicon has a 1 mm length and 0.1 mm^2 cross sectional area. Compute its conductivity and resistance when it is purely intrinsic material. (The electron and hole density for intrinsic Si is 1.5×10^{10} /cm^3 Mobility constants for electrons and holes are 1500 cm^2/Vs and 500 cm^2/Vs respectively).	[6]
Q. 3	A.	Define Clipper and summarise different types of them.	[4]
	B.	Illustrate Fixed Bias for transistor.	[4]
	C.	Define PIV and describe Full wave Centre tapped Rectifier.	[4]
Q. 4	A.	Explain various types of fixed resistors	[6]
	B.	Find out the values of capacitors using colour coding	
		(i) Brown, Black, Orange	[3]
		(ii) Wide red, Yellow	[3]
Q. 5	SOLVE **ANY TWO:**		
	A.	Write a short note on Galvanometer	[6]
	B.	Classify different types of transducers.	[6]
	C.	Explain piezoelectric transducer.	[6]
Q. 6	A.	Construct EX-OR gate by using NOR gates only	[4]
	B.	Simplify $Y = \overline{A\bar{B}C} + \overline{A\bar{B}}C + \bar{A}B\bar{C} + A\overline{B\bar{C}} + A\bar{B}C$	[4]
	C.	(i) Convert $(1567.84)_{10} = (?)_{16}$	[2]
		(ii) Convert Y=AB+AC+A into standard SOP form	[2]

----------All the Best----------