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 : 14EI3019
Sub. Name : Embedded Instrumentation

Semester : 2016-17 ODD
Duration : 3hrs
Max. marks : 100

ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)

Q. No	Sub Div	Questions	Course Outcome	Marks
1.	a.	Define Piezo-Electric Effect. Explain how a Piezo-Electric Crystal is used for the measurement of force with necessary derivations.	CO1	16
	b.	A 0-50 V Voltmeter is specified to be accurate within ±1 % of full scale. Calculating the limiting error.	CO1	4
		(OR)		
2.	a.	Explain the construction and principle of working of a Linear Voltage Differential Transformer (LVDT). Explain how it will be detect the number of currency bills dispensed by an ATM.	CO1	15
	b.	Explain the principle of working, constructional details and applications of Photo Diodes. Draw the characteristics.	CO1	5
3.	a.	With a neat sketch explain the principle and applications of Proximity Sensors.	CO1	15
	b.	List the applications of Potentiometer Sensor.	CO1	5
		(OR)		
4.	a.	Suggest a suitable sensor to detect the movement of the object. The sensor must give an electric signal as output.	CO1	15
	b.	Brief out the operation of a Half-Effect transducer.	CO1	5
5.	a.	Describe are the various programming techniques and recent research achivements adapted for LabVIEW environment.	CO2	15
	b.	Compare and contrast virtual instruments versus traditional instruments.	CO2	5
		(OR)		
6.	a.	Create a VI to compare the elements of two clusters. If the values of orresponding elements of both the VIs are the same, switch on an LED in the output cluster.	CO2	10
	b.	Roll two dices and display a message "YOU WIN" when the sum of the two results equals 7.	CO2	10
7.	a.	Explain with necessary diagrams for the different memory techniques used in PC systems to speed up memory access?	CO3	10
	b.	Explain the architecture of a suitable bus that is used to overcome the bottleneck problem in ISA buses.	CO3	10
		(OR)		
8.	a.	What are the factors to be considered in designing an AD board when used for any application? Explain with neat sketch.	CO3	15
	b.	Write a Programme to acquire data at the rate of 1 Hz from the ADC	CO3	5
		Compulsory:		
9.	a.	Explain the functions of Pentium Motherboard Chipset Chip with a neat block diagram	CO3	20

ALL THE BEST