Code No: 5255AR

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
M. Tech II Semester Examinations, August - 2017
SENSORS AND ACTUATORS
(Embedded Systems)

Time: 3hrs

Max.Marks:75

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A

5 × 5 Marks = 25

1.a)	Give the classification of sensors with one example for each.	[5]
b)	Discuss Hall effect.	[5]
c)	Give the differences between reference electrode and sensor electrode.	[5]
d)	Discuss about home automation.	[5]
e)	List out the elements of hydraulic systems and briefly explain each.	[5]

PART - B

5 × 10 Marks = 50

2.	Briefly discuss about inductive sensors.	[10]
	OR	
3.	Explain the function of a capacitive sensor in a robot.	[10]
4.	Explain about quartz crystal thermoelectric sensors.	[10]
	OR	
5.	Discuss about switching magnetic sensors.	[10]
6.	Briefly explain about fiber optic sensors.	[10]
	OR	
7.	Explain the electrical sensor with standard hydrogen electrode.	[10]
8.	Discuss the filters and converters used in smart sensors.	[10]
	OR	
9.	Explain about aerospace sensors.	[10]
10.	Explain the key elements in a Pneumatic system with neat sketches.	[10]
	OR	
11.	Describe the working of a 3 phase AC motor.	[10]

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