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

Semester : 2016-17 ODD
Code : 14EI2039 **Duration : 3hrs**
Sub. Name : INSTRUMENTATION CONTROL FOR AVIONICS **Max. marks : 100**

ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)

Q. No	Sub Div.	Questions	Course Outcome	Marks
1.	a.	Describe the construction and operation of an altimeter. Explain the features which improves its accuracy.	CO1	**10**
	b.	Describe how a mercury barometer measures atmospheric pressure.	CO1	**10**
		(OR)		
2.	a.	Describe the construction of a typical thermocouple probe assembly used for turbine – engine exhaust gas temperature.	CO2	**10**
	b.	What is mean by pressure error of a pitot – static system.	CO2	**10**
3.	a.	Explain the operation of a vertical speed indicator when the aircraft in which it is installed goes from a level flight attitude into a climb attitude.	CO1	**10**
	b.	Write short note on pressure error correction transducer.	CO1	**10**
		(OR)		
4.	a.	Explain how the Wheatstone bridge circuit may be utilized for the measurement of temperatures.	CO2	**10**
	b.	On what fundamental principle does a radiation pyrometer system operate? Briefly describe a practical system.	CO1	**10**
5.	a.	Describe the construction and operation of an airspeed indicator. Explain any features which improves its accuracy.	CO3	**10**
	b.	Define the following: a) Troposphere b) Tropopause c) Stratosphere	CO3	**10**
		(OR)		
6.	a.	Explain the fundamental operating principle of the Bourdon tube.	CO1	**10**
	b.	Describe how temperature can cause variations in the properties of substances?	CO2	**10**
7.	a.	Describe the operation of a servo – operated type of tachometer indicator.	CO2	**10**
	b.	With the neat sketch explain the concept of capacitance type level measurement and discuss its advantages and disadvantages.	CO3	**10**
		(OR)		
8.	a.	With the help of neat sketch explain the principle of a generator and indicator system.	CO3	**10**
	b.	How does a 3 – axis accelerometer works? Explain with the necessary diagrams.	CO3	
		Compulsory:		
9.	a.	Draw a circuit of a typical capacitance type fuel quantity indicating system. Explain the operating principle.	CO1	**10**
	b.	Describe that why is it preferable for fuel quantity indicating system to measure fuel weight rather than fuel volume?	CO2	**10**

ALL THE BEST