

GC

Menoufiya University
Faculty of Engineering Shebin El-Kom
Mechanical power Eng. Dep.
First Semester Examination 2013-2014



Subject: Mechanical Measurements MPE212
Level 2nd
Total Marks 100 marks
Date of Exam : 15 /1/2014

Answer the following questions

- 1- Explain all devices measuring the flow rate depending on the pressure drop ? (10 marks)
- 2- Explain all devices measuring the pressure depend on the elasticity deformation ? (10 marks)
- 3- Explain all devices measuring the pressure depending on the compressibility? (10 marks)
- 4- describe the all devices to measure pressure , flow rate and temperature depending on the change of electrical resistance ? (10 marks)
- 5- describe the all devices to measure the flow rate depending on a direct weighing technique ? (10 marks)
- 6- describe the device depend on the magnetic field to measure the flow rate ? (10 marks)
- 7- Explain one device depending on the optical methods to measure the flow rate and another to measure temperature (10 marks)
- 8- State the all materials are used to made the resistance thermometers . (10 marks)
- 9- Describe the electrical method to measure temperature uses the seebeck effect ? (10 marks)
- 10 – A velocity probe provides a voltage out put that is related to velocity U, by the form $E=a + bU^m$, A calibration is run and the data (N=5) are recorded as follows :

U(m/s)	E(v)
0.0	3.19
10.0	3.99
20.0	4.3
30.0	4.48
40	4.65

Estimate an appropriate curve Fit ? (10 marks)

With our best wishes

This exam contributes " by measuring in achieving Programme Academic Standards according to NARS		
Question Number	Q1 -Q9	Q1 -Q9
	A5, A10 AND A13	B5, B14
		Q1-Q10
		C5, C14
		Professional Skills