

SUBJECT CODE NO:- P-8183
FACULTY OF ENGINEERING AND TECHNOLOGY
M.E. (Mechanical) Examination May/June 2017
Engineering Experimental Technique
(Revised)

[Time : Three Hours]

[Max Marks :80]

N.B	Please check whether you have got the right question paper.		
	1. Solve any three questions from each section.		
	2. Figures to the right indicate full marks.		
	3. Assume suitable data wherever necessary and state if correctly.		
Section A			
Q.1	A.	Explain the basic concepts in dynamic measurements.	07
	B.	Explain the concept of generalized measurement system.	06
Q.2	A.	What kind of impedance match is desired for a. Maximum power transmission and b. Minimum influence on the output of the system.	07
	B.	Elaborate the importance of uncertainty analysis in experimental planning.	06
Q.3	A.	Explain Gaussian distribution.	07
	B.	How can statistical analysis be used to estimate experimental uncertainty?	06
Q.4	A.	What are general consideration in data analysis?	07
	B.	How is students t – distribution used?	06
Q.5	Write short notes on any two a) Chi – square test b) Experimental planning c) Graphical analysis & curve fitting d) Regression analysis e) Errors in experimentation.		14
Section B			
Q.6	A.	Why must a correction be applied for the specific gravity of a sample when a mass balance is used?	07
	B.	What is meant by a strain gage rosette? How is it used?	06
Q.7	A.	What are the practical considerations for seismic instruments?	07
	B.	Define : a) Sound – absorption coefficient b) Noise – Reduction coefficient	06
Q.8	A.	What are the major elements of a data acquisition & processing system?	07
	B.	Explain the program as a substitute for wired logic.	06
Q.9	A.	Explain analog to digital & digital to analogs conversion.	07
	B.	How may temperature compensation be performed on resistance strain gauges?	06
Q.10	Write short notes on any two a) Torque measurement b) Signal conditioning c) Data storage & display d) Sound measurement.		14