Department of Applied Mechanics

AML 700 Experimental Methods in Solids and Fluids

MINOR - II (Semester 1 2017-18)

Time 11-12 Noon

Note : Attempt all Questions.

Date 6/10/17

Max Marks - 38

Q1. The following data points are expected to follow a functional dependence of the form

$$y = a e^{bx}$$

Obtain the values of 'a' and 'b' using the method of least squares

x	0	0.43	1.25	1.40	2.60	2.90	4.30
y	9.4	7.1	5.35	4.20	2.60	1.95	1.15

(6)

Q2a. What do you understand by high order systems. Explain Bode diagram

(4)

Q2b. Explain the procedure for analysing periodic input which is non harmonic with an example.

(4)

Q2c Explain χ^2 test and discuss its application. What is Yates correction and when is it used.

(4)

Q2d. Starting from 1st Principles, derive the (Theory of Errors) expression for Binomial probability distribution