Dr. Vishal Mehta.

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATIONS, FEBRUARY-2020

B. TECH. FOURTH SEMESTER (BI) [BACKLOG]

COURSE CODE: **10B12MA421**   MAX. MARKS: **15**
COURSE NAME: **BIOSTATISTICS**
COURSE CREDITS: **4**   MAX. TIME: **One Hr**

**NOTE:** All questions are compulsory. Scientific calculators are allowed. Carrying of mobile phone during examinations will be treated as case of unfair means.

Q.1   For the following data:

$X:$	1.0	1.5	2.0	2.5	3.0	3.5	4.0
$Y:$	1.1	1.3	1.6	2.0	2.7	3.4	4.1

(a) Fit a Parabolic Curve of regression of Y on X by the "**Method of Least Square**".

(b) Fit the Simple Linear Regression by the "**Matrix Method**".

(c) For both fitted models **(a)** and **(b)** calculate the Residuals.

                              [4+4+1+1=10 Marks][CO-1 and CO-2]

Q.2   The following data represent the number of hours of flight training by 18 student pilots from a certain instructor prior to their first solo flight:

09	12	18	14	12	14	12	10	16
11	09	11	13	11	13	15	13	14

Use binomial probabilities to perform a sign test at the **0.05** level of significance t0 test the instructor's claim that the median time required before his student's solo is **12** hours of flight training.

                              [05 Marks][CO-3]

****