

Roll No. :.....

Model Paper – 2
Hi-Tech Institute of Engineering & Technology
B.C.A. Examination
(Semester-3rd) Odd Semester
ELEMENTS OF STATISTICS
(BCA-305)

Time: 3 Hours

Maximum Marks: 75

Faculty Name: Dr. Vijay Sharma

Note: Attempt questions from all sections as per instructions.

Section – A

Note: Attempt all questions.

5 x 3 = 15

1. Define Frequency curve and Frequency Polygon.
2. Assignable and random causes.
3. Equally likely and mutually exclusive events.
4. Difference between table and tabulation.
5. Define arithmetic mean and geometric mean.

Section – B

Note: Attempt any two questions.

2 x 7.5 = 15

6. Explain the terms:
 - (a) Control limits.
 - (b) Tolerance limits.
 - (c) Specification limits.
7. Differentiate between variance and coefficient of variation.
8. An average rainfall of a city from Monday to Saturday is 0.3 inch. Due to heavy rainfall on Sunday, the average rainfall for the week increased to 0.5 inch. What was the rainfall on Sunday?

Section – C

Note: Attempt any three questions.

3 x 15 = 45

9. (i) In how many ways can 3 boys and 3 girls sit in a row. If the boys and the girls are each to sit together?
 - (ii) In how many ways can 3 boys and 3 girls sit in a row if only the boys must sit together?

10. What is dispersion? Explain mean deviation, standard deviation and range with their uses.

11. What is median? Calculate median of the following data:

Class Interval	Frequency
15-25	4
25-35	11
35-45	19
45-55	14
55-65	0
65-75	2

12. Define probability. Suppose that A and B are mutually exclusive events for which $P(A) = 0.3$ and $P(B) = 0.5$. What is the probability that (a) either A or B occurs. (b) A occurs but B does not (c) both A and B occurs.

13. Define median and quantiles. Explain their uses and illustrate the uses of statistics in commerce and business.