

A1076

Name.....

Register No.....

**NAIPUNNYA INSTITUTE OF MANAGEMENT AND INFORMATION
TECHNOLOGY (AUTONOMOUS)**

FIRST SEMESTER END SEMESTER EXAMINATION JANUARY 2026

M.B.A

BUS1C07 - QUANTITATIVE TECHNIQUES

Time:3 Hours

Maximum:60 marks

Part A

Answer **all** questions

Each question carries 2 marks

1. What is a sample space? L2; CO1
 2. What is a random experiment? L2; CO3
 3. Write a note on scatter diagram. L1; CO2
 4. Define standard error. L1; CO1
 5. What is the purpose of the Analysis of Variance (ANOVA)? L2; CO1
- (5 × 2 = 10 marks)

Part B

Answer any **four** questions

Each question carries 4 marks

6. Discuss expected value of random variable. L2; CO2
 7. According to a Gallup poll, 60% of American adults prefer saving over spending.
Let X = the number of American adults out of a random sample of 50 who prefer saving to spending. What is the probability distribution for X?
Also calculate the
(i) mean
(ii) standard deviation of X. L4; CO3
 8. Differentiate between correlation and regression. L2; CO1
 9. What are the assumptions of the central limit theorem? L2; CO1
 10. Distinguish between between-group variance and within-group variance. L2; CO3
 11. Distinguish between independent and dependent events.? L2; CO2
- (4 × 4 = 16 marks)

Turn Over

Part C

Answer any **three** questions
Each question carries 8 marks

12. The number of viewers of a TV show per week has a mean of 29 million with a standard deviation of 5 million. Assume that, the number of viewers of that show follows a normal distribution. What is the probability that, next week’s show will,
- a. Have between 30 and 34 million viewers?
 - b. Have at least 23 million viewers?
 - c. Exceed 40 million viewers? L4; CO3

13. Discuss the real-life applications of Poisson and Binomial distributions in business decision-making L3; CO2

14. Explain the business applications of correlation and regression L2; CO3

15. Explain the steps involved in conducting a large sample test for means. L2; CO2

16. Differentiate between parametric and non-parametric tests with suitable examples. L2; CO3
(3 × 8 = 24 marks)

Compulsory

17. Following table shows ages (X) and blood pressure (Y) of 8 persons. Formulate the regression equations. Find the expected blood pressure of a person whose age is 49 years.

X	52	63	45	36	72	65	47	25
Y	62	53	51	25	79	43	60	33

L4; CO5
(1 × 10 = 10 marks)
