

Register No.: Name.:

SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)

(AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)

FIRST SEMESTER MBA DEGREE EXAMINATION (Regular), FEBRUARY 2022

(2021 Scheme)

Course Code: 21MBA103

Course Name: QUANTITATIVE TECHNIQUES FOR MANAGERS

Max. Marks: 60

Duration: 3 Hours

(Use of statistical table and scientific calculator is permitted.)

PART A

(Answer all questions. Each question carries 2 marks)

1. List out the difference between Absolute measures & Relative measures of Dispersion.
2. When can a Poisson Distribution be approximated to a Binomial Distribution.
3. What is Standard Error of a Sample?
4. Recall any two applications of using Chi Square Test.
5. How do we interpret the value of Coefficient of Determination?

PART B

(Answer any 3 questions. Each question carries 10 marks)

6. a. The mean salary paid to all employees of a company is Rs 5000. The mean salaries paid to male and female employees are Rs 5200 and Rs 4200 respectively. Find the % of males and females in the company. (5 marks)
- b. Fluctuations in the daily sales of two products X and Y are given below. Find out which of the two products shows greater fluctuation in sales. (5 marks)

X	20	24	22	23	20	18	19	16	23	25
Y	52	34	32	45	32	42	46	30	46	41

7. a. In a normal distribution, 17% of the items under study have a value below $X=30$, while 17% of the items have a value above $X = 60$. Find the value of mean and SD of the distribution. (5 marks)
- b. Explain Bayes' Theorem and its importance in probability. (5 marks)
8. a. The mean and standard deviation of the sample of 9 variables is 12 and 5.66 respectively. Test at 5% level of significance, that the sample is drawn from a population of mean 8. (6 marks)
- b. List out the steps followed in Testing of a Hypothesis. (4 marks)

9. a. Compare one-way ANOVA and two-way ANOVA Methods for testing of difference of means of more than two samples. (5 marks)
- b. Determine a linear trend to the following data by Least Squares Method (5 marks)

Year	2012	2014	2016	2018	2020
Production ('000)	18	21	23	27	28

10. a. The following are the scores given by two HR evaluators for seven employees of an organization during their appraisal process. Determine the degree of association between the evaluations of the two HR evaluators and interpret the result through the use of Spearman's Rank Correlation Coefficient (6 marks)

HR Evaluator 1	20	22	20	24	23	27	27
HR Evaluator 2	20	20	21	21	22	22	27

- b. Explain the necessity of two regression lines – (Y on X) & (X on Y)? (4 marks)

PART C

(Compulsory question, the question carries 20 marks)

11. a. The Vice President of a garment company wants to determine whether the sales of the company's brand of jeans is independent of age group. The market researcher took a random sample of 703 consumers who have purchased the three brands of jeans A, B and C, as follows

Age Group	Brand A	Brand B	Brand C
15-25	65	75	72
25-35	60	40	64
35-45	45	52	50
45-55	55	65	60

Determine whether the brand preference for jeans is independent of age at 5% level of significance. (10 marks)

- b. Differentiate between Probability and Non-Probability Sampling Methods. (10 marks)
