

Register No : Name :



**SAINTGITS COLLEGE OF ENGINEERING
KOTTAYAM, KERALA**

(AN AUTONOMOUS COLLEGE AFFILIATED TO
APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)

FIRST SEMESTER MBA DEGREE EXAMINATION (S), MAY 2022

Course Code: 20MBA103

Course Name: QUANTITATIVE TECHNIQUES FOR MANAGERS

Max. Marks: 60

Duration : 3 Hours

PART A

(Answer all questions. Each question carries 2 marks)

1. "Tables and charts help present dry and uninteresting statistical facts in the shape of attractive and appealing pictures" Comment
2. What is conditional probability?
3. What are the components of time series?
4. Discuss the concept of level of significance in hypothesis testing
5. Distinguish between positive and negative correlation

PART B

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

6. Calculate coefficient of Quartile Deviation and Coefficient of Variation from the following data

Marks	No. of Students
Below 20	8
Below 40	20
Below 60	50
Below 80	70
Below 100	80

7.
 - a) A husband and wife appear in an interview for two vacancies in the same post. The probability of husband's selection is $\frac{1}{7}$ and that of wife's selection is $\frac{1}{5}$. What is the probability that
 - i. Both of them are selected
 - ii. Only one of them will be selected
 - iii. None of them will be selected
 - b) The probability of A speaking the truth is $\frac{3}{5}$ and the probability that B speaks the truth is $\frac{5}{8}$. In what percentage of cases are they likely to contradict each other in stating the same fact.

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8. A man buys 50 electric bulbs of Philips and 50 electric bulbs of Havells. He finds that Philips bulbs gives an average life of 1500 hours with SD of 60 hours and Havells gives average life of 1512 hours with a SD of 80 hours. Is there a significant difference in mean life of the 2 makes of bulb? Check at 1% level of significance
9. A company is interested in determining whether an association exists between the commuting time of their employees and the level of stress related problems observed on the job. A The data with respect to 116 assembly line workers are given below.

Commuting Time	Stress			
	High	Moderate	Low	Total
Under 20 min	9	5	18	32
20-50 min	17	8	28	53
Over 50 min	18	6	7	31
Total	44	19	53	116

At $\alpha = 0.01$ level of significance, is there any evidence of a significant relationship between commuting time and stress

10. From the following data of the age of husband and the age of wife, form the two regression equations and calculate the husband's age when the wife's age is 26. Also find the age of wife when husband's age is 40.

Husband's age	36	23	27	28	28	29	30	31	33	35
Wife's age	29	18	20	22	27	21	29	27	29	28

PART C

(Compulsory question, the question carries 20 marks)

11. a) Below are the figures of production (quintals) of a sugar factory

Year	2000	2001	2002	2003	2004	2005	2006
Production	80	90	92	83	94	99	92

- i) Fit a straight-line trend by the method of least squares
- ii) Plot these figures and show the trend line
- iii) Estimate the production for the year 2010 (10 Marks)

- b) What is Sampling? Critically examine the well-known methods of probability and non-probability sampling? (10 Marks)
