

25900314

Reg.No :

Name :

MAHATMA GANDHI UNIVERSITY, KOTTAYAM
MGU-BCA (HONOURS) Regular EXAMINATION October 2025
Third SEMESTER
Core Course (CC) - MG3CCRBCA200 - QUANTITATIVE TECHNIQUES
(2024 ADMISSION ONWARDS)

Duration: 2 Hours

Maximum Marks: 70

*Remember(K), Understand(U), Apply(A), Analyse(An), Evaluate(E), Create(C), Skill(S), Interest(I)
and Appreciation(Ap)*

Students should attempt at least one question from each course outcome to enhance their overall
outcome attainability.

Part A

Short Answer Questions

Answer any **5** questions

Each question carries **2** marks

1. What are the stubs and captions of a table? Explain briefly. [U] / [CO1]
 2. Define statistics. [K] / [CO1, CO2, CO3, CO4]
 3. How is Coefficient of Variation different from standard deviation? [U] / [CO2]
 4. The weighted average of two numbers is 64. If the numbers are 60 and 70, and the weight of 60 is 2, find the weight of 70 [A] / [CO2]
 5. Define multiple regression with an example. [U] / [CO3]
 6. Explain perfect negative correlation. [A] / [CO3]
 7. What do you mean by independence of two events? [U] / [CO4]
 8. Define the term Probability [K] / [CO4]
- [2x5 = 10]**

Part B

Short Essay Questions

Answer any **5** questions

Each question carries **6** marks

9. Explain the different types of classification of data with suitable examples. [K] / [CO1]
10. Explain the major differences between primary and secondary data. [U] / [CO1]
11. Describe Partition values. [U] / [CO2]
12. A) Explain the concepts of mean, median, and mode for a discrete data set. Provide a simple example of each. [E] / [CO2]
 B) The number of goals scored by a football team in 15 matches are: 1, 3, 2, 0, 1, 2, 3, 1, 0, 4, 1, 2, 3, 1, 2. Calculate the mean, median, and mode of this data.
13. Identify the two regression equations $5x-6y+90=0$ and $15x-8y-130=0$ [A] / [CO3]
14. Find Karlpearson's co-efficient of correlation between the values of x and y given below. [A] / [CO3]
 Also find probable error and interpret
- | | | | | | | | | |
|---|-----|-----|-----|-----|-----|-----|-----|-----|
| X | 78 | 89 | 96 | 69 | 59 | 79 | 68 | 61 |
| Y | 125 | 137 | 156 | 112 | 107 | 136 | 123 | 108 |
15. The probability that a contractor will get a plumbing contract is $\frac{2}{3}$ and the probability that he will not get an electric contract is $\frac{5}{9}$. If the probability of getting at least one contract is $\frac{4}{5}$, What is the probability that he will get both the contract. [A] / [CO4]
16. Explain Simple, Partial and Multiple correlation. [U] / [CO3]
- [6x5 = 30]**

Part C

Essay Questions

Answer any 2 questions

Each question carries 15 marks

17. Explain the various types of bar diagrams, including simple, multiple, and component, and discuss their specific applications with suitable examples. [An] / [CO1]
18. Find the mean deviation about median and its coefficient of the following data. [An] / [CO1, CO2]
- | | | | | | |
|-----------------|------|-------|-------|-------|-------|
| Marks | 0-10 | 10-20 | 20-30 | 30-40 | 40-50 |
| No. of students | 5 | 8 | 15 | 16 | 6 |
19. The following data shows the maximum and minimum temperature on a certain day at 10 important cities [E] / [CO3]

Max temp:	29	23	25	15	27	29	24	31	32	35
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Min temp:	8	3	7	5	8	19	10	7	5	8
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- a) Fit the Regression line of X on Y and Y on X.
- b) Estimate the maximum temperature when minimum temperature is 12.
- c) Estimate the minimum temperature when maximum temperature is 40.

20. a) State Bayes theorem.

[A] / [CO4]

b) A bag A contains four white and six black balls while another bag B contains four white and three black balls. One ball is drawn at random from one of the bags, and it is found to be black. Find the probability that it was drawn from bag A.

[15x2 = 30]