



U8397

Reg. No.:

Name:.....



University of Kerala
First Semester Degree Examination, November 2024
Four Year Under Graduate Programme
Discipline Specific Core Course
Statistics
UK1DSCSTA102 QUANTITATIVE DATA ANALYTICS-I
Academic Level: 100-199

Time:2 Hours**Max.Marks:56****Part A.**

Answer All Questions Objective Type. 1 Mark Each.
(Cognitive Level: Remember/Understand)
6 Marks. Time: 5 Minutes

Qn. No.	Question	Cognitive Level	Course Outcome (CO)
1.	Name the Statistics Wing of Ministry of Statistics and Programme Implementation.	Remember	CO 1
2.	Data obtained by conducting a survey is called _____ data.	Remember	CO 2
3.	Give two examples of probability sampling.	Understand	CO 3
4.	Families classified according to their size is an example for _____ classification.	Understand	CO 4
5.	If the coefficient of kurtosis is greater than 3, the frequency curve is known as _____ curve.	Understand	CO 5
6.	What percentage of observations lie below first decile ?	Understand	CO 5

Part B.

Answer All Questions Two-Three sentences. 2 Marks Each.
(Cognitive Level: Understand/Apply)
10 Marks. Time: 20 Minutes

Qn. No.	Question	Cognitive Level	Course Outcome (CO)
7.	State any two limitations of Statistics.	Understand	CO 1
8.	Explain the difference between nominal and ordinal scale of measurement.	Understand	CO 2
9.	You want to evaluate the physical and mental health habits of students across a large campus. Given the large number of students, apply your knowledge of Direct Personal Interview and use of Questionnaire to decide which method would be more appropriate. Justify your choice by stating one of its merits.	Apply	CO 3

10.	Explain the difference between geographical classification and chronological classification.	Apply	CO 4
11.	The following data shows the annual bonuses (in Rs.) received by 15 employees: 20000, 30000, 15000, 25000, 35000, 50000, 45000, 60000, 70000, 80000, 10000, 12000, 40000, 90000, 110000. What bonus level separates the highest 25% of employees from the rest?	Apply	CO 5

Part C.

Answer all 4 questions, choosing among options within each question.

Short Answer. 4 Marks Each. (Cognitive Level: Apply/Analyse)

16 Marks. Time: 35 Minutes

Qn. No.	Question	Cognitive Level	Course Outcome (CO)										
12.	A) Classify the following variables into nominal, ordinal, interval or ratio scales: 1. Levels of education 2. Distance traveled (in kilometers) 3. Birthdays of individuals (dates) 4. Ratings of a movie on a scale from 1 to 5 OR B) You are researching consumer preferences for online shopping versus in-store shopping. What are the relevant 5 questions you would include in a questionnaire to collect primary data on this topic?	Apply	CO 2										
13.	A) Explain the importance of classifying data before visualization. OR B)A survey records the number of books read by students in a semester: <table> <tr> <td>No: of books read:</td> <td>2-4</td> <td>4-6</td> <td>6-8</td> <td>8-10</td> </tr> <tr> <td>No: of students :</td> <td>6</td> <td>8</td> <td>10</td> <td>12</td> </tr> </table> Apply your understanding to create a more than cumulative frequency table and determine how many students read more than 6 books.	No: of books read:	2-4	4-6	6-8	8-10	No: of students :	6	8	10	12	Apply	CO 3
No: of books read:	2-4	4-6	6-8	8-10									
No: of students :	6	8	10	12									
14.	A) A company has two teams that are selling products. Team A has 10 members who each sold an average of 50 units, Team B has 15 members who each sold an average of 40 units. What is the combined arithmetic mean of the units sold by all members across both teams? OR B) Analyze the average speed of a vehicle that travels different segments of a journey at speeds of 100 km/h, 200 km/h, 300 km/h and 400 km/h for equal distances.	Analyse	CO 5										
15.	A)Break down the process of constructing a Lorenz curve from a raw data (about income) OR B)For a certain distribution, the Karl Pearson’s coefficient of skewness is 0.32, standard deviation is 6.5 and mean is 29.6. Obtain the median and mode of the distribution.	Analyse	CO 5										

Part D.
 Answer all 4 questions, choosing among options within each
 Long Answer. 6 Marks Each.question.
 (Cognitive Level: Analyse/Evaluate/Create)
 24 Marks. Time: 60 Minutes

Qn. No.	Question	Cognitive Level	Course Outcome (CO)												
16.	A) Briefly explain the method of cluster sampling with an example. OR B) Explain the key points to be remembered while drafting a Questionnaire for collecting primary data..	Apply	CO 3												
17.	A) Explain the steps in constructing a frequency curve from a given frequency distribution table. OR B) You are provided with the marks obtained by 40 students in an exam, distributed across different intervals. The frequency distribution is as follows: Apply your knowledge of ogives to construct the “less than ogive” and hence locate the median <table border="1"> <tr> <td>Mark</td> <td>0-10</td> <td>10-20</td> <td>20-30</td> <td>30-40</td> <td>40-50</td> </tr> <tr> <td>Freq.</td> <td>3</td> <td>7</td> <td>10</td> <td>6</td> <td>4</td> </tr> </table>	Mark	0-10	10-20	20-30	30-40	40-50	Freq.	3	7	10	6	4	Apply	CO 4
Mark	0-10	10-20	20-30	30-40	40-50										
Freq.	3	7	10	6	4										
18.	A) Break down the process of constructing a Lorenz curve from a raw data (about income) OR B) Over the last three years, the annual growth rates for three different sectors of an economy are recorded as follows: <table> <tr> <td>Annual growth rate :</td> <td>3%</td> <td>5%</td> <td>7%</td> </tr> <tr> <td>No: of sectors :</td> <td>5</td> <td>7</td> <td>10</td> </tr> </table> Analyse the average growth rate across all the three sectors.	Annual growth rate :	3%	5%	7%	No: of sectors :	5	7	10	Analyse	CO 5				
Annual growth rate :	3%	5%	7%												
No: of sectors :	5	7	10												
19.	A) Two students Rohith and Sharma have received the following marks in three subjects English, Science and Mathematics. <table> <tr> <td></td> <td>English</td> <td>Science</td> <td>Maths</td> </tr> <tr> <td>Rohith:</td> <td>75</td> <td>90</td> <td>85</td> </tr> <tr> <td>Sharma :</td> <td>80</td> <td>95</td> <td>78</td> </tr> </table> If the respective credits received for English, Science and Mathematics are 2, 3 and 4 respectively, compare their overall performance. OR B) Compare positive skewness and negative skewness.		English	Science	Maths	Rohith:	75	90	85	Sharma :	80	95	78	Analyse	CO 5
	English	Science	Maths												
Rohith:	75	90	85												
Sharma :	80	95	78												