U7606

Reg. No.: .....

Name:.....

University of Kerala

First Semester Degree Examination,November 2024

Four Year Under Graduate Programme

Multi Disciplinary Course

PHYSICS

UK1MDCPHY102 - ELEMENTARY DATA ANALYSIS

Academic Level: 100-199

Time:1½ Hours **Max. Marks: 42**

Part A.

Answer All Questions Objective Type. 1 Mark Each.

(Cognitive Level: Remember/Understand)

6 Marks. Time: 6 Minutes.

Qn. No.	Question	Cognitive Level	Course Outcome (CO)
1.	Define "statistical population" and "sample" in the context of statistics.	Remember	3
2.	Outline the method of construction of frequency polygon from a frequency distribution.	Remember	1
3.	Recall the relationship between the mean and the coefficient of variation.	Understand	3
4.	Discuss the main difference between a column chart and a line chart.	Understand	4
5.	Describe quantitative data and qualitative data.	Understand	1
6.	Describe independent events in probability.	Understand	2

Part B.

Answer All Questions Short Answer. 2 Marks Each.

(Cognitive Level: Understand/Apply)

8 Marks. Time: 24 Minutes.

Qn. No.	Question	Cognitive Level	Course Outcome (CO)
7.	Describe conditional probability and provide an example to illustrate its application in real-life scenarios.	Understand	2
8.	Describe the importance of graphical representations in data presentation and name three types of graphs commonly used.	Understand	1
9.	Explain measures of central tendency and explain mean, median, and mode.	Understand	3
10	Explain one example for mathematical and statistical functions in spreadsheets.	Understand	4

Part C.

Answer all 4 Questions, choosing among options within each question
Long Answer. 7 marks each.
(Cognitive Level: Apply/Analyse/Evaluate/Create)
28 Marks. Time: 60 Minutes.

Qn. No.	Question	Cognitive Level	Course Outcome (CO)
11.	A. Explain the concept of ogive and present the procedure to obtain an ogive from cumulative frequency distribution. Illustrate the use of ogive in data analysis. **OR** B. Explain nominal, ordinal, interval and ratio data by providing specific examples of each type.	Understand	1
12.	A. Explain the laws of addition and multiplication in the context of probability, with suitable example. **OR** B. Discuss the classical, statistical, and axiomatic definitions of probability with examples.	Understand	2
13.	A. Explain the following measures of central tendency with examples: arithmetic mean, geometric mean, and harmonic mean. **OR** B. Describe the following measures: range, skewness, mean deviation, standard deviation, and coefficient of variation. Explain with examples.	Understand	3
14.	A. Illustrate the steps involved in creating and formatting a pivot table in a spreadsheet. Illustrate the concept with an example. **OR** B. Illustrate cell references in the context of spreadsheets and explain their importance when entering and manipulating data.	Apply	4