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UNIVERSITY OF NORTH BENGAL

B.A./B.Sc. Major 2nd Semester Examination, 2024

UECOMAJ12002-ECONOMICS

BASIC STATISTICS

Time Allotted: 2 Hours 30 Minutes | Full Marks: 60

The figures in the margin indicate full marks.

GROUP-A

1. Answer any ***four*** questions: 3×4 = 12

   (a) Distinguish between complete enumeration and sample survey.

   (b) What is frequency polygon?

   (c) State the relationship between Mean, Median and Mode.

   (d) What do you understand by measures of dispersion?

   (e) What is Kurtosis?

   (f) What do you understand by bivariate frequency distribution?

GROUP-B

Answer any *four* questions 6×4 = 24

2. Distinguish between Primary data and Secondary data.

3. Prove that A.M. ≥ G.M. ≥ H.M.

4. Calculate mean deviation from Mean of the following series:

x	10	11	12	13	14
f	3	12	18	12	3

5. From the information given below, calculate Karl Pearson's coefficient of skewness.

Measure	Place A	Place B
Mean	256.5	240.8
Median	201.1	201.6
SD	215.0	181.0

6. Explain the properties of linear regression.

7. While calculating the coefficient of correlation between two variables x and y, the following results were obtained:

$n = 25$, $\Sigma x = 125$, $\Sigma y = 100$, $\Sigma x^2 = 650$, $\Sigma y^2 = 460$, $\Sigma xy = 508$.

H was however later discovered at the time of checking that two pairs of observations (x, y) were copied (6, 14) and (8, 6), while the correct values were (8, 12) and (6, 8) respectively. Determine the correct value of the coefficient of correlation.

GROUP-C

Answer any *two* questions $12\times2 = 24$

8. (a) Define correlation coefficient.

(b) Prove that correlation coefficient lies between +1 and –1.

9. (a) What are the roles of tabulation? 5+7

(b) Discuss the different parts of a table.

10. Find the missing frequencies in the following frequency distribution, when it is known that A.M. = 11.09 12

Class limits	9.3-9.7	9.8-10.2	10.3-10.7	10.8-11.2	11.3-11.7	11.8-12.2	12.3-12.7	12.8-13.2
Frequency	2	5	f_3	f_4	14	6	3	1

Total frequency- 60

11.(a) Prove that standard deviation is affected only by change in scale. 5+7

(b) Compute the standard deviation from the following distribution of marks obtained by 90 students:

Marks	No. of students
20-29	5
30-39	12
40-49	15
50-59	20
60-69	18
70-79	10
80-89	6
90-99	4

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