



‘समानो मन्त्रः समितिः समानी’

UNIVERSITY OF NORTH BENGAL

B.A./B.Sc. Honours 3rd Semester Examination, 2022

CC7-ECONOMICS (307)

Time Allotted: 2 Hours

Full Marks: 60

The figures in the margin indicate full marks.

GROUP-A

1. Answer any **four** questions from the following: 3×4 = 12
- (a) For 10 values of x , it is given that $\sum u = 4$, $\sum u^2 = 144$, where $u = (x - 10)/5$.
Find $\sum x^2$. 3
- (b) Define with example primary data and secondary data. 3
- (c) What are the differences between variation and skewness? 3
- (d) Define Kurtosis with diagrams. 3
- (e) Prove that standard deviation is independent of any change of origin, but is dependent on change of scale. 3
- (f) Let the lines of regression concerning two variables x and y be given by $y = 32 - x$ and $x = 13 - 0.25y$. Find out the value of means and the correlation coefficient. 3

GROUP-B

Answer any **four** questions from the following

6×4 = 24

2. Write short notes on the following: 2+2+2
- (i) Class boundary
- (ii) Relative frequency
- (iii) Grouped frequency.
3. Show that M.D. about mean for a set of values of a variable cannot exceed S.D. 6
4. Find the standard deviation from the following frequency distribution: 6

Weight (kg):	120-124	125-129	130-134	135-139	140-144	145-149
No. of Boys:	12	25	28	15	12	8

5. For the frequency table given below $\bar{x} = 3.68$. 6
 Find the two missing frequencies:

Values of x :	0	1	2	3	4	5	6	7	Total
Frequency:	2	8	11	-	29	-	12	3	100

6. Derive the regression equation of a variable on x variable. 6
7. Show that Total Sum of Squares (TSS) = Explained Sum of Squares (ESS) and Residual Sum of Squares (RSS). [Using regression relation] 6

GROUP-C

Answer any two questions from the following

12×2 = 24

8. Find the mean and median for the following data. Comment on the shape of the distribution. 4+8

Weight (kg):	36-40	41-45	46-50	51-55	56-60	61-65	66-70
Frequency:	14	26	40	53	50	37	25

9. (a) What is meant by skewness? Explain different measures of skewness. 6+6
 (b) Establish the relation between central moments and raw moments of frequency distribution.
10. The following marks have been obtained by a class of students in statistics (out of 100): 8+4

Paper-I:	45	55	56	58	60	65	68	70	75	80	85
Paper-II:	56	50	48	60	62	64	65	70	74	82	90

Compute the coefficient of correlations. Find also the equations of the lines of regression.

11. Define Median. Prove that Mean deviation about median is minimum. 12

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