



'समानो मन्त्रः समितिः समानी'

UNIVERSITY OF NORTH BENGAL

B.Com. General Part-II Examination, 2022

B.COM.

PAPER-2G9

BUSINESS STATISTICS

Time Allotted: 2 Hours

Full Marks: 50

*The figures in the margin indicate full marks.
All symbols are of usual significance.*

GROUP-A / বিভাগ-ক

Answer any *two* questions

15×2 = 30

যে-কোনো দুটি প্রশ্নের উত্তর দাও

কোন দুইটি প্রশ্নের উত্তর লেখুন

1. From the following data, calculate the Mean, Median and Mode:

5+5+5

Marks	Numbers of Students
Less than 10	10
Less than 20	30
Less than 30	60
Less than 40	110
Less than 50	150
Less than 60	180

2. (a) Find the regression equation of Y on X from the following data:

5+10

X :	25	27	29	33	26	32	35	31	36	30
Y :	20	24	24	29	21	26	28	30	29	28

- (b) Following are the data relating to test score and sales performance of a group of salesman. Examine how sales performance are correlated with their test scores:

Salesman	A	B	C	D	E	F	G	H	I
Test-score	14	19	24	21	26	22	15	20	19
Sales	31	36	48	37	50	45	33	41	39

3. (a) Find the Standard Deviation of X from the following distribution:

8+7

X :	4.5	14.5	24.5	34.5	44.5	54.5	64.5
f :	2	3	5	17	12	7	4

(b) From the following data calculate rank correlation:

X:	60	68	40	48	25
Y:	79	68	50	48	40

4. (a) Calculate the index number from the following data using arithmetic mean of price relatives:

8+7

Commodity:	Rice	Wheat	Fish	Potato	Gas
Base Price (Rs.):	30	22	54	15	680
Current Price (Rs.):	45	31	72	35	1050

(b) From the following information, find out two regression equation:

	X	Y
A.M.	20	25
S.D.	5	4

Correlation Co-efficient between X and Y (r_{xy}) = 0.6 .

GROUP-B / বিভাগ-খ

5. Answer any *two* questions:

5×2 = 10

যে-কোনো দুটি প্রশ্নের উত্তর দাওঃ

কোন দুইটি প্রশ্নের উত্তর লেখুন।

(a) Find a trend line by least square method from the following data:

Year:	2015	2016	2017	2018	2019	2020	2021
Value:	120	85	65	50	61	63	70

(b) The Correlation Co-efficient and covariance of two variables X and Y are 0.28 and 7.6 respectively. If the variance of X be 9, find the Standard Deviation of Y .

(c) From the following information, calculate the value of N using the formula for correlation co-efficient r :

$$\begin{aligned} \sum X &= 4 & \sum X^2 &= 44 \\ \sum Y &= 4 & \sum Y^2 &= 44 \\ \sum XY &= -40 & r &= -1 \end{aligned}$$

(d) Define “Time Series”. List any three utilities of time series analysis.

“Time Series”-এর সংজ্ঞা দাও। Time Series বিশ্লেষণের তিনটি উপকার সম্পর্কে লেখ।

2+3

GROUP-C / বিভাগ-গ

2×5 = 10

6. Answer any *five* questions:

যে-কোনো পাঁচটি প্রশ্নের উত্তর দাওঃ

कुनै पाँचवटा प्रश्नका उत्तर लेख्नुहोस्

(a) Calculate median if mean is 12 and mode is 15.

(b) Find the GM of 8, 36, 48

8, 36, 48 को GM पत्ता लगउनुहोस्।

(c) Find the mean deviation about the AM of the following numbers:

7, 9, 24, 16, 26

(d) Find the mean if the co-efficient of variation is 5% and variance is 4.

(e) If $n=10$, $\sum X = 120$, $\sum X^2 = 1690$, then find S.D.

यदि $n=10$, $\sum X = 120$, $\sum X^2 = 1690$ त्यसपछि S.D. फेला पार्नुहोस्।

(f) Name the different components of time series.

Time Series-এর বিভিন্ন উপাদানগুলির নাম লেখ।

Time Series का विभिन्न घटकहरू नाम दिनुहोस्।

(g) Fill in the blank:

_____ formula obeys both time and factor reversal tests.

शून्यस्थान पूरण करः

_____ सूत्र time एवं factor reversal tests-के मने चले।

खाली ठाउँ भर्नुहोस् :-

_____ सूत्रले time र factor reversal tests दुवैको पालना गर्दछ।

(h) Find Co-efficient of variation from the following data:

Mean = 40, Variance = 16.

—×—