



B.Com. III Semester Degree Examination, April/May - 2024

COMMERCE

Business Statistics

(NEP)

Time : 2 Hours

Maximum Marks : 60

Note : Attempt *all* sections.

SECTION - A

1. Answer the following sub-questions. **10x1=10**
- (a) What is collection of data ?
 - (b) Name any two types of classification.
 - (c) What are the methods of calculation of arithmetic mean ?
 - (d) What do you mean by range ?
 - (e) How do you calculate Karl Pearson's co-efficient of Skewness, if mode is ill-defined ?
 - (f) What is probability ?
 - (g) Define correlation.
 - (h) Write two regression equations.
 - (i) State any two uses of Index number.
 - (j) What are the types of ogive curves ?

SECTION - B

Answer **any four** of the following questions.

4x5=20

2. Classify the following data of Marks of 50 students in English taking class as 0-10, 10-20 etc.
- 64, 26, 46, 85, 42, 38, 10, 55, 72, 65
55, 47, 59, 62, 52, 54, 48, 62, 81, 08
44, 74, 50, 52, 66, 38, 77, 88, 17, 58
15, 25, 49, 51, 64, 68, 53, 50, 72, 52
50, 61, 75, 80, 90, 05, 16, 51, 61, 36



3. Find the Median

Wages Rs.	No. of labours
60-70	5
50-60	10
40-50	20
30-40	5
20-30	3

4. Calculate mean deviation take deviation from (mean) from the following data :

X	2	4	6	8	10
f	1	4	6	4	1

5. Calculate Karl Pearson's co-efficient of correlation from the data given below :

X	2	4	6	8	10
Y	12	14	16	18	20

6. Calculate the consumer Price Index Number (aggregate expenditure method) for the year 2015 with respect to the base year 2000 :

Commodity	Quantity	Price	
		2000	2015
A	13	40	70
B	20	32	45
C	8	60	55
D	6	45	60
E	15	12	30

7. A bag contains 4 white balls, 3 black balls and 2 green balls. Find the probability that selected balls i.e.
- White
 - non-white
 - White or black



SECTION - C

Answer **any three** of the following questions.

3x10=30

8. Draw a histogram from the following data and measure the Modal value. Verify it by actual calculations :

Size	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
<i>f</i>	5	11	19	21	16	10	8	6	3	1

9. Calculate Karl Pearson's co-efficient of Skewness from the data given below :

Income (R)	400-500	500-600	600-700	700-800	800-900
No. of employee	8	16	20	17	3

10. Calculate the two regression equations of X on Y and Y on X from the data given below taking deviations from actual means of X and Y. Estimate X when Y=20.

X	Y
10	5
12	6
13	7
17	9
18	13

11. Calculate Fisher's Ideal Index from the data given below and show how it satisfies. Factor Reversal test and Time Reversal test :

Commodity	Price		Quantity	
	2011	2012	2011	2012
A	8	10	20	30
B	12	15	10	10
C	6	8	16	20
D	4	6	8	10

12. (a) The average percentage of failure in a certain examination is 40. What is the probability that out of a group of 6 candidates at least 4 passed in the examination.
- (b) Assuming birth to male and birth to female children to be equiprobable. Find the probability that a family with 5 children has 2 or more male children.

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