

SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN
(AUTONOMOUS)

(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)
Chromepet, Chennai — 600 044.

B.Com.(ISM) END SEMESTER EXAMINATIONS NOVEMBER-2022

SEMESTER - III

20UBIAT3003 - Business Mathematics and Statistics - I

Total Duration : 2 Hrs 30 Mins.

Total Marks : 60

Section A

Answer any **SIX** questions ($6 \times 5 = 30$ Marks)

1. Define disjoint set and complement of a set with example.
2. A) Show that $A - B \neq B - A$ if $A = \{1, 2, 3, 4, 5\}$ and $B = \{3, 5, 7, 9, 10\}$.
B) Write down the subsets of $A = \{a, b, c, d\}$.
3. Compute the sum lent out. If two equal sums were lent out at 7% and 5% simple interest respectively, the interest earned on the two loans adds up to Rs.960 for 4 years.
4. Find the true discount and present worth of a bill for Rs.1,660 due in 9 months at 5% per annum.
5. Write short notes on
1) Geometric Mean 2) Standard Deviation
6. Calculate the value of Standard deviation of observations
45, 36, 40, 37, 39, 42, 45, 35, 40 and 39.
7. Calculate the coefficient of correlation between x and y from the following data:

X	1	3	5	8	9	10
Y	3	4	8	10	12	11

8. Calculate rank correlation coefficient for the following data:

X	92	89	87	86	86	77	71	63	53	50
Y	86	83	91	77	68	85	52	82	37	57

Section B

Answer any **THREE** questions ($3 \times 10 = 30$ Marks)

9. Write down the following sets in tabulation method.
 - a) The set A of all odd natural numbers less than 10.
 - b) The set B of all square numbers less than 100.
 - c) The set C of all roots of the equation $x^2 - 5x + 4 = 0$.
 - d) The set D of all prime numbers between 10 and 20.

Contd...

10. Calculate the simple interest that A paid to B. If A borrowed a sum of Rs.3,150 from B and agreed to repay the sum in ten monthly installments of Rs.315 each and the interest at the rate of 10% per annum in the 11th instalment.
11. Calculate Mean and Median of the data given below:

Class	frequency
0-10	3
11-20	7
21-30	13
31-40	17
41-50	12
51-60	10
61-70	8
71-80	8
81-90	6
91-100	6

12. Compute the quartile deviation for the following frequency distribution.

Marks above	0	10	20	30	40	50	60	70
No of students	150	142	130	120	72	30	12	4

13. Enumerate the Regression Analysis.

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