

**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 EXAMINATION APRIL/NOV - 2021**  
**SEMESTER - III**  
**18UBIAT3BS3 -Business Mathematics and Statistics - I**

<b>Total Duration : 3 Hrs</b>	<b>Total Marks : 75</b>
MCQ : 30 Mins	MCQ : 15
Descriptive : 2 Hrs.30 Mins	Descriptive : 60

Section B

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

1. Indicate the different methods of representation of sets.
2. What do you mean by frequency curve? State the important characteristics of a frequency curve.
3. Calculate the average sales from the following data:

Deepawali Sale (in Rs.100's)	0-10	10-20	20-30	30-40	40-50	50-60
No. of Customers Purchased	27	32	57	73	61	46

4. If Rs.1000 is invested at 10% compounded continuously, how long will it take the investment to triple?
5. Calculate the lower and upper quartiles in amount from the following distribution:

Purchases (In Rs.'000s)	12	18	24	30	36	42	48	54
No. of Suppliers	3	5	7	12	13	6	5	4

6. For the following data, determine the Karl Pearson's Coefficient of Correlation and state the type of correlation exist with reason:

S	7	5	3	1
P	1	3	5	7

7. The selling price of a product contains the following elements of costs and profit:

Details	Proportion to Selling Price
Prime Cost	32%
Factory Overhead	15%
Administrative Overhead	28%
Selling and Distribution Overhead	16%
Profit	9%
Selling Price Rs.1200 per unit	

Draw a pie-chart and show your interpretations.

8. Mention the utilities of regression lines.

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### Section C

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

9. Write a note with examples:

- (a) finite sets;
- (b) infinite sets;
- (c) subsets;
- (d) power sets; and
- (e) empty sets.

10. Calculate harmonic mean and geometric mean from the data given below:

x	5	12	17	20	25	30
f	3	2	5	9	5	2

11. Calculate Karl Pearson's Co-efficient of Skewness and state the type of skewness exist for the predicted data given below:

Estimated Sales on Christmas Season (in Rs.100's)	25-50	50-75	75-100	100-125	125-150	150-175
No. of Customers to be visited	6	6	10	15	7	1

12. From the following data find the two regression equations:

A	5	7	12	11	10
T	4	5	8	3	5

13. The difference between simple and compound interest on a sum of money put out for 4 years at 5% p.a. is Rs.150. Find the principal value.