

**B.Com(ISM) DEGREE EXAMINATION, NOVEMBER 2019**  
**II Year III Semester**  
**Business Mathematics and Statistics - I**

**Time : 3 Hours**

**Max.marks :75**

**Section A** ( $10 \times 2 = 20$ ) Marks

Answer any **TEN** questions

1. Define Function.
2. Define Finite Set.
3. Given  $A = \{1,3,5,7\}$  &  $B = \{1,2,3,4,5\}$ , Find  $A \cap B$ .
4. Define Simple Interest.
5. Define Compound Interest.
6. Mention the two kinds of Bills.
7. Define Statistics.
8. Define Arithmetic Mean.
9. Find the range of weights of 7 students from the following 27, 30, 35, 36, 38, 40, 43.
10. When  $Q_1 = 40$  &  $Q_3 = 60$ . Find the co-efficient of Q.D.
11. If  $\sum XY = 676$ ,  $\sum X^2 = 728$ ,  $\sum Y^2 = 651$ , Find  $r$ .
12. Find the Rank Correlation, if  $\sum D^2 = 40$  &  $N = 10$ .

**Section B** ( $5 \times 5 = 25$ ) Marks

Answer any **FIVE** questions

13. Find the Co-efficient of correlation between  $x$  and  $y$ .

$x$	1	2	3	4	5	6	7	8	9
$y$	12	11	13	15	14	17	16	19	18

14. Given  $U = \{1,2,3,4,5,6,7\}$ ,  $A = \{1,2,3,4,5\}$ ,  $B = \{1,2,3,5,7\}$  and  $C = \{2,5,6,7\}$ . Find 1)  $A \cup C$ , 2)  $B \cap A$ , 3)  $C - B$  4)  $C' \cap A$
15. Calculate Pearson's measure of skewness for the following data.

size	7	8	9	10	11	12	13	14
frequency	2	11	36	64	39	39	22	2

16. A sum of money amounts to Rs. 20,800 in 5 years and Rs. 22,720 in 7 years. Find the principal and the rate of simple interest.
17. Calculate geometric mean of the following: 50 72 54 82 93
18. Calculate the semi interquartile range and quartile coefficient from the following:

Age in years	20	30	40	50	60	70	80
No. of members	3	61	132	153	140	51	3

19. From the following data calculate 1) correlation coefficient and 2) standard Deviation of Y ( $\sigma_y$ ).  $b_{xy} = 0.85Y$  &  $b_{yx} = 0.89X$

**Section C** ( $2 \times 15 = 30$ ) Marks

Answer any **TWO** questions

20. In a survey of 5000 persons, it was found that 2,800 read Indian Express and 2,300 read statesman while 400 read both papers. How many read neither Indian Express nor statesman?
21. Find the Banker's discount and the cash value of a bill for Rs. 3,400 drawn on April 25<sup>th</sup> 1985 at 7 months and discounted on September 16<sup>th</sup> at 5%.
22. Locate median from the following:

Size of shoes	5	5.5	6	6.5	7	7.5	8
Frequency	10	16	28	15	30	40	34

23. Calculate mean deviation from the following data:

X	2	4	6	8	10
F	1	4	6	4	1

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