

18. Describe the characteristics, merits, and demerits of Statistics.

19. Calculate mean, median and mode :

Wages : 10-15 15-20 20-25 25-30 30-35 35-40 40-45

No. of workers : 60 140 110 150 120 100 90

20. Calculate Bowley' co-efficient of Skewness from the following data.

Expenses : 0-20 20-40 40-60 60-80 80-100 100-120

No. of families : 4 21 18 27 37 5

S.No. 1489

08USTA10

(For the candidates admitted from 2008–2009 onwards)

B.B.A. DEGREE EXAMINATION, APRIL/MAY 2018.

First Semester

BUSINESS MATHEMATICS AND STATISTICS — I

Time : Three hours

Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. Which is the 18th term of the progression 4, 7, 10, 13.....?
2. What is geometric progression?
3. Find the order of transpose of matrix $\begin{pmatrix} 1 & 2 & 3 \end{pmatrix}$.
4. If $A = \begin{pmatrix} 1 & -1 & 4 \\ 2 & 3 & 2 \end{pmatrix}$ $B = \begin{pmatrix} 1 & 1 & -1 \\ 3 & -2 & 3 \end{pmatrix}$ find $2A - 3B$.
5. Mention three advantages of primary data.
6. What is classification of data?

7. What are the types of average?
8. How is combined arithmetic mean is calculated?
9. Distinguish between the absolute and the relative measure of dispersion.
10. Calculate Range and coefficient of range from the data given below :
- 17, 25, 32, 69, 109, 165, 7, 4, 39

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) It is proposed to take 30 consecutive terms of the series $100 + 99 + 98 + \dots$ of what term one must begin so that the sum of the series is 1155.

Or

- (b) If the sum of 3 continuous numbers in an AP is 18 and their product is 120, find the three numbers.

12. (a) Solve the equation $x + 2y = 6$ and $3x + 4y = 16$.

Or

- (b) If $A = \begin{pmatrix} \cos & \sin \\ -\sin & \cos \end{pmatrix}$ and $B = \begin{pmatrix} \cos & -\sin \\ \sin & \cos \end{pmatrix}$ show that $AB = BA$.

13. (a) Describe the different parts of table.

Or

- (b) What are the causes for the distrust of statistics?

14. (a) Define average. What are the requisites of a good average?

Or

- (b) Calculate Arithmetic mean from the following :

House No. : 1 2 3 4 5

Income Rs. : 10000 500 2000 3500 5000

15. (a) Calculate Harmonic mean from the following :
20, 25, 28, 40, 50, 60.

Or

- (b) The mean of a certain distribution is 60, its standard deviation is 15 and coefficient of Skewness is 0.8. Find the median.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Show that the sum of all odd numbers between 2 and 1000 which are divisible by 3 is 83667 and those not divisible by 3 is 166332.

17. Solve :
 $2x + 3y - z = 9, x + y + z = 9, 3x - y - z = -1$.