

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI – 600 086.

(For candidates admitted during the academic year 2016 - 2017)

SUBJECT CODE: 16CM/AC/QT35

B.B.A DEGREE EXAMINATION NOVEMBER 2017

BUSINESS ADMINISTRATION

THIRD SEMESTER

COURSE : ALLIED – CORE  
PAPER : QUANTITATIVE TECHNIQUES FOR MANAGEMENT  
TIME : 3 HOURS  
MAX. MARKS: 100

SECTION – A

ANSWER ALL QUESTIONS:

(10 x 2 = 20)

1. What is tabulation of data?
2. Compute the arithmetic mean of a sample of number.  
19,20,21,23,18,25,26
3. What is scatter plot?
4. What is an inverse correlation?
5. What is the use of regression analysis?
6. There are 5 trains from Madras to Delhi and back to Madras. In how many ways can a person go from Madras to Delhi and returns in a different train?
7. Given:  $2x + 9y : 3x + 4y = 3 : 4$ . Find the ratio of x to y.
8. What is meant by compound interest?
9. How many five letter words with or without meaning, can be formed out of the letters of the word, 'LOGARITHMS'.
10. Volume of a hollow sphere is  $11352/7\text{cm}^3$ . If the outer radius is 8cm, find the inner radius of the sphere.

SECTION – B

ANSWER ANY FIVE QUESTIONS:

(5 x 8 = 40)

11. Find the quartile deviation and Co-efficient of Quartile deviation of the following items:

Order	1	2	3	4	5	6	7	8	9
Values	12	15	25	28	32	44	48	50	68

12. Find out Pearson's coefficient of correlation.

Income (Rs.)	230	560	490	360	270	480	580	600
Expenses (Rs.)	200	440	350	250	240	300	420	500

13. Solve the following equations:

$$3X + 4Y + 5Z = 18,$$

$$2X - Y + 8Z = 13,$$

$$5X - 2Y + 7Z = 20$$

14. There are 4 bus lines between A and B and 3 bus lines between B and C (i) In how many ways can a man travel by bus from A to C by way of B? (ii) In how many ways can a man travel round trip by bus from A to C by way of B if he does not want to use a bus line more than once?
15. Divide 20 into 4 parts which are in AP such that the product of the first and fourth is to the product of the second and third in the ratio 2:3.
16. The monthly salaries of two persons are in the ratio 3:5. If each receives an increase of Rs.20 in the monthly salary the ratio is altered to 13:21. Find their salaries.
17. Find the compound interest on a sum of Rs.6, 280 for one year and seven months at the rate of 8% per annum reckoned yearly.

### SECTION – C

ANSWER ANY TWO QUESTIONS:

(2 x 20 = 40)

18. The number of employees, daily wage per employee and the variance of the wages per employee for two household units are given below:

	Unit 'A'	Unit 'B'
Number of employees	50	100
Average daily wage per employee (Rs.)	120	85
Variance of the daily wage per employee (Rs)	9	16

- a) In which unit is there greater variation in the distribution of wages per employee?  
 b) Suppose in unit B, the daily wages of an employee were wrongly noted as Rs.120 instead of Rs.100. What would be the correct variance for unit B?
19. From the following data obtain the two regression equations:

Sales (Rs. in Lakh)	91	97	108	121	67	124	51	73	111	57
Purchase (Rs. in Crores)	71	75	69	97	70	91	39	61	80	47

20. Two brands of tyres are tested with the following results:

Life ('000 miles)	20-25	25-30	30-35	35-40	40-45
No. of tyres brand X	1	22	64	10	3
No. of tyres brand Y	0	24	76	0	0

- a) Which brand of tyres has greater average life?  
 b) Compare the variability and state which brand of tyres would you use on your fleet of trucks?
21. A man left Rs.18, 000 with the instruction that it should be divided in such a way that his three sons aged, 9, 12, 15, years should each receive the same amount when they reached the age of 25. If the rate of interest be 3.5% what should each son receive when he is 25 years old?

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