

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI – 600 086.
(For candidates admitted during the academic year 2016 – 2017 and thereafter)
SUBJECT CODE: 16CM/AC/QT35

B.B.A DEGREE EXAMINATION NOVEMBER 2019
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. Define statistics.
2. Find the mean of 3,7,6,5,7,8,10?
3. Find the 40th term of an AP whose 9th term is 465 and 20th term is 388.
4. Find the simple interest and amount on Rs.5000 at 10% for 3 years.
5. Distinguish between correlation and regression.
6. If the regression coefficients are $\frac{3}{2}$ and $\frac{1}{6}$. What is the correlation coefficient?
7. Give two examples of correlated variables.
8. If the sum of squares of the difference in ranks of 8 pairs of observation is 126, what is the rank correlation?
9. What is geometric progression?
10. What are identities?

SECTION – B

ANSWER ANY FIVE QUESTIONS: **(5 x 8 = 40)**

11. Find the median of the following frequency distribution

Value (x)	5	10	15	20	25	30
Frequency (f)	7	12	37	25	22	11

12. The following data are given regarding expenditure on advertising and sales of a particular firm

	Sales (Y) (Rs. '000)	Advertisement Expenditure (X) (Rs. '000)
Mean	70	15
Standard deviation	15	3

Correlation Co-efficient $r = 0.8$

Calculate the regression equations. Estimate the advertisement expenditure required to attain a sales target of Rs.1,00,000 lakhs.

13. Ten competitors in a beauty contest are ranked by three judges in the following order

First judge	4	2	8	6	1	5	3	9	10	7
Second judge	2	5	9	3	6	7	1	10	8	4
Third judge	4	3	6	9	2	8	7	5	1	10

Use the method of rank correlation co-efficient to determine which pair of judges has the nearest approach to common taste in beauty.

14. Construct Histogram and Frequency Polygon for the following data.

Class	90-100	100-110	110-120	120-130	130-140	140-150	150-160
Frequency	16	22	45	60	50	24	10

15. A sum of money amounts to Rs.20,800 in 5 years and Rs.22,720 in 7 years. Find the principal and rate of interest?

16. Mr. Mohan Lal buys national savings certificates of values exceeding of the last year's purchase by Rs.100. After 10 years he finds the total value of the certificates purchased by him is Rs.5000. Find the value of certificates purchased by him in the first year and in the 8th year?

17. In how many ways can 5 Telugu, 3 English and 3 Tamil books be arranged if the books of each different languages are kept together?

SECTION – C

ANSWER ANY TWO QUESTIONS:

(2 x 20 = 40)

18. The scores of two players A and B in 12 rounds are given below. Identify the better player and the more consistent player.

A	74	75	78	72	78	77	79	81	79	76	72	71
B	87	84	80	88	89	85	86	82	82	79	86	80

19. Calculate the Pearson's Coefficient of Correlation from the following data using 44 and 26 respectively as the origin of x and y

X	43	44	46	40	44	42	45	42	38	40	42	57
Y	29	31	19	18	19	27	27	29	41	30	26	10

20. Two random variables have regression with equations

$$9Y - X = 288$$

$$X - 4Y = -38$$

Calculate (i) mean values of X and Y

(ii) Coefficient of Correlation

(iii) If variance of X=36, find the standard deviation of Y from the data given above.

21. Solve the system of the following three consistent and independent equations in the three unknowns:

$$2x+3y-4z = 1$$

$$3x-y-2z = 4$$

$$4x-7y-6z = -7$$
