18CMA03

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
BCom DEGREE EXAMINATION DECEMBER 2018
(First Semester)

Branch - **COMMERCE (COST & MANAGEMENT ACCOUNTING)**

BUSINESS MATHEMATICS & STATISTICS

Time:-Three Hours Maximum: 75 Marks

SECTION-A (10 Marks)

Answer **ALL** questions
ALL questions carry **EQUAL** marks (10 x 1 = 10)

1 A ratio equivalent to 3:7 is
(i) 3:9 (ii) 6:10
(iii) 9:21 (iv) 18:49

2 o' JBQ o o II
(i) 0 (ii) 1
(iii) 10 (iv) 100

3 Which of the following representsi data?
(i) a single value (ii) only two values in a set
, (iii) a group of values in a set (iv) None

Cumulative frequency curve is also known as
(i) Histogram (ii) Frequency Polygon
(iii) O-give (iv) Piediagram

The range of 10,20,30,40,50 is
(i) 10 (ii) 30
(iii) 40 (iv) 50

Formula for coefficient of variation is
(i) $CV = \frac{SD}{Mean}$-xlOO (ii) $CV \frac{Mean}{SD}$ xlOO
(iii) $CV = \frac{MeanxSD}{100}$ (iv) $CV \frac{100}{MeanxSD}$

The range of simple correlation coefficient is
(i) 0 to 1 (ii) -1 toO
(iii) 0 to oo (iv) -1 to +1

If byx>l, than bxy is
(i) less than 1 (ii) greater than 1
(iii) equal to 1 (iv) equal to 0

Probability lies between
(i) -oo and +oo (ii) -oo and 1
(iii) -1 and 1 (iv) 0 and 1

10 In which distribution Mean and Variance are equal.
(i) Binomial (ii) Poisson
(iii) Normal (iv) Exponential

SECTION - B (25 Marks!

Answer **ALL** questions
ALL questions carry **EQUAL** Marks (5 x 5 = 25)

11 a Define with example: (i) Arithmetic Progression (ii) Geometric Progression.

12 a Define Statistics. State its uses in business.

OR

b Draw a Histogram and Frequency polygon.

Cl	30-40	40-50	50-60	60-70	70-80
f	3		12 '	8	4

13 a Find the median for the following data:

Marks	10-25	25-40	40-55	55-70	70-85	85-100
No. of Students	6	20	44	26	3	1

OR

b Calculate Standard Deviation.

x	1	2	3 i 4	5
f	3	7	10 | 3	2

14 a Explain Scatter diagram.

OR

b Find the rank correlation co-efficient.

X	50	60	65	70	75	40	70	80
Y	80	71	60	75	90	82	L-ZO	50

15 a Write a short note on axiomatic approach of probability.

OR

b State and prove addition theorem on probability.

SECTION -C (40 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** Marks (5 x 8 = 40)

16 a The sum of three numbers in arithmetic progression is 24 and their product is 440. Find the numbers.

OR

b A certain amount becomes Rs.5760 in 2 years and Rs.6912 in 3 years. Find the principal amount and rate of interest.

17 a Discuss the functions and limitations of Statistics.

OR

b Draw bolt the o-gives.

Marks	20-29	30-39	40-49	50-59	60-69	70-79
i No. of Students	7	11	24	32	9	1 14 2 1

18 a Compute Mean and Mode from the following dtita:

ci	10-13	13-16	16-19	19-22	22-25	25-28	28-31
f	8	15	27	51	75	54	36

OR

b Find the quartile deviation or the following data. Also find its coefficient.

Wages (Rs.)	100	200	400	500	600
[1] No. of Workers	5	8	21	12	6

19 a Calculate coefficient of correlation

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

OR

b Construct the two regression equation for the following data

X	2	3	4	7	8
Y	10	14	18	12	6

20 a A bag contains 7 red and 5 white balls. 4 balls drawn at random. What is the probability that