PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BCom DEGREE EXAMINATION MAY 2019
(Second Semester)

Branch - COMMERCE WITH PROFESSIONAL ACCOUNTING

QUANTITATIVE TECHNIQUES

Time: Three Hours Maximum: 75 Marks

SECTION-A (10 Marks)
Answer ALL questions
ALL questions carry EQUAL marks (10x1 = 10)

1 Statistics does not consider
(i) A single item (ii) Multiple item
(iii) Quantitative item (iv) None of these

2 Which of the following is not a primary data
(i) Direct personal interview (ii) Mailed questionnaire method
(iii) Published sources (iv) Indirect oral interviews

3 The arithmetic mean of 10, 20, 30 and 40 is
(i) 25 (ii) 35 (iii) 40 (iv) 45

4 Determine the mode

Marks :	18	20	22	24
No. of students :	55	120	108	45

(i) 120 (ii) 18 (iii) 20 (iv) 108

5 When the values of two variables change in the opposite direction then the correlation is
(i) Positive (ii) Negative
(iii) Positive and Negative (iv) Zero

6 The correlation coefficient through the regression coefficient is
(i) $r = \pm \sqrt{b_{xy}.b_{yx}}$ (ii) $r = \pm \sqrt{b_{xy} + b_{yx}}$
(iii) $r = \pm \sqrt{b_{xy} - b_{yx}}$ (iv) $r = \pm \sqrt{b_{xy} - b_{yx}}$

7 Index number is a single ratio, usually in
(i) Decimals (ii) Fractions (iii) Percentage (iv) None of these

8 In time series analysis, a period of seasonal fluctuation is
(i) Less than 1 year (ii) 2 years
(iii) 3 years (iv) More than 3 years

9 If A and B are independent then
(i) P(AnB) = P(A). P(B) (ii) P(AnB) = P(A) + P(B)
(iii) P(AnB) = P(A) - P(B) (iv) P(AuB) = P(A) + P(B)

10 If x follows binomial distribution, then E(X) =
(i) npq (ii) np (iii)d (iv) pq

SECTION - B (25 Marks)
Answer **ALL** questions
ALL questions carry **EQUAL** Marks (5x5 = 25)

11 a State the limitations of statistics.

OR

b Distinguish between classification and tabulation.

12 a Calculate the median from the following data. "

Marks:	10-25	25-40	40-55	55-70	70-85	85-100 |
No. of students:	6	20	44	26	3	11

13 a Explain Scatter diagram.

OR

b You are given the following data

	X	Y
Arithmetic mean	36	85
Standard deviation	11	8

Correlation coefficient between x and y is 0.66. Find the two regressions equations.

14 a What is index number? State its uses.

OR

b Compute 3 yearly moving average.

Year :	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Production :	21	22	23	25		22	25	26	27	26

15 a State and prove addition theorem of probability.

OR

b (i) Define conditional probability (ii) State Baye's theorem.

SECTION -C (40 Marks!

Answer **ALL** questions

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

16 a What is statistics? Discuss its scope.

OR

b Explain various types of bar diagrams with suitable example.

17 a Calculate the mean and mode from the following data.

Cl:	0-10	10-20	20-30	30-40	40-50	50-60	60-70
f:	18	41	90	131	140	54	15

OR

b For the data given here, find the quartile deviation.

Cl:	351-500	501-650	651-800	801-950	951-1100
Li	48	189	88	47	28

18 a Marks obtained by 8 students in accountancy (x) and statistics (y) are given below. Compute Karl Pearson's coefficient of correlation.

	59	59	60	61	62	64
Y:	65	68	72	72	69	71

OR

b Calculate the two regression equations from the following data.

X:	10	12	13	12	16	15
Y:	40	38	43	45	37	43

19 a Computer (i) Haspeyre's (ii) Paasche's price index numbers.

Item	Price		Quantity	
	Base year	Current year	Base year	Current year
A	6	10	50	50
B	2	2	100	120
C	4	6	60	30
D	10	12	30	25

OR

b Fir a straight line trend equation to the following data by least square method,

Year:	1979	1980	1981	1982	1983
Sales (Rs.):	100	120	140	160	180

20 a Define Normal Distribution. State the properties of the normal curve.

OR