

**PSG COLLEGE OF ARTS & SCIENCE**  
(AUTONOMOUS)

**BCom DEGREE EXAMINATION DECEMBER 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

(10 x 1 = 10)

- 1 A study based on completed enumeration is known as  
(i) Sample survey (ii) Pilot survey  
(iii) Census survey (iv) None of these
- 2 Statistical results are  
(i) Absolutely correct (ii) Not true  
(iii) True on average (iv) Universally true
- 3 If each observation of a set is multiplied by 10, the mean of the new set of observations is  
(i) Remains the same (ii) Ten times the original mean  
(iii) One-tenth of the original mean (iv) Increased by 10
- 4 Which one of the given measures of dispersion is considered best?  
(i) Standard deviation (ii) Range  
(iii) Variance (iv) Co-efficient of variation
- 5 If  $r = 0$ , the lines of regression are  
(i) Co-incident (ii) Parallel  
(iii) Perpendicular (iv) None of these
- 6 The range of simple correlation coefficient is  
(i) 0 to  $\infty$  (ii)  $-\infty$  to  $+\infty$   
(iii) 0 to 1 (iv) -1 to +1
- 7 Factor reversal test permits the interchange of  
(i) Base periods (ii) Price and quantity  
(iii) Weights (iv) None of these
- 8 Cyclic variation in a time series are caused by  
(i) Lockouts in a factory (ii) War in a country  
(iii) Floods in a state (iv) None of these
- 9 In tossing three coins at a time the probability of getting atleast one head is  
(i)  $\frac{7}{8}$   
(ii)  $\frac{1}{8}$   
(iii)  $\pm$  (iv)  $\frac{1}{8}$
- 10 The mea of poisson distribution is 4. Then variance is  
(i) 2 (ii) 4  
(iii) 8 (iv) 16

**SECTION - B (25 Marks)**

Answer **ALL** questions

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

11 a Explain the functions of statistics.

OR

b What are the main objectives of classification?

Cont...

12 a Calculate the harmonic mean from the following data.

x:	10	12	14	16	18	20
f:	5	18	20	10	6	1

OR

b Calculate the quartile deviation and its coefficient from the following data.

Height (in cm) : 28 32 18 16 42 12 39

13 a Compute the rank correlation coefficient

x:	21	36	42	37	25
y:	47	40	37	42	43

OR

b State the properties of regression coefficients.

14 a What are the characteristics of index numbers?

OR

Compute cost of living index numbers

Items:	Food	Fuel	Clothing	Rent	others
Index numbers :	352	220	230	160	190
Weight:	48	10	8	12	15

15 a Explain classical approach of probability.

OR

b If  $P(A) = 0.4$ ,  $P(B) = 0.3$  and  $P(A \cup B) = 0.6$  then find (i)  $P(A/B)$  and  $P(B/A)$

(ii) Are A and B independent?

**SECTION -C (40 Marks)**

Answer **ALL** questions

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

16 a Explain the uses of statistics in business and industry.

OR

b Explain the advantages and disadvantages of sampling.

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

Marks:	11-20	21-30	31-40	41-50	51-60	61-70	71-80
No. of students:	42	38	120	84	48	36	31

OR

b Find the standard deviation and coefficient of variation.

Cl:	0-10	10-20	20-30	30-40	40-50
f:	2	5	9	3	1

18 a Define correlation. Explain scatter diagram.

OR

b Find the regression equations for the data given below:

x:	40	38	35	42	30
y:	30	35	40	36	29

19 a Explain the problems in the construction of index numbers.

OR

b Using four yearly moving averages, calculate the trend values and short term fluctuations.

Year:	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Production :	464	515	518	467	502	540	557	571	586	612

20 a i) Define (1) Independent events (2) Mutually exclusive events,

ii) State and prove addition theorem of probability.

OR

b Define normal distribution. State its properties.