

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2019
(First Semester)

Branch – STATISTICS

DESCRIPTIVE 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 simple table represents
 - (i) only one factor or variable
 - (ii) always two factors or variables
 - (iii) two or more number factors or variables
 - (iv) all the above
- 2 Ogive curve occur for
 - (i) More than type distribution
 - (ii) Less than type distribution
 - (iii) both (i) and (ii)
 - (iv) none of (i) and (ii)
- 3 The mode of the distribution of values 5, 7, 9, 9, 8, 5, 6, 8, 7, 7, 5, 7, 9, 2, 7 is
 - (i) 5
 - (ii) 7
 - (iii) 8
 - (iv) 9
- 4 Formula for co-efficient of variation is

(i) $C. V = \frac{\sigma}{\text{Mean}} \times 100$	(ii) $C. V = \frac{\bar{X}}{\sigma} \times 100$
(iii) $C. V = \frac{\text{Mean} \times \text{S.D}}{100}$	(iv) $C. V = \frac{100}{\text{Mean} \times \text{S.D}}$
- 5 The moments about mean are called
 - (i) zero moments
 - (ii) raw moments
 - (iii) central moments
 - (iv) all the above
- 6 The values of co-efficient of Kurtosis β_2 can be
 - (i) <3
 - (ii) >3
 - (iii) equal to 3
 - (iv) all the above
- 7 The Range of Multiple Correlation co-efficient is
 - (i) 0 to 1
 - (ii) 0 to ∞
 - (iii) -1 to 1
 - (iv) $-\infty$ to ∞
- 8 If X and Y are two variates there can be atmost
 - (i) One regression line
 - (ii) Two regression line
 - (iii) Three regression line
 - (iv) An infinite number of regression lines
- 9 The software which contains rows and columns is called
 - (i) spread sheet
 - (ii) word processing
 - (iii) database
 - (iv) none of the above
- 10 An Excel Work Book is a collection of
 - (i) work book
 - (ii) work sheets
 - (iii) charts
 - (iv) both (i) and (ii)

SECTION - B (25 Marks)

Answer ALL questions

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

- 11 a Explain the types of classification.
OR
b Difference between Graphs and Diagrams.

- 12 a Calculate the Arithmetic Mean from the following data :

Marks :	40	50	54	60	68	80
No. of students :	10	18	20	39	15	8

OR

- b State the merits and demerits of standard deviation.
- 13 a Explain the absolute measures of skewness.
OR
b Explain the Karl Pearson's co-efficient of skewness.
- 14 a Explain the properties of regression co-efficients.
OR
b Calculate the co-efficient of correlation :
 $N = 9, \sum X = 225; \sum Y = 314; \sum XY = 7767; \sum X^2 = 5685; \sum Y^2 = 11080.$
- 15 a How to create a New workbook MS Excel?
OR
b Explain the merits and demerits of fitting by the method of least squares.

SECTION - C (40 Marks)

Answer ALL questions

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

- 16 a Draw a Histogram and frequency polygon from the following data :

Marks :	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
No. of students :	4	6	14	16	14	18	12	10	5	4

OR

- b Discuss the limitations of Statistics.
- 17 a Compute Quartile Deviation and its co-efficient from the following data :

X :	10	20	30	40	50	80
Frequency :	4	7	15	8	7	2

OR

- b Find the Harmonic Mean for the given data :

C. I :	0-10	10-20	20-30	30-40	40-50
Frequency :	8	12	20	6	4

- 18 a Calculate Bowley's co-efficient of skewness :

No. of Children :	0	1	2	3	4	5	6
No. of families :	7	10	16	25	18	11	8

OR

- b Calculate the first four central moments from the following data :

X :	3	6	10	15	20	23	24
f :	2	5	15	21	16	13	14

- 19 a Explain the types of correlation.

OR

- b Calculate the two regression equations from the following data. Also estimate Y when X = 20.

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

- 20 a Fit a Non-linear trend of the form $Y = a + bx + cx^2$ given the following data :

X :	0	1	2	3	4
Y :	1	1.5	1.5	2.5	3.5

OR

- b Explain in detail the exponential curve.