

PSG COLLEGE OF ARTS & SCIENCE  
(AUTONOMOUS)  
BSc DEGREE EXAMINATION MAY 2017  
(First Semester)

Branch -VISUAL COMMUNICATION

STATISTICS

Time : Three Hours

Maximum : 75 Marks

SECTION-A (20 Marks)

Answer ALL questions

ALL questions carry EQUAL marks “(10x2 = 20)

- 1 Define primary data.
- 2 How are bar diagrams classified.
- 3 Give any two merits of mode.
- 4 What do you understand by dispersion?
- 5 State the properties of correlation coefficient.,
- 6 Define regression.
- 7 What is size of a test?
- 8 Give the test statistic for testing the significance difference between means in the case of large samples.'
- 9 State any 2 uses of chi-square test.
- 10 What is ANOVA?

SECTION - B (25 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks (5 x 5 = 25)

- 11 a Explain essential characteristics of a good table.

OR

- b Draw a pie- diagram of the following data relating to area as under  
' different food- crops:

Food crops	Rice	Wheat	Barley	Jowar	Bajra	Maize	Others	
Area in (000,000. Acres)	8	8	4	2	2	5		11

- 12 a Calculate mean deviation about median from the Following series:

x :	1	0	1	1	1	2	1	3	1	4
f:	3		1	2	1	8	1	2	3	

OR

- b What are the types of averages? Obtain relationship between mean, median and mode.

- 13 a Point out the difference between correlation and Regression analysis.

OR

- b Calculate coefficient of correlation from the data given below:

X	9	8	7	6	3	4	3			2	1						
Y	1	5		1	6	1	4	1	3	1	1	1	2	1	0	8	9

Cont...

14 a Explain the general procedure for list of significance.

OR

b The manufacturer of a certain make of electric bulbs claims that his bulbs have a mean life of 25 months with a standard deviation of 5 months. A random sample of 6 such bulbs gave the following values life of months 24,26,30,20,20,18

Can you regard the producer's claim to be valid at 1% level of significance.

15 a What are the steps in testing the goodness of fit?

OR

b Prepare ANOVA table for one-way classification.

SECTION - C (30 Marks)

Answer any THREE Questions

ALL Questions Carry EQUAL Marks (3 x 10 = 30)

16 ' Draw a percentage curve for the following distribution of marks obtained by 700 students in an examination.

Marks: ■	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89
Students:	9	42	61	140	250	102	71	23	2

Find from the graph i) the marks at the 20<sup>th</sup> percentile and ii) the percentile equivalent of a mark of 65.

17 From the prices of shares of X and Y below, find out which is more stable in value.

X	35	54	52	53	56	58	52	50	51	49
Y	108	107	105	105	106	107	104	103	104	101

18 When to use Rank correlation coefficient. What are the uses of rank correlation coefficient?

19 For a random sample of 10 persons, fed on diet A, the increased weight in pounds in a certain period were:

10,6, 16, 17, 13, 12,8, 14, 15,9

For another random sample of 12 person, fed on diet B, the increase in the same period were:

7, 13, 22, 15, 12, 14, 18, 8, 21, 23, 10, 17

Test whether the diets A and B differ significantly as regards their effect on increase in weight.

20 The following table gives the number of good and bad parts produced by each of three shifts in a factory.

Shift	Good	Bad
Day	900	130
Evening	700	170
Night	400	200

Is there any association between the shift and the quality of parts produced? (Given for  $n=2$ ,  $N^* = 5.991$ )

**Z-Z-Z**

END