PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2018
(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 What are the functions of Statistics?
2 Define Primary data.
3 What is Mean?
4 Define the Range.
5 Define Correlation.
6 Give two regression equations.
7 Define Null hypothesis.
8 Describe the two types of errors.
9 Give any two uses of x^2 test.
10 What are the assumptions in Analysis of Variance?

SECTION - B (25 Marks!
Answer ALL Questions
ALL Questions Carry EQUAL Marks (5x5 = 25)

11 a What are the methods of Collecting the Primary data?

OR

b Describe the types of Classification.

12 a From the following data compute arithmetic mean.

Marks	0-10	10-20	20-30	30-40	40-50	50-60
No of Students	5 ; 10		25	30	20	10

OR

b Find the mean and standard deviation of fist n natural numbers.

13 a Calculate the correlation coefficient from the following data

X	1	3	5 ! 8	9	10
Y	3	4	8 ho	12	11

OR

b Differentiate the Correlation and Regression.

14 a The mean height obtained from a random sample of size 100 is 64 inches. The Standard deviation of the distribution of height of the population is known to be 3 inches. Test the statement that the mean height of the population is 67 inches at 5% level of significance.

OR

b Two types of drugs were used on 5 and 7 patents for reducing their weight. Drug A was imported and Drug B is indigenous. The decrease in the weight after using the drugs for six months was as follows:

Drug A	10	12	13	11	14		
Drug B	8	9	12	14	15	10	9

Is there is a significant difference in the efficiency of the two drugs?

Cont...

15 a In a certain sample of 2000 families, 1400 families are consumers of tea. Out of 1800 Hindu families, 1236 families consume tea. Use $\%^2$ test and state whether there is any significant difference between consumption of tea among Hindu and non-Hindu families.

OR

b Out of 8000 graduates in a town, 800 are females; out of 1600 graduates employees 120 are female. Use % test to determine if any distinction is made in appointment on the basis of sex.

SECTION - C (30 Marks)

Answer any THREE Questions

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

16 What is the merits and demerits of census method.

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

X	35 i 54	52	53	56	58	52	50	51	49
Y	108 1 107	105	105	106	107	104	103	104	101

18 Calculate the coefficient of rank correlation from the following data:

X	68	64	75	50	64	80	75	40	55	64
Y	62	58	68	45	81	60	68	48	50	70

19 An operative claims that he produces 40 articles in an hour. A sample of 10 random hours shows the turn out as 43,45,38,37.41,42,44,39,43 and 38. Is the claim of the operative reasonable at 5% significance level.

20 Three different machines are used for production, on the basis of the outputs, setup One-Way ANOVA table and test whether the machines are equally effective.

MACHINES		
MACHINE I	MACHINE II	MACHINE III
10	9	20
15	7	16
11	■ 5	10
10	6	14

Given that the value of F at 5% level of significance for (2,9) d.f is 4.26.

Z-Z-Z END