

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION – DECEMBER 2023
(First Semester)

Branch – VISUAL COMMUNICATION (ELECTRONIC MEDIA)

STATISTICS

Time: Three Hours

Maximum: 75 Marks

SECTION-A (20 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(10 x 2 = 20)

- 1) Define statistics.
- 2) Define bar diagram.
- 3) What are the merits of mean?
- 4) Define coefficient of variation.
- 5) Write any two properties of correlation.
- 6) Define regression analysis.
- 7) Define type I and type II error.
- 8) What is small sample test?
- 9) What is mean by goodness of fit?
- 10) Define one-way ANOVA.

SECTION - B (25 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks

(5 x 5 = 25)

- 11) a) Explain the various types of classification of data with suitable example.

(OR)

- b) Distinguish between diagrams and graphs.

- 12) a) Compute mode from the following data

Class Interval	0-10	10-20	20-30	30-40	40-50
Frequency	14	24	38	20	4

(OR)

- b) The following table gives the daily wages in rupees in a commercial organization.

Determine quartile deviation from the given data.

Daily Wages (Rs.)	30-32	32-34	34-36	36-38	38-40	40-42	42-44	44-46	46-48	48-50
No. of Persons	3	8	24	31	50	61	38	21	12	2

- 13) a) Rankings of 10 trainees at the beginning (X) and at the end (Y) of a certain course are given below:

X	1	6	3	9	5	2	7	10	8	4
Y	6	8	3	7	2	1	5	9	4	10

Calculate spearman's rank correlation coefficient

(OR)

- b) Explain the uses of regression analysis

- 14) a) What are the general procedures followed in testing of a hypothesis?

(OR)

- b) In a sample of 1000 people in Maharashtra, 540 are rice eaters and the rest are wheat eaters. Can we assume that both rice and wheat are equally popular in this State at 1% level of significance? ($\alpha_{0.01}=2.58$)

- 15) a) Explain chi-square test.

(OR)

- b) Briefly explain the test procedures of one-way ANOVA with suitable example.

Cont...

SECTION - C (30 Marks)

Answer any **THREE** Questions
ALL Questions Carry **EQUAL** Marks (3 x 10 = 30)

16) Classify the methods of collecting primary and secondary data.

17) Calculate the arithmetic mean and median

Marks	3-5	5-8	8-10	10-15	15-20	20-30	30-50
Frequency	10	25	52	173	108	36	16

18) Calculate correlation coefficient for the following data

X	10	12	18	24	23	27
Y	13	18	12	25	30	10

19) The means of single large samples of 1000 and 2000 members are 67.5 inches and 68 inches respectively. Can the samples be regarded as drawn from the same population of standard deviation 2.5 inches? (Table value for 5% = 3)

20) In an anti-malarial campaign in a certain area, quinine was administered to 1624 persons out of a total population of 6496. The number of fever cases as shown below

TREATMENT	FEVER	NO FEVER	TOTAL
QUININE	40	1584	1624
NO QUININE	440	4432	4872
TOTAL	480	6016	6496

Discuss the usefulness of quinine in checking malaria ($\chi^2_{0.05} = 3.84$)

Z-Z-Z

END