PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION DECEMBER 2022
(Second Semester)

Branch – COSTUME DESIGN AND FASHION

RESEARCH METHODOLOGY AND STATISTICS

Time: Three Hours   Maximum: 50 Marks

SECTION-A (5 Marks)
Answer ALL questions
ALL questions carry EQUAL marks   (5 x 1 = 5)

1. In order to pursue the research ,which of the following is priorly required?
    (i) Developing a research design
    (ii) Formulating a research question
    (iii) Deciding about the data analysis procedure
    (iv) Formulating research hypothesis

2. What is the arrangement of data in rows and columns known as ?
    (i) Frequency distribution   (ii) cumulative frequency distribution
    (iii) tabulation   (iv) classification

3. Which of the following is a relative measure of dispersion
    (i) Variance   (ii) co-efficient of variance
    (iii) standard deviation   (iv) mean deviation

4. What is the probability of getting an even number when a die is tossed ?
    (i) 1/3   (ii) 1/2
    (iii) 1/6   (iv) 1/5

5. The calculated value of chi-square is
    (i) always positive   (ii) always negative
    (iii) Either positive or negative (iv) None of the above

SECTION - B (15 Marks)
Answer ALL Questions
ALL Questions Carry EQUAL Marks   (5 x 3 = 15)

6. a) Explain the various types of research.
                    (OR)
   b) Discuss the various methods of collecting primary data.

7. a) What do you understand by classification and tabulation? Discuss their importance.
                    (OR)
   b) Explain about the classifications of measurement Scales.

8. a) The following are the marks scored by 11 students , find out the median marks.
            15 , 18 , 10 , 14 , 20 , 9 , 21 , 30 , 6 , 10 , 13
                    (OR)
   b) Explain the Scatter Diagram method.

9. a) State and prove Addition theorem on Probability.
                    (OR)
   b) A sample of 1600 leaves has a mean length of 5.4 inches ,could it be reasonably regarded as a sample from a population of leaves whose mean is 5.25 inches and standard deviation of 2.6 inches.

10.a) Explain the Procedure of Mann Whitney U test.

(OR)

   b) State the basic assumptions of the analysis of variance.

SECTION -C (30 Marks)
Answer ALL questions
ALL questions carry EQUAL Marks   (5 x 6 = 30)

11. a) Describe fully the techniques of defining a research problem.

(OR)

   b) Explain the types of Sampling techniques.

12. a) Discuss the four types of measurement scales.

(OR)

   b) From the following table draw a histogram

Wages in Rs. :	0 - 10	10-20	20- 30	30- 40	40 – 50	50 - 60	60- 70
No.of Workers :	5	8	10	14	11	6	3

13. a) Find mean from the following data

Value :	1	2	3	4	5	6	7	8	9	10
Frequency :	21	30	28	40	26	34	40	9	15	57

(OR)

   b) Following are the rank obtained by 10 students in two subjects ,Analyze to what extent the knowledge of students in two subjects related.

Statistics :	1	2	3	4	5	6	7	8	9	10
Mathematics :	2	4	1	5	3	9	7	10	6	8

14. a) In a random sample of 1000 persons from town A , 400 are found to be consumers of wheat. In a sample of 800 from town B , 400 are found to be consumers of wheat. Do these data reveal a significant difference between town A and town B so far as the proportion of wheat consumers is concerned?

(OR)

   b) Obtain the binomial distribution for which the mean is 20 , and the variance is 15.

15. a) A certain drug was administered to 500 people out of a total of 800 included in the sample to test its efficacy against typhoid .The results are given below.

	Typhoid	No Typhoid	Total
Drug	200	300	500
No Drug	280	20	300
Total	480	320	800

On the basis of these data , can it be concluded that the drug is effective in preventing typhoid?

(OR)

   b) The values in one sample are 53 , 38 , 69 , 57 , 46 , 39 , 73 , 48 , 73 , 74 , 60 and 78 . In another sample they are 44 , 40 , 61 , 52 , 32 , 44 , 67 , 72 , 53 , and 72.. Test at the 10% level the hypothesis that they come from population with the same mean. Apply U - test .

Z-Z-Z   END