

Cutting, Overwriting, Erasing, Fluid painting and use of Lead Pencil will earn no marks.
Write answer of the Question No.1 and 2 on this sheet and handover it to the supervisory staff of examination within first 35 minutes.

Time Allowed: 35 Minutes

(OBJECTIVE PART)

Max. Marks: 22

Sign of Supdt.

1- a) Tick or Encircle the correct answer:

1x3

i) The mean and standard deviation of the standard normal distribution are respectively

a) 0 and 1

b) 1 and 0

c) μ and σ^2

d) π and e

ii) The difference between a statistic and parameter is called:

a) Probability

b) Sampling Error

c) Random

d) Non Random

iii) Which of the following statements is true regarding the sign test:

a) It requires paired or dependent samples

b) The binomial distribution is the test statistic

c) It is based on counting the number of plus (or minus) signs

d) All of the above are true

b) Encircle True or False:

1x4

i) Statistics in singular sense refers to the aggregate purpose in any field of study.

TRUE / FALSE

ii) The frequency curve of negatively skewed distribution has a longer tail on the right side.

TRUE / FALSE

iii) The number of permutations of four objects taking 2 at a time is 6.

TRUE / FALSE

iv) Null hypothesis accepted at 1% may be rejected at 5%.

TRUE / FALSE

c) Fill in the blanks meaningfully:

1x3

i) The normal distribution is a _____ distribution.

ii) Sampling Distribution is the distribution of some _____.

iii) For an $l \times c$ contingency table, the number of degrees of freedom is _____.

(Continued Overleaf)

2- Write short answers of the following:
i) What are measures of relative dispersion? How are they used?

6x2

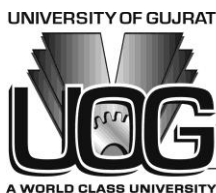
ii) What is the shape of t-distribution?

iii) How would you decide to choose regression or correlation analysis for study of relationship?

iv) What are the major parts of the Statistical Inference?

v) Define Degree of Freedom.

vi) Skewed Distribution.



(M.A/M.Sc Part-I)
(Psychology) Statistics in Psychology

Roll No: _____
Time Allowed : 2:25 hrs
Max. Marks : 48

Attempt any **FOUR** Questions. All questions carry equal marks

SUBJECTIVE PART

- 3-a) Arrange the data given below in an array and construct a frequency distribution as 45 – 49.9, 50 – 54.9, ----- . Also make class boundaries. 79.4, 71.6, 95.5, 73.0, 74.2, 81.8, 90.6, 55.9, 75.2, 81.9, 68.9, 74.2, 80.7, 65.7, 67.6, 82.9, 88.1, 77.8, 69.4, 83.2, 82.7, 73.8, 64.2, 63.9, 58.3, 48.6, 83.5, 70.8, 72.1, 71.6, 59.4, 77.6. 6
- b) For the following frequency distribution draw a histogram on the graph paper. 6

Groups	10 – 11	12 – 14	15 – 19	20 – 29	30 – 34	35 – 39	40 – 42
<i>f</i>	04	12	25	60	25	15	6

- 4-a) The following table gives the marks obtained by a batch of 5 candidates in an examination in Psychology, Education and English. In which subject is the level of knowledge highest? 6

Roll no.	Psychology	Education	English
1	41	46	50
2	35	50	52
3	38	39	41
4	34	50	46
5	30	38	39

- b) In a moderately skewed distribution, mean = 78, Median = 72. Find the value of Mode. 6
- 5- Consider a normally distributed population of resting heart rate with $\mu = 72$ bpm and $\sigma = 8$ bpm:
- i) What is probability of randomly selecting someone whose heart rate is either below 58 or above 82 bpm? 4
- ii) What is the probability of randomly selecting someone whose heart rate is either between 67 and 75 bpm, above 80 bpm or below 60 bpm? 8

- 6-a) A marble is drawn from a box containing 10 Red, 30 White, 20 Blue and 15 Orange marbles. Find the prob- that it is a: i) Not Orange ii) Not Red or Blue iii) Red, White or Blue 6
- b) Compute Pearson’s correlection coefficient between the variables X and Y represented in the following table: 6

X	2	4	5	6	8	11
Y	18	12	10	8	7	5

- 7-a) The two samples A and B detailed below were taken from normal populations of standard deviation 2.5. Decide whether the difference of sample means is significant at the .05 level of significance. 7

A	16	18	23	26	19	24	25	23	21	22
B	20	21	23	25	25	27	24	26	24	28

- b) A developmental Psychologist would like to determine whether infants display any color preferences. The preferred colors for a sample of 60 infants are shown in the following table: 5

Red	Green	Blue	Yellow
21	11	18	10

Do the data indicate any significant preferences among the four colors? Test at the 5% level of significance.

- 8- a) Use an analysis of variance with $\alpha = .05$ to determine whether there are any significant difference among the four treatments. 8

Treatment			
1	2	3	4
11	13	21	10
4	9	18	4
6	14	15	19

- b) A sample of size 8 was chosen from a population. The sample observations are given below: 2.55, 4.62, 2.93, 2.46, 1.95, 4.55, 3.11, 0.90 4
- Using the sign test, test the hypothesis that the median of the population equals 2 against it does not.