

12th CLASS I.Cs STATISTICS GUESS PAPER – 2022.

STATISTICS.

2. Write short answers

- i. Define the normal frequency distribution.
- ii. Write the probability density function of standard normal distribution.
- iii. Define the point of inflection in a normal distribute.
- iv. Find the ordinate of the standard normal curve at $z = -0.84$
- v. Define interval estimation.
- vi. Define statistical hypothesis.
- vii. Differentiate between estimator and estimate.
- viii. What are the assumptions of student's t-Statistic?
- ix. Define multiple bar diagram.
- x. Define class-interval.
- xi. Define level of significance.

3. Write short answers

- i. What is Population?
- ii. What is non –sampling error?
- iii. Distinguish between finite and infinite population.
- iv. Explain the term regression coefficient.
- v. Write any two reasons of average calculation.
- vi. Enlist any two uses of index number.
- viii. Write the relationship between regression coefficient and correlation coefficient.
- ix. What is curve fitting?
- x. What is probability?
- xi. Define subset.
- xii. Write down any two advantages of sampling.
- xiii. Define scatter diagram.

4. Write short answer

- i. Define the term Dichotomy for attributes.
- ii. What is positive and negative association?
- iii. What is ultimate class frequency?
- iv. Describe the seasonal variation.
- v. Explain the term secular trend.
- vi. Discuss term noise.
- vii. Define independence of attributes.
- viii. Enlist the different methods of measuring secular trend.
- ix. Write down two properties of least square line.

SECTION – II

In a normal distribution $\mu = 47.6$ and $\sigma = 16.2$, find :

- (i) P_{90} (ii) Two points such that any value has 95% probability of falling between them.

If $X \sim N(60, 100)$, where X indicate marks obtained by student, find probability that a student selected at random obtains marks : (i) less than 56 (ii) more than 50

For the following frequency distribution compute mode :

Classes	30 – 39	40 – 49	50 – 59	60 – 69	70 – 79
Frequency	15	18	22	10	05

Given the following summary statistics :

$n_1 = 40$	$\bar{x}_1 = 90$	$\sigma_1 = 15$
$n_2 = 50$	$\bar{x}_2 = 100$	$\sigma_2 = 20$

Construct 95% confidence interval for $\mu_2 - \mu_1$

Calculate arithmetic mean :

x	5	10	15	20	25	30	35
f	3	7	10	15	10	3	2

The price of wheat (per 40 kg) is given below. Compute chain indices using 1991 as base year :

Year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Price	112	124	130	160	160	172	240	240	240	300

If 3 coins are tossed, construct the sample space and find the probability of 3 heads?

A population consist of 6, 9, 15, and 18. Take all possible samples of size 3 without replacement. Find mean and variance of the sampling distribution of mean.

Draw all possible samples of size 2 at random with replacement from the population 2,3,4,5. Find proportion of odd numbers in the samples. Find mean and standard deviation of the sampling distribution of sample proportion.