COMPUTER ORIENTED STATISTICAL TECHNIQUES

QUESTION BANK

<u>ADVANCED LEARNER</u>

<u>1</u> formula for calculating arithmetic mean for group data
   a) $\sum \frac{x_i}{N}$
   b) $\sum \frac{f_i x_i}{N}$
   c) $\sum \frac{f_i}{N}$
   d) $\sum \frac{5x_i}{N}$

<u>2</u> Formula for Harmonic mean(H) is given by
   a) $H = \frac{1}{N}\sum\frac{1}{X}$
   b) $\frac{1}{H} = \frac{1}{N}\sum\frac{1}{X}$
   c) $H = N\sum\frac{1}{X}$
   d) $\frac{1}{H} = N\sum\frac{1}{X}$

<u>3</u> The second moment about the origin zero of the set 2, 3, 5, 7, 8, 10 is
   a) 0
   b) 2
   c) 45.2
   d) 45

<u>4</u> Choose the correct relationship between raw moment and central moment
   a) $m_2 = m'_2 - (m'_1)^2$
   b) $m_2 = m'_2 - 2(m'_1)^2$
   c) $m_3 = m'_3 + 3m'_1 m'_2 + 2(m'_1)^3$
   d) $m_3 = m'_3 - 6m'_1 m'_2 + 2(m'_1)^3$

<u>5</u> Five cards are drawn from a pack of 52 well shuffled cards. The probability of drawing 4 ace cards is
   a) 1/54145
   b) ¼
   c) 1/25
   d) 1/52

<u>6</u> A value of an estimator is called:
   a) Estimation
   b) Estimate
   c) Variable
   d) Constant

<u>7</u> Estimation is of two types:
   a) One sided and two sided
   b) Type I and type II
   c) Point estimation and interval estimation

d) Biased and unbiased

8 In students T distribution, the degree of freedom is given by
a) N
b) $N - 1$
c) μ
d) $\mu - 1$

9 Two samples of sizes 9 and 12 are drawn from two normally distributed populations having variances 16 and 25, respectively. If the sample variances are 20 and 8, determine value of F statistic.
a) 4.01
b) 4.02
c) 4.03
d) 4.04

10 To fit straight line to given data point, the normal equations are

a) $Y = a_0 + a_1X$ and $\sum Y = a_0N + a_1\sum X$
b) $\sum Y = a_0N + a_1\sum X$ and $\sum Y^2 = a_0N + a_1\sum X^2$
c) $\sum Y = a_0N + a_1\sum X$ and $\sum XY = a_0\sum X + a_1\sum X^2$
d) $\sum Y^2 = a_0N + a_1\sum X^2$

SLOW LEARNER

1 Standard deviation is _____of variance
a) Square
b) Cube
c) Square root
d) Cube root

2 What is mode of distribution of Numbers: 1,1,1,2,2,3,3,3,4,5,7,7
a) 1 and 3
b) 2 and 7
c) Only 1
d) 4 and 5

3 The first moment about the mean is
a) 0
b) 1
c) 2
d) 32

4 The type of estimates are:
a) Point estimate
b) Estimation
c) Confidence region

d) Coefficient region

5   A statement made about a population for testing purpose is called?
   a) Statistics
   b) Hypothesis
   c) Level of significance
   d) T-statistics

6   In Students t distribution , the value of Statistic is given by the formula

   a) $t = \dfrac{\hat{X} - \mu}{\sigma/\sqrt{N}}$

   b) $t = \dfrac{\hat{x} - u}{\hat{s}/\sqrt{N}}$

   c) $t = \dfrac{\hat{X} - \mu}{\sigma/\sqrt{N-1}}$

   d) $t = \dfrac{\hat{X} - \mu}{\hat{s}/\sqrt{N-1}}$

7   What is criteria to determine whether sample is small sample?
   a) $N > 30$
   b) $N < 30$
   c) $N = 30$
   d) $N = 100$

8   The diagram obtained by plotting Data values on a rectangular coordinate system is called
   a) Argand's Diagram
   b) Shwartz's Diagram
   c) Scatter Diagram
   d) Cartesian Diagram

9   For given Data points, Let $D_1, D_2, \ldots, D_N$ be the deviations(errors) then Best fitting curve is the curve where_____.

   a) $D_1 + D_2 + \ldots + D_N$ is a minimum.
   b) $D_1^2 + D_2^2 + \ldots + D_N^2$ is a minimum.
   c) $\sqrt{D_1 + D_2 + \cdots + D_N}$ is a minimum.
   d) $D_1^2 + D_2^2 + \ldots + D_N^2$ is a maximum.

10 If the equation of straight line is given as $Y = 3 + 2X$, then value of a_1 is ____

   a) 3
   b) 2
   c) $\sqrt{3}$
   d) $\sqrt{2}$

1   the value of P_{25} is 24.5 then the value of Q_1 is given by
       a) 49
       b) 12.25
       c) 24.5
       d) 0

2   In how many ways can 7 people be seated at a round table if they can sit anywhere?
       a) 6!
       b) 7!
       c) 8!
       d) 5!

3   If the assumed hypothesis is tested for rejection considering it to be true is called?
       a) Null Hypothesis
       b) Statistical Hypothesis
       c) Simple Hypothesis
       d) Composite Hypothesis

4   In 200 tosses of a coin, 120 heads and 80 tails were observed. Then value of χ^2 is
       a) 4
       b) 6
       c) 8
       d) 10

5   If Y tends to increase as X increases, then correlation is called
       a) Positive correlation
       b) Negative correlation
       c) Right correlation
       d) Left correlation