



## First Year (General Minor Statistics)

COURSE CODE: STA11203

COURSE NAME: Basics of Statistics

(Semester I)

Program: (BScGen)

Program Specific: General B.Sc.

Course Type: F.Y.B.Sc. (Gen)Minor

Paper:

Credits: 2

Time: 2 Hours

Max. Marks: 30

SET: A

**Instructions to the candidate:**

- 1) All questions are compulsory.
- 2) Figures to the right indicate full marks.
- 3) Draw a well labelled diagram wherever necessary.

**SECTION: A****Q1) Answer the following****[5 X 1= 5]**

1. Define Attribute.
2. What is class mark of a class interval 0-50?
3. State formula for Bowley's coefficient of skewness.
4. Write the sample space for the random experiment of rolling two dice simultaneously.
5. Given that A and B are independent events, such that  $P(A) = 0.1$ ,  $P(B) = 0.5$  then find  $P(A \cap B)$

**SECTION: B****Q2) Answer the following (Attempt any 5/7)****[5 X 2 =10]**

1. Define: i) Impossible event  
ii) Mutually exclusive event
2. Determine whether following experiment is Non-deterministic experiment or Deterministic experiment:

*Experiment: i) Tossing two unbiased coins simultaneously.**ii) Cooling water below 0° Celsius.*

3. Write the classical definition of probability of an event.
4. Compute harmonic mean for following data:  
35, 47, 56, 69, 71
5. Given that,  $\sum (x_i - \bar{x})^2 = 590$ ,  $n = 10$  and  $\bar{x} = 25$ . Obtain coefficient of variation.
6. Calculate less than cumulative frequencies for following data:

Class interval	0-10	10-20	20-30	30-40
frequencies	13	14	10	9

7. Explain Stratified sampling with an illustration.

**SECTION: C**

**Q3) Answer the following/Write short notes on following (Attempt any 2/4) [2 X 5 = 10]**

1. Write a short note on primary data and secondary data.
2. Given that A and B are events, such that  $P(A) = 0.6$ ,  $P(B) = 0.3$  and  $P(A \cap B) = 0.2$ , find  $P(A|B)$  and  $P(B|A)$ .
3. Draw the Box plot for the following data.  
10, 110, 12, 15, 15, 16.
4. The probability mass function table for a random variable X is given as follows:

X	0	1	2	3	4
P(X= x)	0	0.1	0.2	0.3	0.4

- Find i) Mean of X.  
ii) Cumulative distribution function (C.D.F.) of X.

**SECTION: D**

**Q4) Answer the following (Attempt any 1/2) [5 X 1 = 5]**

1. Calculate mean, mode, median, range and upper quartile ( $Q_3$ ) for the following data:  
15, 11, 11, 28, 22, 14, 13, 18, 30, 12, 25.
2. A card is selected at random from a well shuffled ordinary deck of 52 playing cards. Find the probability of getting i) a spade card  
ii) a face card.

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