M.Com 1st Semester Examination, 2020
(Old Syllabus)
Subject: Commerce
Statistics for Business Decisions
(Paper: COM104)

Time: 2 Hours   **Full Marks: 40**

Module - 1

    Answer any two questions   **10 x 2 = 20**

1. Distinguish between p.d.f and p.m.f.

   Consider the following probability distribution of the random variable x:

x:	0	1	2	3	4	5
p:	1/8	2/8	1/8	1/8	2/8	1/8

Calculate its expectation and variance.   10

2. Derive mean and variance of binomial distribution.   10

3. Derive expectation and standard error of sample mean in case of SWSWR.   10

Module - 2
    Answer any two questions   **10 x 2 = 20**

4. (a) Explain the terms : Null hypothesis and Alternative hypothesis.
   (b) In an examination at which 600 candidates appeared, boys outnumbered girls by 16% of all
       candidates. Number of passed candidates exceeded the number of failed candidates by 310. Boys
       failing in examination numbered 88. Construct the nine-square table and calculate the coefficient of
       association between boys and success in the examination.   (5 +5)

5. In a three-variate multiple correlation analysis, the following results were found –

        Mean of $x_1 = 6.8$,   Mean of $x_2 = 7$,   Mean of $x_3 = 74$

        $\sigma_1 = 1$, $\sigma_2 = 0.8$, $\sigma_3 = 9$

        $r_{12}=0.6$, $r_{13}=0.7$, $r_{23}=0.65$

                      (The symbols have their usual meaning).

  Obtain the multiple regression equations. Also estimate the value of x_3 when $x_1 = 4$ and $x_2 = 8$.(10)
   .
6. (a) Distinguish between Chance causes and Assignable causes of variation in the context of SQC.
   (b) Write a short note on Mean Chart.   (5 +5)

Answers to be sent to : com104sbd@gmail.com