

U.G. 5th Semester Examination - 2020**STATISTICS****(HONOURS)****Course Code : STAT(H)CC-11/PR****[PRACTICAL]**

Full Marks : 25(20+5)

Time : 2 Hours

*The figures in the right-hand margin indicate marks.***Answer all the questions.**

1. On the basis of a random sample of size 9 drawn from a normal population with unknown mean μ and standard deviation 4.7, write down the UMP test of size 0.05 for the null hypothesis $H_0: \mu = 12$ against the alternative $H_1: \mu > 12$. Draw the power curve of this test, taking at least ten points of the ordinate.

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2. A discrete random variable X has the following distribution under the null hypothesis H_0 and the alternative hypothesis H_1 :

x	1	2	3	4	5
$P(X=x H_0)$	0.1	0.2	0.3	0.3	0.1
$P(X=x H_1)$	0.2	0.1	0.4	0.1	0.2

For $\alpha = 0.5$ find the most powerful test for H_0 against H_1 . Also calculate the power of the test. 4

3. Practical Note Book 5

4. Viva-voc 5

[Internal Assessment: 5]