2019

B.Sc. (Honours)

5th Semester Examination

STATISTICS

Paper - C11-P

Statistical Inference - II

Full Marks : 20   Time : 3 Hours

The figures in the margin indicate full marks.
Candidates are required to give their answers
in their own words as far as practicable.

Answer *all* questions

1. Let X be a random variable whose pmf under H_0 and H_1 is given by

X	1	2	3	4	5	6	7
$f(X/H_0)$	.01	.01	.01	.01	.01	.01	.94
$f(X/H_1)$	.06	.05	.04	.03	.02	.01	.79

Use the Neyman-Pearson lemma to find the most powerful test for H_0 vs H_1 with size $\alpha = 0.04$.

[Turn Over]

Compute the probability of Type-II error for this test.

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2. The marks obtained by 20 students of a college A and 15 students of college B in a statistics test are given below :

College A

89, 76, 63, 69, 55, 71, 84, 97, 88, 52, 47, 81, 32, 43, 86, 29, 49, 73, 80, 44.

College B

79, 61, 36, 42, 50, 12, 55, 81, 35, 73, 22, 90, 76, 67, 62.

Do you think students of College A are more proficient in statistics than students of College B ?

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3. Practical Note Book.   2

4. Viva-voce.   3