

U.G. 4th Semester Examination - 2021**STATISTICS****[HONOURS]****Course Code : STAT-H-CC-P-9****(Statistical Inference-I and Sampling Distribution-Lab.)****[PRACTICAL]**

Full Marks : 25(20+5)

Time : 2 Hours

*The figures in the right-hand margin indicate marks.**Candidates are required to give answers in their own words as far as practicable.**Notations and symbols have their usual meaning.*

1. Following are eight observations drawn from a distribution with p.d.f.

$$f(x|\theta) = (1/\theta) x^{(1-\theta)/\theta}, 0 < x < 1, 0 < \theta < \infty;$$

0.10, 0.22, 0.54, 0.36, 0.41, 0.29, 0.37, 0.18.

Estimate θ by (i) the method of maximum likelihood and (ii) the method of moments.

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2. A study was made to see the effect of oat bran in reducing triglyceride levels. A random sample of 50 men with high triglyceride levels was given two tablespoons of oat bran daily for eight weeks. After

eight weeks, 60% of the men had lowered their triglyceride levels. Another sample of 80 men was given two tablespoons of wheat bran for eight weeks and after that period 25% of the men had lowered their triglyceride levels. Test at 1% level, whether the data can support the claim that oat bran is more effective in reducing triglyceride level than the wheat bran.

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3. Practical Note Book

5

4. Viva-voce

5

(Internal Assessment : 5)

[Turn over]