SHIVAJI COLLEGE, UNIVERSITY OF DELHI

DEPARTMENT OF ECONOMICS

INTERNAL TEST-II

(Academic Year- 2023-24)

Name of the Course: B.A.Economics (H) Semester: II

Name of the Paper: Intermediate statistics for economics Faculty Name: Ms. Kavita Yadav

Unique paper code: 2272101203 Maximum Marks: 12

Duration : One Hour

Date of Test : 18th March '24

QUESTION-1

(a) A Suppose a sample of size n is to be drawn from a normal distribution where true standard deviation is 12.7. How large does n have to be to guarantee that the width of 97% confidence interval for true average value is 1.2. How does precision of estimation change if we change the confidence level from 97% to 99%.

(b) Suppose a population is normally distributed with mean p and unknown variance σ^2. From this population, a sample of size 49 is drawn with an average value of 3.2 and standard deviation 2.6. Find the 92% confidence interval for p. Write the interpretation of 92% confidence interval p for, also write the upper confidence bound for p for the 92% confidence level.

QUESTION-2

LetX_1, X_2,,X_3,X_5 be a random sample of size 5 from the pdf

$$f(x; \Theta)=\Theta X^{\Theta-1} \text{ where } 0 \leq x<\_1$$

Find the moment estimator of Θ. If X_1=0.34, $X_{2=}$0.27, X_3, = 0.79, $X_{4=}$0.82, X_5=0.19, what will be the moment estimate forΘ.

Kavita Yadav