›eâceyeæ ØeeleÛeÙeve keâe eJeeOe mecePeeFS Deej Gve heejemLeeleÙee keâe GuueKe keâeepeS epevece Ùen GheÙeòeâ nelee n~ N heejceeCe keâe mecee° me n heejceeCe keâe Skeâ ›eâceyeæ ØeeleoMe Ûevee peelee n~ Ùeeo N=nK epemece K Skeâ heCeekeâ n, lee eoKeeFS ekeâ ØeeleoMe ceeOÙe ceeOÙe mecee° ceeOÙe keâe DeveeYevele Deekeâuekeâ nelee n~ Fme Deekeâuekeâ keâe ØemejCe Yee evekeâeeueS~

Unit-III / FkeâeF-III

6. Describe the layout and analysis of a completely randomised design (CRD). Also discuss the merits and demerits of the design.
mecheCe KeC[keâ DeeYekeâuhevee keâe mejÛevee SJe eJeMue<eCe keâe JeCeve keâeepeS meeLe ne Fme DeeYekeâuhe keâ ueeYe-neeveÙee keâe eve™heCe keâeepeS~

7. Present the complete analysis of a randomised block design. Give its advantages over completely randomised design.
Skeâ ÙeeÃÛÚekeâle KeC[keâ DeeYekeâuhevee keâe heCe eJeMue<eCe keâeepeS~ heCe ÙeeÃÛÚekeâle DeeYekeâuhevee me Skeâ DeeYekeâuhevee keâ ueeYe oeepeS~

Unit-IV / FkeâeF-IV

8. Define factorial experiments. Give the analysis of 2^3 factorial experiment.
leškeâeÙe ØeÙeeiee keâe heejYeee<ele keâeepeS~ Skeâ 2^3-leškeâeÙe ØeÙeeie keâe eJeMue<eCe keâeepeS~

9. Describe a Latin Square Design. How do you estimate one missing value in a Latin Square Design? Give its analysis.
ueeŠve Jeie DeeYekeâuhevee keâe JeCeve keâeepeS~ Skeâ ueeŠve Jeie DeeYekeâuhevee ce Skeâ uehle Øe#eCe keâe Deekeâueve leohejele Fmekeâe eJeMue<eCe keâme keâjle n?

A (Printed Pages 4)

S-696

B.A. (Part-II) Examination, 2015

(Regular & Exempted)

STATISTICS

Second Paper

(Sampling Theory & Design of Experiments)

Time Allowed : Three Hours] ***[Maximum Marks : 33***

Note : Answer five questions in all. Question No.1 is compulsory. Attempt one question from each unit.
keâue heeÙe ØeMvee keâ Gòej oeepeS~ ØeMve me.1 DeeveJeeÙe n~ ØelÙekeâ FkeâeF me Skeâ ØeMve keâeepeS~

1. (a) Discuss the advantages of sampling over complete enumeration.
heCe ieCevee keâe leuevee ce ØeeleÛeÙeve keâ ueeYee keâe JÙeeKÙee keâeepeS~

(b) Discuss sampling and non-sampling errors.
ØeeleÛeÙeve SJe iej-ØeeleÛeÙeve $eešÙee keâe JeCeve keâeepeS~

(c) Write reasons of stratification
mleejlekeâjCe keâ keâejCee keâe eueeKeS~

(d) What do you mean by sampling unit and sampling frame?

ØeleoMe FkeâeF leLee ØeleoMe {eÛee me Deehe keÙee mecePele n?

(e) Explain double sampling .
oenje ØeleÛeÙeve mecePeeFS~

(f) What is the purpose of local control?
mLeeveeÙe eveÙe$eCe keâe keÙee GömÙe n?

(g) Write the model for two-way classification.
eÉOee ØemejCe eJeMue<eCe keâ Øele™he keâe eueeKeS~

(h) Define experimental error. How can it be reduced?
ØeÙeeieelcekeâ $eeš keâe heejYee<ee oeepeS~ Fme keâme keâce ekeâÙee pee mekeâlee n?

(i) Which of the basic principles are satisfied in R.B.D.?
Deej.yee.[e. ce keâeve me ceue emeæele mele° nele n?

(j) Distinguish between precision and efficiency.
heejMeælee Deej o#elee ce Delej yeleeFS~

Unit-I / FkeâeF-I

2. Distinguish between simple random sampling with and without replacement. Obtain an unbiased estimator for population mean and find the sampling variance in both the cases.
mejue ÙeeÂeÛÚkeâ ØeeleÛeÙeve meenle leLee jenle eJeeOeÙee ce Delej mhe° keâeepeS~ mecee° ceeOÙe nle DeveeYevele Deekeâuekeâ %eele keâeepeS leLee oevee emLeeleÙee ce ØemejCe evekeâeeueS~

3. Discuss the conditions under which stratified sampling is more suitable than simple random sampling. Obtain the variances under proportional, optimum and random allocations.
ekeâ DeeOeej hej mleejle ÙeeÂeÛÚkeâ ØeeleÛeÙeve mejue ÙeeÂeÛÚkeâ ØeeleÛeÙeve me DeeOekeâ Devekeâue n? meceeveheelee, Devekeâuelece SJe ÙeeÂeÛÚkeâ Deeyeš vee keâ eueS ØemejCe evekeâeeueS~

Unit-II / FkeâeF-II

4. Explain the method of cluster sampling and its usefulness. When the clusters are of equal size, find an unbiased estimate of the population mean. Compare this estimate with the one obtained from an equivalent simple random sample.
ieÛÚ ØeeleÛeÙeve eJeeOe keâe mecePeeFS Deej Fmekeâ ueeYe yeleeFÙe~ mecee° ceeOÙe keâe DeveeYevele Deekeâuekeâ Øeehle keâeepeS peyeekeâ ieÛÚ meceeve heejceeCe keâ ne~ Fme Deekeâuekeâ keâe leuevee meceeve heejceeCe Jeeue mejue ÙeeÂeÛÚkeâ eJeeOe keâ eueS ØeeleoMe me Øeehle Deekeâuekeâ me keâeepeS~

5. Explain the procedure of systematic sampling and explain the situations where it is appropriate. A systematic sample of size n is drawn from a population of size N. If N-nK, where K is an integer, show that sample mean is an unbiased estimator of population mean. Also find out its variance.