

Khalsa College, Amritsar
An Autonomous College
M.Sc Agriculture (Semester I)

STA-415:
Statistical Methods for Research Workers

Time: 3 Hours

Max. Marks:

150

Theory: 75

Practical: 37

Internal assessment: 38

Periods per week : 04+3

Instructions for the Paper Setters:

1. Question paper should be set strictly according to the syllabus.
2. The language of questions should be straight & simple.
3. In all nine questions should be asked, of which first question (Comprising of 8 short answer type questions covering the whole syllabus) will be compulsory.
4. Out of remaining eight questions, two questions should be asked from each section, out of which the candidates are required to attempt one question from each section.

Theory

Section-A: Probability and fitting of standard frequency distribution, sampling techniques, sampling distributions, mean and standard error.

Section-B: Simple partial, multiple and intra- class correlation and multiple regression.

Section-C: Tests of significance, students'-t, chi-square and large sample tests, confidence intervals.

Section-D: Analysis of variance for one way and two way classification with equal cell frequencies, transformation of data.

Practical:

Time: 3

Hours

Fitting of distributions, samples and sampling distributions, correlation and regression, tests of significance and analysis of variance.

Note: Students shall be trained to use computer to analysis the data, using available softwares. However, during university examination students will use scientific calculators to analyse the data.

An Autonomous College

M.Sc Agriculture (Semester II)

Experimental Designs for Research Workers
STA-425

Time: 3 Hours

Max. Marks:

150

Theory: 75

Practical: 37

Internal assessment: 38

Periods per week : 04+3

Instructions for the Paper Setters:

1. Question paper should be set strictly according to the syllabus.
2. The language of questions should be straight & simple.
3. In all nine questions should be asked, of which first question (Comprising of 8 short answer type questions covering the whole syllabus) will be compulsory.
4. Out of remaining eight questions, two questions should be asked from each section, out of which the candidates are required to attempt one question from each section.

Theory:

Section-A: Need for designing of experiments- characteristics of a good design, basic principles- randomization, replication and local control, uniformity trials- size and shape of plots and blocks, analysis of variance and interpretation of data.

Section-B: Completely randomized, randomized block and latin square design, multiple comparison tests, factorial experiments- interpretation of main effects and interactions,

Section-C: Orthogonality and partitioning of degrees of freedom confounding in 2^3 , 2^4 and 3^3 designs, split and strip plot designs, crossover designs and balanced incomplete block designs, response surface designs, switch over trials and long term experiments;

Section-D: Selection of experimental design, mechanical errors in field experiments and methods of reducing it, presentation of research results.

Practical:

Time: 3

Hours

Uniformity trials, completely randomized, randomized block latin square designs, missing plot and analysis, of covariance, 2^3 , 2^4 and 3^3 simple and confounded experiments, split and strip plot designs, cross over and balanced incomplete block designs.

Note: Students shall be trained to use computer to analysis the data, using available softwares. However, during university examination students are allowed to use scientific calculators to analysis is the data.

Note: Students are allowed to use scientific calculator in University examinations; statistical tables will be provided to students in examinations. No rigorous mathematical proofs are expected from students; stress will be on application only.