

Syllabus for Bachelor of Agriculture

Statistics, Computer Application and IPR

Subject code: 16AS0203

Subject Name: **Statistical Methods**

B. Sc. (Hons.) Agri., **First Year (Sem. - II)**

Objective:

To provide the knowledge of statistical methods, computer application and IPR for agriculture.

Credit Earned: 2+1= 3 Credit

Course Outcomes:

After completion of this course, student will be able to:-

1. Select the proper experimental design for a particular agricultural research project.
2. Analyze the data of agricultural research projects and draw the conclusion from the results.

Teaching and Evaluation Scheme

Teaching Scheme (hours)		Credits	Theory Marks			Practical Marks		Total Marks
Theory	Practical		ESE (E)	IA	CSE	Viva (V)	Term Work (TW)	
2	2	3	50	30	20	25	25	150

Syllabus for Bachelor of Agriculture Statistics, Computer Application and IPR

Contents:

Unit	Topics	Contact Hours
Theory		
1.	Introduction to statistics and its Application in Agriculture.	
2.	Graphical Representation of Data, Measures of Central Tendency and Dispersion	
3.	Definition of probability. Normal distribution.	
4.	Definition of Correlation, Scatter diagram. Karl Pearson's coefficient of correlation, linear regression equations.	
5.	Introduction to test of significance, one sample and two sample test t for means, Large sample test (Z test), Chi-square test of independence of attributes in 2×2 Contingency table	
6.	Introduction to analysis of variance, Principle of experimental design, analysis of one way classification (CRD and RBD)	
7	Introduction to sampling methods, sampling versus Complete Enumeration, Simple Random Sampling with and without replacement	
8	Use of random number table for selection of simple random sample	

Unit	Topics	Contact Hours
Practical		
1	Graphical representation of data	
2	Measures of central tendency (ungrouped data) with calculation of Quartiles, Deciles and Percentiles	
3	Measures of central tendency (grouped data) with calculation of Quartiles, Deciles and Percentiles	
4	Measures of dispersion (ungrouped data and grouped data)	
5	Moments, Measures of Skewness and Kurtosis (ungrouped data)	
6	Moments, Measures of Skewness and Kurtosis (grouped data)	
7	Correlation and regression analysis	
8	Application of one sample t- test	
9.	Application of two sample Fisher's t-test	
10.	Chi-square test of Goodness of fit	
11.	Chi-square test of Independence of attributes for 2×2 contingency table	
12.	Analysis of variance one way classification	
13.	Selection of random sample using Simple Random Sampling	

Reference Books:

1. A hand book of Agril. Statistics
S. R. S. Chandel, Kalyani Publishers Pvt. Ltd., New Delhi
2. A text book of Agril. Statistics
R. Rangaswami, Kalyani Publishers Pvt. Ltd., New Delhi
3. Principles and Practices of Statistics
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4. Elements of Practical Statistics

Instructional Method:

- a. The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by white board may also use any of tools such as demonstration, role play, quiz, brain storming, MOOCs *etc.*
- b. The internal evaluation will be done on the basis of continuous evaluation of students in the class-rooms
- c. Practical examination will be conducted at the end of semester for evaluation of performance of students in laboratory
- d. Students will use supplementary resources such as online videos, NPTEL videos, e-courses, Virtual Laboratory.