B.Sc.(Ag.) Honours Semester– VII Examination, 2014
Course No. : AST – 411
(Experimental Design)

(Old Syllabus)

Signature of Centre Superintendent

Roll No.: (in figure)_____ (in words)_____

Student Index No._____ Regn. No._____ of_____

Time : Two hours **Full marks : 50**

Questions are of value as indicated in the margin

Part–I

(Objective and Short Answer Type)
(Use only ball point pen)

Time : 30 minutes **Full marks : 20**

Note : 1. Answer in question paper itself.
2. Striking, rewriting and overwriting are not allowed in the objective type questions.

1. Fill in the blanks of the following statement: 1×10=10

i) Local control is a device to maintain _____ among blocks.
ii) C.R.D desing used in _____ experiment .
iii) On split plot design, more precision is obtained for _____.
iv) Two types of effects measured in a factorial experiment are _____ and _____.
v) Local control is not used in _____ design.
vi) The name "Design of Experiment" was given by _____.
vii) The critical difference (C.D.) is calculated by _____ formula.
viii) A randomised desing has _____ classification.
ix) Probit transformation is given by _____.
x) If the same factorial effect is confounded in all the blocks then it is _____ at all.

2. Write the model and draw the skelton of ANOVA of the following and Design : 3×2=6

i) L.S.D
ii) ∂^3 factorial experiment with 4 replication.
iii) Randomized Tslock Design

3. Match the following: 1×4=4

i) In RBD no. of treatment should be same as	i) a technique of reducing size of block.
ii) Confounding	ii) number of treatment
iii) Probit Analysis is based on	iii) Control two source of variation
iv) L.S.D design	iv) Transformed NED values of the doses and responses

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Part–II

(Descriptive Type)

Time : 1.5 Hours **Full marks : 30**

Questions are of value as indicated in the margin.

Answer ***any three*** questions .

4. a) What is an experimental Design? 5
   b) Define the following terms in brief 5
      (i) Experimental Unit
      (ii) Treatment
      (iii) Tslocks
      (iv) Experimental Error
      (v) Precision

5. Define L.S.D design under following head 2×5=10
   i) Model
   ii) The situation where L.S.D is superior over RDB and CRD
   iii) Randomisation process in 4×4 Latin Square and layout in field experiment
   iv) Computational process
   v) ANOVA Skelton

6. a) Elaborate the Fairfield Smith method of detemining plot size. 5
   b) What do you understand by uniformity trial? 5

7. a) Explain the role of 3 principal of design of experiment. 5
   b) The ANOVA table per latin square design with 5 treatment is given below with some missing entries. Complete those missing entries 5

Source of rarition	D.F	S.S	M.S	F Col
Treatment	*	200	*	5
Row	*	*	*	3
Column	*	*	*	2
Error	*	*		
Total				

8. a) State the difference between complete and partial confounding with appropriate example. 5
   b) How factorial experiment advantageous / superior over simple experiment? 5