

2021

## STATISTICS — HONOURS — PRACTICAL

Paper : CC-13P

Full Marks : 30

*The figures in the margin indicate full marks.*

1. A 4×4 Latin-square experiment was conducted to compare the effects of four spacings, *A*, *B*, *C* and *D*, on the yield of millet. The plan and yields are given below. Using missing plot technique, analyse the data to check whether there is any significant effect due to spacings. 8

Row	Column			
	1	2	3	4
1	A 231	B 280	C 285	D 284
2	B 284	A 246	D (Missing)	C 271
3	C 275	D 282	A 258	B 258
4	D 259	C 271	B 289	A 275

2. The following table gives the layout and yields (in suitable units) of a  $2^3$  experiment with three factors *A*, *B* and *C* conducted in 2 replicates. Analyse the data and find out the significant treatment effects. 12

	Block 1				Block 2			
Replicate I	(1)	ab	ac	bc	a	b	c	abc
	25.7	21.1	17.6	17.5	23.2	21.0	18.6	18.3
Replicate II	(1)	ab	ac	bc	b	a	abc	c
	27.6	26.7	26.2	22.0	25.6	27.9	28.5	27.2

3. The following data relate to the yields of an experiment in two replications of five varieties of corn, each in three generations. For each replicate a randomized block of five plots was used, with all the three

Please Turn Over

generations of each variety being accommodated in three sub-plots of a single plot. Analyse the data completely to test for the differential effect of generations and their interactions with varieties. 10

**Block I**

Variety Number				
3	2	1	4	5
a 50	a 48	a 40	c 45	b 50
c 48	b 46	c 48	a 46	a 48
b 45	c 42	b 46	b 48	c 45

**Block II**

Variety Number				
4	3	1	5	2
c 48	a 45	b 43	b 46	c 41
a 50	b 46	c 51	a 49	a 50
b 40	c 41	a 45	c 41	b 46