



18. Set up ANOVA table for the following per hectare yield for three varieties of wheat, each grown in four plots:

Plots of Land	Variety of Wheat		
	$A_1$	$A_2$	$A_3$
1	6	5	5
2	7	5	4
3	3	3	3
4	8	7	4

Also work out  $F$ - ratio and test whether there is significant difference among the average yields in the 3 varieties of wheat.

**SECTION-C(3 x 10 =30)**

Answer ALL the questions.

19. (a) Find the inverse of  $\begin{pmatrix} 2 & 3 & 4 \\ 3 & 2 & 1 \\ 1 & 1 & -2 \end{pmatrix}$ .

(Or)

(b) Using matrices solve the equation  $x + y + 2z = 4, 2x - y + 3z = 9, 3x - y - z = 2$ .

20. (a) Find the mode of the following set of observations: 3,5,7,5,9,7,5,7,6,3,9,5,6,6,3.

(Or)

(b) A certain stimulus administered to each 12 patient resulted in the following change in Blood Pressure(BP)

5,2,8,-1,3,0,-2,1,5,0,4,6

Can it be concluded that the stimulus will in general be accompanied by an increase in blood pressure.

21. (a) Time taken by workers in performing a job are given below:

Method I      20      16      26      27      23      22

Method II     27      33      42      35      32      34      38

Test whether there is any significant difference between the variances of time distribution.

(Or)

(b) Perform a Two-way ANOVA on the data given below:

Treatment II	Treatment I		
	I	II	III
1	30	26	38
2	24	29	28
3	33	24	35
4	36	31	30
5	27	35	33

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