

2020

STATISTICS — HONOURS — PRACTICAL

Paper : CC-5P

Full Marks : 30

The figures in the margin indicates full marks.

1. (a) Find the dimension of the vector space generated by the vectors

$$\underline{a}_1 = (2, 1, 4, 3)'$$

$$\underline{a}_2 = (4, -1, 7, 4)'$$

$$\underline{a}_3 = (6, 0, 8, 1)'$$

$$\underline{a}_4 = (2, -2, 6, 7)'$$

- (b) Find the vector in the space orthogonal to the vector space spanned by $\underline{a}_1, \underline{a}_2, \underline{a}_3$ and \underline{a}_4 .

8+7

2. Obtain A^{-1} using pivotal condensation method where

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$$A = \begin{bmatrix} 1 & -2 & 3 & 4 \\ 2 & -1 & 2 & 5 \\ 3 & 4 & -5 & 1 \\ 4 & 5 & -1 & 3 \end{bmatrix}$$
