Matrices and Determinants - Class XII

Related Questions with Solutions

Questions

Quetion: 01

Let $D_1 = \begin{vmatrix} a & b & a+b \\ c & d & c+d \\ a & b & a-b \end{vmatrix}$ and $D_2 = \begin{vmatrix} a & c & a+c \\ b & d & b+d \\ a & c & a+b+c \end{vmatrix}$ then the value of $\frac{D_1}{D_2}$ where $b \neq 0$ and $ad \neq bc$, is

A. 1

B. -2

C. 3

D. -4

Solutions

Solution: 01

Using: $C_3 \to C_3 - (C_1 + C_2)\,, in \quad both \quad determinant \quad D_1 = \begin{vmatrix} a & b & a+b \\ c & d & c+d \\ a & b & a-b \end{vmatrix}$

and $D_2 = \begin{vmatrix} a & c & a+c \\ b & d & b+d \\ a & c & a+b+c \end{vmatrix}$

$$\therefore \quad \frac{D_1}{D_2} = \frac{-2b(ad-bc)}{b(ad-bc)} = -2$$

Correct Options

Answer:01

Correct Options: B