Step-1

Given that

4×4 Tridiagoanl matrix with entries $-1,2,-1,$ is given by

$$B_4=\begin{bmatrix}2 & -1 & 0 & 0\\ -1 & 2 & -1 & 0\\ 0 & -1 & 2 & -1\\ 0 & 0 & -1 & 2\end{bmatrix}$$

Step-2

Here also the five terms that are non zero in big formula for $\det B_4$ are given by $a_{11}a_{22}a_{33}a_{44}-a_{12}a_{21}a_{33}a_{44}-a_{11}a_{22}a_{34}a_{43}-a_{11}a_{23}a_{32}a_{44}+a_{12}a_{21}a_{34}a_{43}$

$=(2)(2)(2)(2)-(-1)(-1)(2)(2)-(2)(2)(-1)(-1)-2(-1)(-1)(2)+(-1)(-1)(-1)(-1)$

$=16-4-4-4+1$

$\boxed{=5}$