Step-1

In Analogy to above exercise $P(x,y,z)$ lies on plane through $A(2,0,0), B(0,2,0)$ and $C(2,0,0)$ if and only if the volume of tetrahedron with vertices.

PABC must be zero.

Step-2

That means

P lies in the plane of $\overrightarrow{ABC}$

$$\Rightarrow \frac{1}{6}\left[\overrightarrow{PA}\ \overrightarrow{PB}\ \overrightarrow{AC}\right]=0$$

$$\Leftrightarrow \frac{1}{6}\left[\overrightarrow{PA}\ \overrightarrow{PB}\ \overrightarrow{AC}\right]=0$$

$$\boxed{\Leftrightarrow \begin{vmatrix} x & y & z & 1 \\ 2 & 0 & 0 & 1 \\ 0 & 2 & 0 & 1 \\ 0 & 0 & 4 & 1 \end{vmatrix}=0}$$