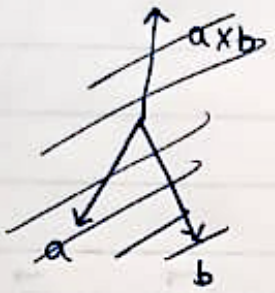
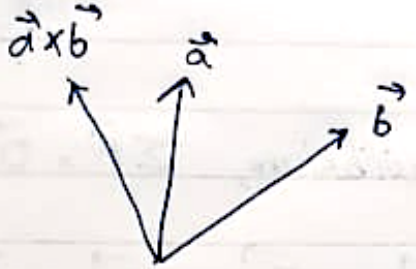
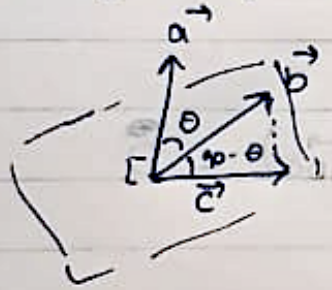
Q4. $a \times b$ according to right hand rule





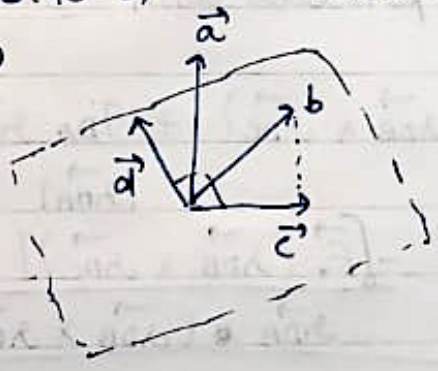
① Projection of $\vec{b}$ on a plane ⊥ to $\vec{a}$



$|\vec{c}| = |\vec{b}| \cos(90-\theta)$

$= |\vec{b}| \sin\theta$

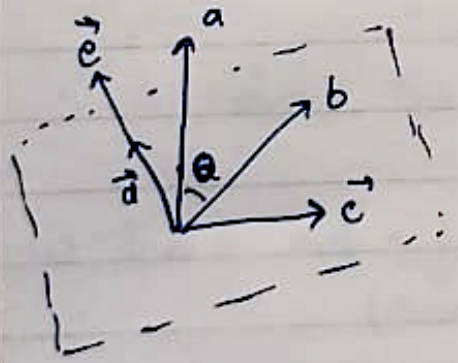
② Rotate $\vec{c}$ by 90° (about $\vec{a}$)



$|\vec{a}| = |\vec{c}| = |\vec{b}| \sin\theta$

③ $\vec{e} = \dfrac{\vec{a} \times |\vec{a}|}{\text{[illegible]}}$

$\Rightarrow |\vec{e}| = |\vec{a}||\vec{b}| \sin\theta$



$\underline{\vec{e} = \vec{a} \times \vec{b}}$