From the Problem 1-11,

$$\mathbf{ABC} = (\vec{A} \times \vec{B}) \cdot \vec{C} = \begin{vmatrix} A_1 & A_2 & A_3 \\ B_1 & B_2 & B_3 \\ C_1 & C_2 & C_3 \end{vmatrix}$$

$$\mathbf{ABC} = A_1(B_2C_3 - B_3C_2) - A_2(B_3C_1 - B_1C_3) - A_3(B_2C_1 - B_1C_2)$$

From the definition of the **permutation symbol** (or **Levi-Civita density**) (Equation (1.67))

$$\epsilon_{ijk} = \begin{cases} 0 & \text{if any index is equal to any other index} \\ 1 & \text{if } i, j, k \text{ form and } \textit{even} \text{ permutation of 1,2,3} \\ -1 & \text{if } i, j, k \text{ form and } \textit{odd} \text{ permutation of 1,2,3} \end{cases}, \tag{1.67}$$

$$\begin{aligned} \sum_{i,j,k} \epsilon_{ijk} A_i B_j C_k &= A_1B_2C_3 - A_1B_3C_2 + A_2B_3C_1 - A_2B_1C_3 + A_3B_1C_2 - A_3B_2C_1 \\ &= A_1(B_2C_3 - B_3C_2) - A_2(B_3C_1 - B_1C_3) - A_3(B_2C_1 - B_1C_2) \end{aligned}$$

Therefore,

$$\mathbf{ABC} = \sum_{i,j,k} \epsilon_{ijk} A_i B_j C_k$$