## Vectors - Class XII

### Related Questions with Solutions

---

### Questions

---

**Quetion: 01**

If $\vec{a}, \vec{b}, \vec{c}$ are three non-coplanar vector and $\vec{p}, \vec{q}, \vec{r}$ are vectors defined by the relationship $\vec{p} = \frac{\vec{b} \times \vec{c}}{[abc]}, \vec{q} = \frac{\vec{c} \times \vec{a}}{[\vec{a}\vec{b}\vec{c}]}, \vec{r} = \frac{\vec{a} \times \vec{b}}{[\vec{a}\vec{b}\vec{c}]}$ then the value of $\vec{p} \cdot (\vec{a} + \vec{b}) + \vec{q} \cdot (\vec{b} + \vec{c}) + \vec{r} \cdot (\vec{c} + \vec{a})$ is

A. 0

B. 3

C. 2

D. 1

---

### Solutions

---

**Solution: 01**

$\vec{p}, \vec{q}, \vec{r}$ are the reciprocal vectors of $\vec{a}, \vec{b}, \vec{c}$

$\therefore \vec{p} \cdot \vec{a} = 1$ and $\vec{p} \cdot \vec{b} = 0, \vec{p} \cdot \vec{c} = 0$

Similarly we can find for $\vec{q}$ and $\vec{r}$ .

$\therefore$ Value of given expression = 3

---

### Correct Options

---

Answer:01

Correct Options: B