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Computer Engineering
Matric No: 19/ENG02/1004

1 $A \cdot C = (3 \times 7) + (4 \times -7) + (-6 \times 1)$

$= 21 - 28 - 6$

$= -13$

$B \cdot C = (5 \times 7) + (-11 \times -7) + (2 \times 1)$

$= 35 - 77 + 2$

$= -40$

$A \cdot C + B \cdot C = -13 - 40$

$= -53$

2 $(A - B) \cdot C$

$(A - B) = (3i + 4j - 6k) - (5i - 11j + 2k)$

$= -2i + 15j - 8k =$

$(A - B) \cdot C = (-2 \times 7) + (15 \times -7) + (-8 \times 1)$

$= -14 + (-105) - 8$

$= -102.$

3 $A \cdot (B \times C)$

~~$(B \times C)$~~

$$\begin{vmatrix} i & -j & k \\ 3 & 4 & -6 \\ 5 & -11 & 2 \\ 7 & -7 & 1 \end{vmatrix}$$

$$3\begin{vmatrix} -11 & 2 \\ -7 & 1 \end{vmatrix} - 4\begin{vmatrix} 5 & 2 \\ 7 & 1 \end{vmatrix} - 6\begin{vmatrix} 5 & -11 \\ 7 & -7 \end{vmatrix}$$

$$3(-11+14) \quad -4(5-14) - 6(-35+77)$$

$$9 + 36 \quad -252 = -207_{//}$$