NAME: OFODILE PRECIOUS. C
DEPT: ELECTRICAL AND ELECTRONICS ENGINEERING

(ii) $-3A + 7B - 8C$

$-3(2i - j) + 7(3i + j - 4k) - 8(4i + 4j - 5k)$

$= -6i + 3j + 21i + 7j - 28k - 32i - 32j + 40k$

$= -17i - 22j - 37k$

(iii) $A \times (B \times C)$

$= 2i - j \times (3i + j - 4k \times 4i + 4j - 5k)$

$= 2i - j \times 12i + 4j + 55k$

$= 24i - 4j + 55k$

(iv) $(3A \times B) \cdot (A \times 2B)$

$(3(2i - j) \times 3i + j - 4k) \cdot (2i - j \times 2(3i + j - 4k))$

$(6i - 3j \times 3i + j - 4k) \cdot (2i - j \times 6i + 2j - 22k)$

$18i - 3j - 4k \cdot 12i - 2j - 22k$

$216i + 6j + 242k$

(v) $A - 2B - C$

$2i - j - 2(3i + j - 4k) - 4i + 4j - 5k$

$2i - j - 6i - 2j + 22k - 4i + 4j - 5k$

$-8i + j + 17k$

2) Perpendicular vectors these are vectors that their dot product is equal to zero

- Co-planar vectors are vectors that are in the same plane.