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**MATRIC NO: 19/ENG02/040**

**COURSE CODE: MAT 102**

**COURSE TITLE: GENERAL MATHEMATICS**

**QUESTION:** If A = 3i+4j-6k, B = 5i-11j+2k, C = 7i-7j+k. Find

1. A. C+B.C

2. (A-B). C

3. A. (BXC)

Solution

1. A.C = (3i+4j-6k). (7i-7j+k)

= (3.7) – (4.7) – (6.1)

= 21-28-6

= 21- 34

= -13

B.C= (5i-11j+2k). (7i-7j+k)

= (5.7) + (11.7) +(2.1)

= 35+77+2

= 114

Therefore,

A. C+B. C = -13 + 114

= 101

1. (A-B) =(3i+4j-6k) – (5i-11j+2k)

= -2i+15j-8k

(A-B). C=(-2i+15j-8k). (7i-7j+k)

= (-2.7) – (15.7) – (8. 1)

= -14 -105 -8

= -127

1. (B\*C) =(5i-11j+2k) \*(7i+7j+k)

= (35i-77j+2k)

Therefore,

A.(B\*C)

= (3i+4j-6k). (35i-77j+2k)

= (3.35) – (4.77) – (6.2)

= 105- 308 -12

= 105- 320

= - 215