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19/ENGO2/055

COMPUTER ENGINEERING

MAT 102.

$$i) \underline{A} = (6u^2 + 8)i + (4u - 10)j + 8u^2k$$

$$\underline{B} = (3u + (2u - 5)j + 5k$$

$$i) \underline{A} \cdot \underline{B} = 3u(6u^2 + 8) + (4u - 10)(2u - 5) + 8u^2(5) \\ = 18u^3 + 24u + 8u^2 - 20u - 20u + 50 + 50 + 40u^2 \\ = 58u^3 + 8u^2 - 16u + 50$$

$$\frac{d(\underline{A} \cdot \underline{B})}{du} = 174u^2 + 16u - 10$$

$$ii) \frac{d\underline{A}}{du} = 12ui + 4j + 24u^2k$$