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COMPUTER ENGINEERING
19/ENG02/1050

ASSIgnment.

(1) $A = (6u^2 + 8)i + (4u - 10)j + 8u^3 k$.

$B = 3ui + (2u - 5)j + 5k$.

(i) $A \cdot B = [3ui \times (6u^2 + 8)i] + [(4u - 10)j \times (2u - 5)j]$
$+ [8u^3 k \times 5k]$.

$A \cdot B = 6u^3 + 24u + 8u^2 - 20u - 20u + 50 + 40u^3$.

$= 6u^3 + 40u^3 + 8u^2 + 24u - 20u - 20u + 50$.

$= 46u^3 + 8u^2 - 16u + 50$.

$\therefore \frac{d}{du}(A \cdot B) = 138u^2 + 16u - 16$.

$du$

(ii) $\frac{dA}{du} = 12ui + 4j + 24u^2 k$.
$=$

$\frac{dA}{du}$ ⊗

$\frac{dA}{du}$