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04BEE106

B.TECH.ELECTRICAL & ELECTRONICS ENGG.

IV- SEM Examination, May/June - 2016

SUB : ELECTROMAGNETIC FIELD THEORY

Time : 3 Hours] **[Total Marks 60**

Use of following supporting material is permitted during examination.

1._____Nil_____ 2. _____Nil_____

Note: 1. Attempt any five questions.

2. Each question carry equal marks.

1. Express the vector field $\vec{A} = xy^2z\vec{a}_z + x^2yz\vec{a}_y + xyz^2\vec{a}_z$ in cylindrical and spherical coordinates at (3,-4,5).

OR

1. a) Verify the divergence theorem for vector

$\vec{A} = \rho^2 \cos^2\phi\vec{a}_\rho + z\sin\phi\vec{a}_\phi$ over closed suface of the cylinder $0 \le z \le 1, \rho = 4$. (8)

5. Determine the total power radiated by a small atternating line current element I_0 dl cos wt.

OR

a) Discuss different control techniques to suppress electromagnetic interference.

b) Explain the retarded potentials.