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Total No of Questions : 6 Total No. of Printed Pages : 2

EK-175

B.E. (VIth Sem.) (CGPA) El. & Commn. Engg. Exam.-2016

ELECTROMAGNETIC FIELDS & WAVES

Paper - EL-601

Time Allowed : Three Hours

Maximum Marks : 60

Note : Attempt all questions. Each question carry equal marks.

Q.I Explain any three of the following : 10

- (a) Displacement Current
- (b) Magnetic Intensity
- (c) Poissons Equations
- (d) Divergence
- (e) Uniform Plane Wave

Q.II Explain Divergence theorem and Stokes theorem.
How are the unit vectors defined in cylindrical coordinate systems?

(2)

Q.III Derive Laplace equation. A spherical charge distribution is given by :

$$P_v = \begin{cases} P_0(a^2 - r^2) & r \leq a \\ 0 & r > a \end{cases}$$

a is radius of sphere, find the total charge.

Q.IV State and Explain Lorentz force equation. Drive the expression for force between two long straight parallel current carrying conductors.

Q.V Drive Maxwell Equations in integral forms obtain the expression for energy stored in Magnetic field.

Q.VI Explain Linear, elliptical and circular polarization. Derive the Wave Equation for free space.