Roll No:

KARPAGAM COLLEGE OF ENGINEERING, COIMBATORE -641032.

BE-ELECTRICAL AND ELECTRONICS ENGINEERING **Semester: III**

14E304 ELECTROMAGNETIC THEORY

Continuous Internal Assessment: III

Date:09/10/2015 **Time: Two Hours**

Session:AN **Maximum: 50 Marks**

Answer ALL Questions **PART-A** **(10 x 2 = 20)**

A1. State Faradays law of electromagnetic induction.

A2. What is meant by Poynting vector?

A3. What is meant by transverse electromagnetic wave.

A4. Define skin depth.

A5. What is Brewster angle?

A6. State Lenz law.

A7. How standing wave is produced?

A8. Define intrinsic impedance.

A9. What is polarization and write down the classifications

A10. Define reflection coefficient

Answer ALL Questions **PART-B** **(2x15 = 30)**

B1. (a) (i) Derive maxwells equations in point form and integral form for time varying field (6)

(ii) Derive average power density from poynting vector (5)

(iii) Compare electric circuit and magnetic circuits (4)

(OR)

(b) (i) Write the effects of EMI and EMC (6)

(ii) Derive the general wave equation for Magnetic fields. (5)

(iii) Briefly explain plane waves in lossy dielectric. (4)

B2. (a) (i) Derive the general wave equation for Electric fields (6)

(ii) State Poynting Theorem and derive the point and integral form (5)

(iii) A 300 Hz uniform plane wave propagate through fresh water for which sigma = 0, μ_r=1 and E_r=78.Calculate wavelength. (4)

(OR)

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Faculty in charge **HOD-EEE**

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