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         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)       (6)         (ii) Derive average power density from poynting vector       (5)       (1)         (iii) Compare electric circuit and magnetic circuits       (4)         (OR)       (1) Write the effects of EMI and EM20       (2)	KARPAGAM COLLEGE OF ENGINEERING, COIMBATORE -641032.										
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 <b>Answer ALL Questions PART-B</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)       .       .		)C-CI	LEC	14F304	FUNICS ENGINEERING	Semester: 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	Continuous Internal Assessment: III										
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)       (6)         (ii) Derive average power density from poynting vector       (5)       (7)         (iii) Compare electric circuit and magnetic circuits       (4)         (OR)       (4)       (7)	Date:09/10/2015 Time: Two Hours										
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)       (6)         (ii) Derive average power density from poynting vector       (5)         (iii) Compare electric circuit and magnetic circuits       (4)         (OR)       (4)	Se	ssior	n:AN	I		Maximum: 50 Marks					
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         (ii) Derive average power density from poynting vector         (5)         (iii) Compare electric circuit and magnetic circuits         (OR)	An	swer	ALI	Questions	PART-A	(10 x 2 = 20)					
<ul> <li>A2. What is meant by Poynting vector?</li> <li>A3. What is meant by transverse electromagnetic wave.</li> <li>A4. Define skin depth.</li> <li>A5. What is Brewster angle?</li> <li>A6. State Lenz law.</li> <li>A7. How standing wave is produced?</li> <li>A8. Define intrinsic impedance.</li> <li>A9. What is polarization and write down the classifications</li> <li>A10. Define reflection coefficient</li> <li>Answer ALL Questions PART-B (2x15 = 30)</li> <li>B1. (a) (i) Derive maxwells equations in point form and integral form for time varying field (6)</li> <li>(ii) Derive average power density from poynting vector (5)</li> <li>(iii) Compare electric circuit and magnetic circuits (4)</li> </ul>	A1.	State	e Fa	radays law of electrom	nagnetic induction.						
<ul> <li>A3. What is meant by transverse electromagnetic wave.</li> <li>A4. Define skin depth.</li> <li>A5. What is Brewster angle?</li> <li>A6. State Lenz law.</li> <li>A7. How standing wave is produced?</li> <li>A8. Define intrinsic impedance.</li> <li>A9. What is polarization and write down the classifications</li> <li>A10. Define reflection coefficient</li> <li>Answer ALL Questions PART-B (2x15 = 30)</li> <li>B1. (a) (i) Derive maxwells equations in point form and integral form for time varying field (6)</li> <li>(ii) Derive average power density from poynting vector (5)</li> <li>(iii) Compare electric circuit and magnetic circuits (4)</li> <li>(OR)</li> </ul>	A2.	Wha	t is I	meant by Poynting vec	xtor?						
<ul> <li>A4. Define skin depth.</li> <li>A5. What is Brewster angle?</li> <li>A6. State Lenz law.</li> <li>A7. How standing wave is produced?</li> <li>A8. Define intrinsic impedance.</li> <li>A9. What is polarization and write down the classifications</li> <li>A10. Define reflection coefficient</li> <li>Answer ALL Questions PART-B (2x15 = 30)</li> <li>B1. (a) (i) Derive maxwells equations in point form and integral form for time varying field (6)</li> <li>(ii) Derive average power density from poynting vector (5)</li> <li>(iii) Compare electric circuit and magnetic circuits (4)</li> </ul>	A3.	3. What is meant by transverse electromagnetic wave.									
<ul> <li>A5. What is Brewster angle?</li> <li>A6. State Lenz law.</li> <li>A7. How standing wave is produced?</li> <li>A8. Define intrinsic impedance.</li> <li>A9. What is polarization and write down the classifications</li> <li>A10. Define reflection coefficient</li> <li>Answer ALL Questions PART-B (2x15 = 30)</li> <li>B1. (a) (i) Derive maxwells equations in point form and integral form for time varying field (6)</li> <li>(ii) Derive average power density from poynting vector (5)</li> <li>(iii) Compare electric circuit and magnetic circuits (4)</li> </ul>	A4.	. Define skin depth.									
<ul> <li>A6. State Lenz law.</li> <li>A7. How standing wave is produced?</li> <li>A8. Define intrinsic impedance.</li> <li>A9. What is polarization and write down the classifications</li> <li>A10. Define reflection coefficient</li> <li>Answer ALL Questions PART-B (2x15 = 30)</li> <li>B1. (a) (i) Derive maxwells equations in point form and integral form for time varying field (6)</li> <li>(ii) Derive average power density from poynting vector (5)</li> <li>(iii) Compare electric circuit and magnetic circuits (4)</li> <li>(OR)</li> </ul>	A5.	. What is Brewster angle?									
<ul> <li>A7. How standing wave is produced?</li> <li>A8. Define intrinsic impedance.</li> <li>A9. What is polarization and write down the classifications</li> <li>A10. Define reflection coefficient</li> <li>Answer ALL Questions PART-B (2x15 = 30)</li> <li>B1. (a) (i) Derive maxwells equations in point form and integral form for time varying field (6)</li> <li>(ii) Derive average power density from poynting vector (5)</li> <li>(iii) Compare electric circuit and magnetic circuits (4)</li> <li>(OR)</li> </ul>	A6.	5. State Lenz law.									
<ul> <li>A8. Define intrinsic impedance.</li> <li>A9. What is polarization and write down the classifications</li> <li>A10. Define reflection coefficient</li> <li>Answer ALL Questions PART-B (2x15 = 30)</li> <li>B1. (a) (i) Derive maxwells equations in point form and integral form for time varying field (6)</li> <li>(ii) Derive average power density from poynting vector (5)</li> <li>(iii) Compare electric circuit and magnetic circuits (4)</li> <li>(OR)</li> </ul>	A7.	How	sta	nding wave is produce	d?						
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         (ii) Derive average power density from poynting vector         (5)         (iii) Compare electric circuit and magnetic circuits         (OR)	A8.	8. Define intrinsic impedance.									
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 EMO	A9.	9. What is polarization and write down the classifications									
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 EMO	A10.	0. Define reflection coefficient									
<ul> <li>B1. (a) (i) Derive maxwells equations in point form and integral form for time varying field (6)</li> <li>(ii) Derive average power density from poynting vector (5)</li> <li>(iii) Compare electric circuit and magnetic circuits (4)</li> <li>(OR)</li> </ul>	An	iswei	r AL	L Questions	PART-B	(2x15 = 30)					
<ul> <li>(ii) Derive average power density from poynting vector</li> <li>(iii) Compare electric circuit and magnetic circuits</li> <li>(OR)</li> <li>(b) (i) Write the effects of EM and EMO</li> </ul>	B1.	(a)	(i)	Derive maxwells equa	ations in point form and integ	ral form for time varying (6)					
(iii) Compare electric circuit and magnetic circuits (4) (OR)			(ii)	Derive average powe	r density from poynting vecto	r (5)					
(OR)			(iii)	Compare electric circ	uit and magnetic circuits	(4)					
(h) (i) Mutter the effects of EMU and EMO (2)					(OR)						
(b) (i) write the effects of Eivil and EMC (6)		(b)	(i)	Write the effects of E	MI and EMC	(6)					
(ii) Derive the general wave equation for Magnetic fields. (5)			(ii) (iii)	Derive the general wa	ave equation for Magnetic fiel	ds. (5)					
(iii) brieny explain plane waves in lossy dielectric. (4)			(111)			(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)	В2.	(a)	(i) (ii)	Derive the general was State Poynting Theor	ave equation for Electric fields em and derive the point and	s (6) integral form (5)					

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

## KARPAGAM COLLEGE OF ENGINEERING, COIMBATORE -641032.

**BE-ELECTRICAL AND ELECTRONICS ENGINEERING** 

Semester: III

14E304 ELECTROMAGNETIC THEORY

## **Continuous Internal Assessment: III**

Dat	Time: Two Hours										
An	swer	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.	<ol> <li>Define reflection coefficient</li> </ol>										
An	swei	r AL	L Questions	PART-B	(2x15 = 30)						
B1.	(a)	(i)	Derive maxwells equations in p field	oint form and integ	ral form for time varying (6)						
		(ii)	Derive average power density	rom poynting vecto	r (5)						
	(III) Compare electric circuit and magnetic circuits (4										
	(UR)										
	(b)	(i)	Write the effects of EMI and EM	AC	(6)						
		(ii) (iii)	Derive the general wave equat Briefly explain plane waves in I	on for Magnetic fiel	lds. (5) (4)						
		()			(1)						
В2.	(a)	(i) (ii)	Derive the general wave equat	on for Electric field	s (6)						
		(ii) (iii)	A 300 Hz uniform plane wave sigma = 0, $\mu_r$ =1 and $E_r$ =78.Ca	propagate through Iculate wavelength	n fresh water for which . (4)						

- (b) (i) Explain Elliptical polarization
  - (ii) Obtain the expressions for the reflection and transmission coefficient for a wave traveling in free space, is normally incident on the surface of a dielectric.
  - (iii) Briefly explain about the wave incident obliquely to the surface of perfect insulator. (4)

Faculty in charge

HOD-EEE

(6)

Faculty in charge

HOD-EEE

(6)

- (b) (i) Explain Elliptical polarization
  - (ii) Obtain the expressions for the reflection and transmission coefficient for a wave traveling in free space, is normally incident on the surface of a dielectric.
     (5)
  - (iii) Briefly explain about the wave incident obliquely to the surface of perfect insulator. (4)