A		Reg. No. :											
		Question Par	per (	Cod	e: 5	330	3						
	B.E. ,	B.Tech. DEGREE B	EXAN	MINA	ATIC	)N, 1	VOV	201	8				
		Third	Seme	ester									
		Electrical and Ele	ectron	ics E	ngin	eerii	ng						
		15UEE303 - I	FIEL	D TH	IEOI	RY							
		(Regula	ation	2015	5)								
Du	ration: Three hours				)		N	Maxi	imur	n: 10	00 M	ſark	
		Answer A	LL Ç	uesti	ons								
		PART A - (10	) x 1 =	= 10	Mar	ks)							
1.	Which of the following is not a vector?										CO		
	(a) Linear momentur	n	(b) Angular momentum										
	(c) Electric field		(d	l) Ele	ectric	pote	entia	1					
2.	Example of spherical system in the following is										CO		
	(a) Charge in space		(b	) Ch	arge	in bo	ЭX						
	(c) Charge in dielectric (d) Uncharged system						m						
3.	In a capacitor the electric charge is stored in									CO			
4	(a) Metal plates	(b) Dielectric	. (	c) Bo	oth		1.	(0	d) No	one c	of the	e abo	
4.	The electric field at a point situated at a distance d from straight CO2 charged conductor is												
	(a) Proportional to d (b) Inversely proportion					tiona	al to o	d					
	(c) Inversely proportional to b			(d) None of the above									
5	The Biot-savart's law is a general modificati			tion of CO.									
0.	(a) Kirchhoffs law	(	(c) Ampere's law (d) Faraday's laws										
6.	The Magnetic field intensity H quantity is analogous to which component of the following?									2	CO		
	(a) Magnetic flux de	(a) Magnetic flux density - B (b) Displacement Densit							y - D	)			
	(c) Electric Field Intensity - E				(d) Voltage - V								

7.	Acc	ording to Faraday	CO4- R					
	(a) Electromagnetic field			(b) Electromagnetic for	ce			
	(c) l	Electromagnetic fr	riction	(d) Electromotive force				
8.	Whi elec	ich of the followin tromagnetic field?		CO4- R				
	(a) l	Inductance	(b) Condenser	(c) Variable resistor	(d) Resistance			
9.	Electromagnetic waves are							
	(a) l	Longitudinal		(b) Transverse				
	(c) l	Both longitudinal	and transverse	(d) None of the above				
10.	All (a)	electromagnetic w The same speed		CO5- R				
	(b) \$	Speeds that is prop	portional to their free	quency				
	(c) S	Speeds that is inve	ersely proportional to	o their frequency				
	(d) ]	None of the above						
			PART – B (S	5 x 2= 10Marks)				
11.	Stat	e Stoke's Theoren	CO1- R					
12.	Wha	at is Dielectric pol	CO2- R					
13.	Stat	e Ampere's Law.	CO3- R					
14.	Wha	at is displacement	CO4- R					
15.	Wri	Write short notes of skin depth? C						
			PART – C	(5 x 16= 80Marks)				
16.	(a)	Explain different	t co-ordinate system	of vector fields.	CO1 -U	(16)		
			. Or					
	(b)	Explain the follo (i) Vector fields (ii) Gradient (iii) Divergence (iv) Curl	wing terms		CO1 App	(16)		
17.	(a)	(i) State and Exp	lain Coulomb's Lav	V.	CO2- App	(10)		

(ii) Determine the force on any one of the charges of the CO2- App (6) configuration shown below.





Or

- (b) Formulate the expression for electric field intensity due to finite CO2-Ana (16) charged wire.
- 18. (a) Formulate the expression for magnetic field intensity due to CO3- Ana (16) conductor for
  - (i) Finite length and
  - (ii) Infinite length

## Or

- (b) Analyze the Magnetic boundary conditions with neat diagram CO3- Ana (16) with expressions.
- 19. (a) Enumerate the relation between field theory and circuit theory.CO4- U(16)

## Or

- (b) Derive Maxwell's equations in point form and integral form. CO4- Ana (16)
- 20. (a) Explain the wave propagation in good dialectic with necessary CO5-U (16) equations of wave parameters.

## Or

(b) Explain the Plane wave reflection and refraction. CO5- U (16)