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Α	nsw	er Question No. <sup>,</sup>	1 (Part-1	•	s compuls om Part-I		any eigh	t from P	art-II and any	y two
	210	<sup>2</sup> The	figures		ht hand <sup>2</sup> m		indicate	<sup>₽</sup> marks.	210	21
~ /		-	-		Part- I					
Q1	<b>a</b> )	Short Answer Ty		•			-			(2 x 10)
	a) b)	If $V = xz - xy + y$ Define Divergence	•	•	Iuncal cool	unate	5.			
	c)	What is electric fl			e relation v	/ith ele	ctric field			
	d)	State the Unique								
	2e)	State Ampere's c			210		21	0	210	21
	f) g)	Discuss the skin Discuss dipole m								
	9) h)	What do you mea				ite its s	significand	e.		
	i)	Write the charact					0			
	j)	What is Polarizat	ion ?Wha	at are its typ	bes.?					
Q2	210	Focused-Short /	Anewor T		Part- II	ewor	Any Eigh	tout of T		<b>(6 x 8)</b> 21
QZ	a)	Given vectors A =			•		• •		weivegio	( <b>0 x 0</b> ) 21
		a. A+B at P		<i>y</i> 2		Ρ	ç 2			
		h The engle	e betweer	A and B a						
	<b>b</b> )	c. The scala	r compor							
	b)	c. The scala Let $D = 2\rho z^2 a_{\rho} +$	r compor							
	b)	c. The scala Let $D = 2\rho z^2 a_{\rho} +$ a. $\oint_s D.dS$	r compor ρcos <sup>2</sup> Øα							
	<b>b)</b> 210	c. The scala Let $D = 2\rho z^2 a_{\rho} + a$ . $\oint_s D.dS$ b. $\int_v \nabla D dv$	r compor - ρcos <sup>2</sup> Øα	a <sub>z</sub> Evaluate	210		21		210	2'
	210	c. The scala Let $D = 2\rho z^2 a_{\rho} + a$ . a. $\oint_s D.dS$ b. $\int_v \nabla D dv$ Over the r	r compor <i>pcos</i> <sup>2</sup> Øa region de	$a_z$ Evaluate 210 fined by 2 :	210 $\leq \rho \leq 5, -1$	$\leq z \leq$	1,0 < Ø	< 2π	210	2
	210 C)	c. The scala Let $D = 2\rho z^2 a_{\rho} + a$ . a. $\oint_s D.dS$ b. $\int_v \nabla D dv$ Over the r Establish the relation	r compor <i>pcos<sup>2</sup>ød</i> region de ition betw	210 gined by 2 : geen Electri	$^{210} \leq \rho \leq 5, -1$	$\leq z \leq$ Electri	1,0 < Ø c potentia	< 2π II.		2
	210	c. The scala Let $D = 2\rho z^2 a_{\rho} + a$ . a. $\oint_s D. dS$ b. $\int_v \nabla D dv$ Over the relation Discuss the box	r compor $\rho cos^2 \phi d$ region de tion betw undary of	210 fined by 2 : ceen Electric	210 $\leq \rho \leq 5, -1$ ic field and of dielectric	$\leq z \leq$ Electric c-diele	1,0 < Ø c potentia ctric bou	< 2π II. ndary wi		2
	210 C)	c. The scala Let $D = 2\rho z^2 a_{\rho} + a$ . a. $\oint_s D.dS$ b. $\int_v \nabla D dv$ Over the r Establish the relation	r compor pcos <sup>2</sup> Ød region de tion betw undary d and discu	210 fined by 2 : veen Electric condition couss the law	$\leq \rho \leq 5, -1$ ic field and of dielectric if refraction	$\leq z \leq z$ Electric c-diele	1,0 < Ø c potentia ctric bou	< 2π II. ndary wi		2
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	210 c) d) e) f) <sup>2</sup> g)	c. The scala Let $D = 2\rho z^2 a_{\rho} + a$ . a. $\oint_s D.dS$ b. $\int_v \nabla D dv$ Over the relation Establish the relation Discuss the box constant $\varepsilon_{r1} \& \varepsilon_{r2}$ Calculate the cap What is method grounded conduct	r compor $\rho cos^2 \phi d$ region de tion betw undary o and discu- oacitance of imag cting Plar gnetic fie	<sup>210</sup> fined by 2 : veen Electric condition couss the law of Spheric e? Discuss ine. Id intensity	210 $\leq \rho \leq 5, -1$ ic field and of dielectric if refraction al capaciton a capaciton the case of an infini	$\leq z \leq$ Electric c-diele n of electric where tely lor	1,0 < Ø c potentia ctric bou ectric field e the poin ng coaxial	< 2π II. ndary wi nt charge transmiss	th dielectric is above a sion line?	
	210 c) d) e) f)	c. The scala Let $D = 2\rho z^2 a_{\rho} + a$ . a. $\oint_s D.dS$ b. $\int_v \nabla D dv$ Over the r Establish the rela Discuss the bor constant $\varepsilon_{r1} \& \varepsilon_{r2}$ Calculate the cap What is method grounded conduc Calculate the may A rectangular co	r compor pcos <sup>2</sup> ød region de tion betw undary o and discu- oacitance of imag gnetic fie il of area	210 fined by 2 : veen Electric condition couss the law of Spheric e? Discuss ie. Id intensity 10cm <sup>2</sup> ca	$p \le p \le 5, -1$ ic field and of dielectric if refraction al capaciton the case of an infini- rrying curre	$\leq z \leq$ Electric c-diele n of ele where tely lor ent of	1,0 < Ø c potentia ctric bou ectric field e the poin ng coaxial 50 A lies	< 2π ndary wi · nt charge transmiss on plane	th dielectric is above a sion line. 2x+6y-3z=7	
	210 c) d) e) f) <sup>2</sup> g)	c. The scala Let $D = 2\rho z^2 a_{\rho} + a$ . a. $\oint_s D.dS$ b. $\int_v \nabla D dv$ Over the relation Establish the relation Discuss the box constant $\varepsilon_{r1} \& \varepsilon_{r2}$ Calculate the cap What is method grounded conduct	r compor pcos <sup>2</sup> ød region de tion betw undary of and discu- oacitance of imag pating Plar gnetic fie il of area gnetic mo	210 fined by 2 : veen Electric condition couss the law of Spheric e? Discuss ie. Id intensity 10cm <sup>2</sup> ca	$p \le p \le 5, -1$ ic field and of dielectric if refraction al capaciton the case of an infini- rrying curre	$\leq z \leq$ Electric c-diele n of ele where tely lor ent of	1,0 < Ø c potentia ctric bou ectric field e the poin ng coaxial 50 A lies	< 2π ndary wi · nt charge transmiss on plane	th dielectric is above a sion line. 2x+6y-3z=7	
	210 c) d) e) f) <sup>2</sup> g)	c. The scala Let $D = 2\rho z^2 a_{\rho} + a$ . $\oint_s D. dS$ b. $\int_v \nabla D dv$ Over the relation of the second start $\varepsilon_{r1} \& \varepsilon_{r2}$ Calculate the cap What is method grounded conduct Calculate the magnetic more Such that the magnetic more Give the detail classical starts of the second starts of the s	r compor $\rho cos^2 \phi d$ region de tion betw undary of and discu- of imag of imag of imag of area gnetic fie il of area gnetic ment. assification	<sup>210</sup> fined by 2 : veen Electric condition coust the law of Spheric e? Discuss ine. Id intensity 10cm <sup>2</sup> ca coment of the	210 $\leq \rho \leq 5, -1$ ic field and of dielectric if refraction al capaciton al capaciton at ca	$\leq z \leq$ Electric-dielectric-dielectric of electric where tely lor ent of rected	1,0 < Ø c potentia ctric bou ectric field e the poin ng coaxial 50 A lies away fror	< 2π ndary wi nt charge transmiss on plane n the orig	th dielectric is above a sion line. 2x+6y-3z=7 in. Calculate	
	210 c) d) e) f) <sup>2</sup> g) h)	c. The scala Let $D = 2\rho z^2 a_{\rho} + a$ . $\oint_s D.dS$ b. $\int_v \nabla D dv$ Over the r Establish the relations of the constant $\varepsilon_{r1} \& \varepsilon_{r2}$ Calculate the cap What is method grounded conduct Calculate the magnetic more Give the detail clations of the constant constan	r compor pcos <sup>2</sup> ød region de tion betw undary of and discu- oacitance of imag cting Plar gnetic fie il of area gnetic ment. assification olane wa	210 fined by 2 : veen Electric condition of uss the law of Spheric e? Discuss le. Id intensity 10cm <sup>2</sup> ca oment of the on of magnetic ive propag	$p \le p \le 5, -1$ ic field and of dielectric if refraction al capacitor is the case of an infini- rrying curre- ie coil is dir etic materia ation. Disc	$\leq z \leq$ Electric c-diele n of electric where tely lor ent of rected als. cuss if	1,0 < Ø c potentia ctric bou ectric field the poin ng coaxial 50 A lies away fror s propert	< 2π ndary wi nt charge transmiss on plane n the orig	th dielectric is above a sion line. 2x+6y-3z=7 in. Calculate	
	210 c) d) e) f) <sup>2</sup> g) h)	c. The scala Let $D = 2\rho z^2 a_{\rho} + a$ . $\oint_s D. dS$ b. $\int_v \nabla D dv$ Over the relation of the second start $\varepsilon_{r1} \& \varepsilon_{r2}$ Calculate the cap What is method grounded conduct Calculate the magnetic more Such that the magnetic more Give the detail classical starts of the second starts of the s	r compor pcos <sup>2</sup> ød region de tion betw undary of and discu- oacitance of imag cting Plar gnetic fie il of area gnetic ment. assification olane wa	210 fined by 2 : veen Electric condition of uss the law of Spheric e? Discuss le. Id intensity 10cm <sup>2</sup> ca oment of the on of magnetic ive propag	$p \le p \le 5, -1$ ic field and of dielectric if refraction al capacitor is the case of an infini- rrying curre- ie coil is dir etic materia ation. Disc	$\leq z \leq$ Electric c-diele n of electric where tely lor ent of rected als. cuss if	1,0 < Ø c potentia ctric bou ectric field the poin ng coaxial 50 A lies away fror s propert	< 2π ndary wi nt charge transmiss on plane n the orig	th dielectric is above a sion line. 2x+6y-3z=7 in. Calculate	
	210 c) d) e) f) <sup>2</sup> g) h) i) j) 210	c. The scala Let $D = 2\rho z^2 a_{\rho} + a$ . $\oint_s D.dS$ b. $\int_v \nabla D dv$ Over the r Establish the relations of the constant $\varepsilon_{r1} \& \varepsilon_{r2}$ Calculate the captor what is method grounded conductor Calculate the magnetic more Give the detail clatic constant the magnetic more Calculate the detail clatic	r compor pcos <sup>2</sup> ød region de tion betw undary of and discu- oacitance of imag cting Plar gnetic fie il of area gnetic fie il of area gnetic ment. assification blane wa wave pro- ll's equat	<sup>210</sup> fined by 2 : veen Electric condition coust the law of Spheric e? Discuss ine. Id infensity 10cm <sup>2</sup> ca coment of the on of magnetic pagating in ions, the ex	$p \le p \le 5, -1$ ic field and of dielectric if refraction al capacitor of an infini- rrying curre- re coil is dir etic materia ation. Disc n air is give opression for	$\leq z \leq$ Electric c-diele n of electric where tely lor ent of rected als. cuss if n by <i>L</i> or the v	$1,0 < \emptyset$ c potentia ctric bou ectric field e the poin ng coaxial 50 A lies away fror s propert $z = ix \cos \theta$ vector mag	< $2\pi$ II. Indary wi int charge transmiss on plane n the orig ies. A ur $[wt - \frac{2\pi}{\lambda}y]$ gnetic field	th dielectric is above a sion line. 2x+6y-3z=7 in. Calculate niform plane y] .Derive by	2. 2.
	210 c) d) e) f) <sup>2</sup> g) h) i) j) <sup>210</sup> k)	c. The scala Let $D = 2\rho z^2 a_{\rho} +$ a. $\oint_s D.dS$ b. $\int_v \nabla D dv$ Over the relation of the second se	r compor pcos <sup>2</sup> ød region de tion betw undary of and discr bacitance of imag of imag poting Plar gnetic fie il of area gnetic fie il of area gnetic fie blane wa wave pro ll's equat heorem.	210 fined by 2 : veen Electric condition course the law of Spherica e? Discussive Id intensity 10cm <sup>2</sup> ca coment of the on of magnitive propage pagating in ions, the ex Give an exp	$p \le p \le 5, -1$ ic field and of dielectric if refraction al capacitor s the case of an infini- rrying curre- ie coil is dir etic materia ation. Disc n air is give pression for	$\leq z \leq$ Electric c-diele of electric where tely lor ent of ected als. zuss if n by <i>P</i> or the v	$1,0 < \emptyset$ c potentia ctric bou ectric field e the poin ng coaxial 50 A lies away fror s propert $C = ix \cos \theta$ vector maging Theorem	< $2\pi$ II. Indary wi int charge transmiss on plane n the orig ies. A ur $[wt - \frac{2\pi}{\lambda}y]$ gnetic field	th dielectric is above a sion line. 2x+6y-3z=7 in. Calculate niform plane y] .Derive by	2
	210 c) d) e) f) <sup>2</sup> g) h) i) j) 210	c. The scala Let $D = 2\rho z^2 a_{\rho} + a$ . $\oint_s D.dS$ b. $\int_v \nabla D dv$ Over the r Establish the relations of the constant $\varepsilon_{r1} \& \varepsilon_{r2}$ Calculate the captor what is method grounded conductor Calculate the magnetic more Give the detail clatic constant the magnetic more Calculate the detail clatic	r compor $\rho cos^2 \phi d$ region dention between undary of and discu- pacitance of imagentic fierer gnetic fierer gnetic fierer gnetic fierer assification plane war wave pro- ll's equat heorem. $\phi$	$a_z$ Evaluate 210 fined by 2 : veen Electric condition course icondition course icondition course icondition course of Spheric: e? Discussive in finensity 10cm <sup>2</sup> can be propaged pagating in icons, the ex- Give an exp 0 cos ( $2\pi \times$	$p \le p \le 5, -1$ ic field and of dielectric if refraction al capacitor is the case of an infini- rrying current is coil is direct ation. Disco- nair is give coression for $10^7 t - \beta x$	$\leq z \leq$ Electric c-diele of electric where tely lor ent of ected als. zuss if n by <i>P</i> or the v	$1,0 < \emptyset$ c potentia ctric bou ectric field e the poin ng coaxial 50 A lies away fror s propert $C = ix \cos \theta$ vector maging Theorem	< $2\pi$ II. Indary wi int charge transmiss on plane n the orig ies. A ur $[wt - \frac{2\pi}{\lambda}y]$ gnetic field	th dielectric is above a sion line. 2x+6y-3z=7 in. Calculate niform plane y] .Derive by	2

210		210	210	210	210	210	210		210
	Q3	a)	Long Answer Type Qu Find conduction & displ $10^{-3}$ S/m & $\epsilon_r$ = 2.5 if the	acement curre	ent densities in a n	naterial having		(8)	
210		<sup>2</sup> ф)	V/m. Two point charges in f 2.6nN on each other. Th homogeneous dielectric	ne force beco	mes 1.5nN when th	ne free space is	replaced by a	(8)	210
	Q4		An electric field in free s a) Find the direction b) Calculate $\beta$ and t	n of wave prop	agation	2		(8)	
210	Q5	210 <b>a)</b>	An electron with velocit at a point in a magnetic					(8)	210
		b)	The finite sheet $0 \le x$ $xy(x^2 + y^2 + 25)^{3/2} nC/$ a. The total charge b. The electric field c. The force experi	$\leq 1, 0 \leq y \leq 1$ $m^2$ . Find on the sheet at (0,0,5)	on the z=0 plane	e has a charge		(8)	
210	Q6	210 a) b)	Derive the transmission A conducting circular lo $10 \cos 377t a_z mWb/m^2$ .	210 line equation op of radius 2	210 Ocm lies in the z=0	210 ) plane in a ma	210 gnetic field B=	(8) (8)	210
210		210	210	210	210	210	210		210
210		210	210	210	210	210	210		210
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