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Reg. No. 2019-EE-383

**EE380 Electromagnetic Theory**

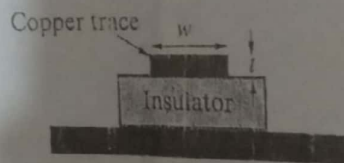
2021

Final-Term Exams

Time Allowed: 90 Minutes  
Total Marks: 40

- All the related parts of a question must be solved together.
- Start solution of every new part on a new page.

Q.1	A	Discriminate Maxwell's equations of electromagnetism	06	CLO4	PLO2, C4
	B	Compare Maxwell's equations in air and vacuum (no masses no charges) and derive expression for displacement current	08		
Q.2	A	Consider a vector field representing the velocity on a water surface which is given by $V = \hat{y}(v_0 x)$ Evaluate the curl of this vector field	06	CLO3	PLO1, C2
Q.3	A	Analyze the divergence of the electric flux density at the faraway points of the dipole as describe with function $D = \frac{Qd}{4\pi r^3} [\hat{r} 2 \cos \theta + \hat{\theta} \sin \theta]$	8	CLO2	PLO1, C4
	B	Consider a printed circuit board microstrip trace, as shown in figure (a) if the metal trace is made of copper with thickness $t = 34.3 \mu m$ compare the trace resistance per centimeter for a trace width 0.25mm and 0.5mm.	8	CLO3	PLO1, C4
Q.4		Illustrate the curl in Rectangular, Cylindrical and Spherical coordinate system, also discriminate them mathematically,	4	CLO1	PLO1, C3



Fig(a)