Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER– IV EXAMINATION – SUMMER 2020

Subject Code: 3141009 Date:04/11/2020

Subject Name: Electromagnetic Theory

Time: 10:30 AM TO 01:00 PM Total Marks: 70

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks**

			MARKS
Q.1	**(a)**	Define 1) Divergence, 2) Gradient and 3) Curl	**03**
	(b)	Explain Dot Product and Cross Product with examples.	**04**
	(c)	Explain the Spherical Coordinate System in detail	**07**
Q.2	**(a)**	Explain Electric Field Intensity.	**03**
	(b)	Discuss Divergence Theorem.	**04**
	(c)	Explain Biot-Savart Law	**07**
		OR	
	(c)	Explain Ampere's Circuital Law	**07**
Q.3	**(a)**	Define Faraday's Law.	**03**
	(b)	Discuss Displacement Current.	**04**
	(c)	Explain Maxwell's Equations in Point Form	**07**
		OR	
Q.3	**(a)**	Define Stoke's theorem.	**03**
	(b)	Write Short note on The Retarded Potentials	**04**
	(c)	Explain Maxwell's Equations in Integral Form	**07**
Q.4	**(a)**	Explain Wave Propagation in Free Space	**03**
	(b)	Discuss Wave Propagation in Direction	**04**
	(c)	Explain Poynting's Theorem and Wave Power with equations.	**07**
		OR	
Q.4	**(a)**	Explain Skin Effect	**03**
	(b)	Write short note Standing Wave Ratio	**04**
	(c)	Explain Wave Propagation in Dispersive Media	**07**

Q.5	**(a)**	Define Physical description of Transmission Line Propagation.	**03**
	(b)	Explain Transmission lines parameters.	**04**
	(c)	Explain Pulse Broadening in Dispersive Media.	**07**

OR

Q.5	**(a)**	Define Reflection Coefficient.	**03**
	(b)	Explain Applications of Transmission Lines.	**04**
	(c)	Write a short note on Smith Chart	**07**

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