

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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