## **GUJARAT TECHNOLOGICAL UNIVERSITY BE - SEMESTER- IV EXAMINATION - SUMMER 2020** Subject Code: 3141009 Date:04/11/2020 **Subject Name: Electromagnetic Theory Total Marks: 70** Time: 10:30 AM TO 01:00 PM **Instructions:** 1. Attempt all questions. Make suitable assumptions wherever necessary. 2. 3. Figures to the right indicate full marks MARKS 0.1 **(a)** Define 1) Divergence, 2) Gradient and 3) Curl 03 Explain Dot Product and Cross Product with examples. 04 **(b)** Explain the Spherical Coordinate System in detail 07 (c) rs. Q.2 (a) Explain Electric Field Intensity. 03 (b) Discuss Divergence Theorem. 04 **Explain Biot-Savart Law** 07 (c) OR Explain Ampere's Circuital Law 07 (c) (a) Define Faraday's Law. 03 **Q.3** (b) Discuss Displacement Current. 04 Explain Maxwell's Equations in Point Form 07 (c) OR Define Stoke's theorem. Q.3 **(a)** 03 (b) Write Short note on The Retarded Potentials 04 (c) Explain Maxwell's Equations in Integral Form 07 Explain Wave Propagation in Free Space **O.4** (a) 03 (b) Discuss Wave Propagation in Direction 04 Explain Poynting's Theorem and Wave Power with equations. (c) 07 OR **Explain Skin Effect** 03 Q.4 (a) (b) Write short note Standing Wave Ratio 04

(c) Explain Wave Propagation in Dispersive Media 07

xplain Transmission lines parameters. xplain Pulse Broadening in Dispersive Media. OR efine Reflection Coefficient. xplain Applications of Transmission Lines.	04 07 03
OR efine Reflection Coefficient. xplain Applications of Transmission Lines.	03
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	04
rite a short note on Smith Chart	07
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