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GUJARAT TECHNOLOGICAL UNIVERSITY

ME – SEMESTER I (NEW) – • EXAMINATION – SUMMER 2016

Date:19/05/2016 Subject Code: 2715403 **Subject Name: Electronics System Design** Time: 02:30 pm to 05:00 pm **Total Marks: 70 Instructions:** 1. Attempt all questions. 2. Make suitable assumptions wherever necessary. 3. Figures to the right indicate full marks. Explain passive and active components. Give the classification of passive and active **Q.1** (a) 07 Write a short note on PCB design guidelines for reduced EMI. **07 (b) Q.2** What is the need for an instrumentation amplifier? And List the features of **07** (a) instrumentation amplifier What do you mean by (i) output offset voltage (ii) input offset current (iii) slew **07 (b)** rate (iv) CMRR (v) voltage follower (vi) SVRR (vii) virtual ground (viIi) virtual short OR Derive equation for frequency response for low pass, high pass, band pass filter 07 **(b)** & band rejection filter. **Q.3** Discuss effects of environmental factors on Electronic Systems. **07** (a) What is the purpose of having input and output capacitors in three terminal IC **07 (b)** regulators and list out the advantages of IC voltage regulators? Write difference between unipolar and bipolar DAC. Which one you will 0.3 07 (a) prefer? Write comparison between CMOS and BiCMOS logic family. **07 (b) Q.4** Write a short note on Packaging & Enclosures of Electronic System. **07** (a) Explain methods of noise coupling and methods of reducing interference in **07 (b)** Electronic Systems. OR **Q.4** Write short note on 'Software and ESD Protection'. **07** (a) Explain successive approximation type A/D Converter. 07 **(b) Q.5** (a) Explain benefits and issues on migration of 5V to 3.3V logic. 07 Explain methods of noise coupling. 07 **(b)** OR Design of 5 Volt Regulated power supply. Draw circuit diagram for same. 07 **Q.5** (a) Explain Multipoint Ground Systems and Hybrid Grounds. 07 **(b)**
