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Subject Code:151006

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-V • EXAMINATION - WINTER • 2014

Date: 08-12-2014

Subject Name: Applied Electronic Time: 10.30 am - 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. State the ideal characteristics of an operational amplifier and the important **Q.1** 07 mathematical operations an Op-amp perform. Define following terms: 07 **(b)** (i) Ideal voltage source (ii) Ideal current source (iii) Dependent voltage source (iv) Dependent current source (v) Load side regulation (vi) Line side regulation (vii) Regulated power supply. **Q.2** Explain any one closed loop Op-Amp configuration in detail. 07 (a) How to use 555 timer circuit as monostable multivibrator? **(b)** 07 **(b)** Explain construction and principle of operation of photoconductive cell. 07 0.3 What is LVDT? Explain principle and operation of LVDT. Also list the advantage and **07** (a) application of LVDT. Explain the working of DIAC and it's characteristic. **(b)** 07 OR Draw and explain characteristic, construction and working of SCR. 0.3 (a) 07 Explain universal gate and compare sequential logic and combination logic. 07 **(b)** Explain fuzzy logic system to improve the performance of washing machine in detail. 07 0.4 (a) Explain the principle of digital storage oscilloscope with block diagram. 07 **(b)** Design half and full adder and explain its operation. 0.4 (a) **07** Explain digital multimeter. **07 (b) 07 Q.5** Explain Optocoupler. (a) A differential amplifier has inputs Vs1 = 10 mV and Vs2 = 9mV. It has differential **(b)** 07 mode of 60 db and a CMRR of 80 db. Find the % error in the output voltage and the error voltage. OR 0.5 Explain architecture of 8051 with block diagram. 07 (a) Explain Switched Mode Power Supply (SMPS). 07 **(b)**
