

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-V EXAMINATION – WINTER 2015

Subject Code: 151001**Date: 15/12/2015****Subject Name: Microcontroller & Interfacing****Time: 10:30am to 1:00pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Consider Clock Frequency = 12 MHz

- Q.1** (a) Differentiate Microprocessor and Microcontroller **07**
 (b) Explain the Structure of Port 1 of 8051. Explain Read Modify Write Feature of 8051. **07**
- Q.2** (a) Draw neat block diagram and pin diagram of 8051 **07**
 (b) Explain the Internal Structure of RAM **07**
- OR**
- (b) Explain (1) \overline{EA} (2) \overline{PSEN} **07**
- Q.3** (a) Explain the Timer Mode 1 and Mode 3 in detail **07**
 (b) Explain the Serial Communication Mode 1. **07**
- OR**
- Q.3** (a) Write a Program to Generate delay of 20 msec in 8051. **07**
 (b) Explain (1) PSW (2) TMOD (3) IE SFR's **07**
- Q.4** (a) Interface a Matrix Keyboard with 8051 and draw the flow chart to detect a switch pressing. **07**
 (b) Interface Two seven segment displays with 8051 and WAP to display 25 on that. **07**
- OR**
- Q.4** (a) Explain the RESET pin of 8051. Explain Power ON and Manual RESET circuit. **07**
 (b) Interface an LCD with 8051 and Display "SMART" on the first line and "CITY" on the second line of the LCD. **07**
- Q.5** (a) Explain 8 bit ADC and Explain interfacing of same with 8051. **07**
 (b) Draw Internal Structures of PORT 0 and PORT 2 **07**
- OR**
- Q.5** (a) Interface a stepper motor and WAP to rotate it clockwise and anticlockwise after every 1 minute. **07**
 (b) Write a note on Addressing Modes of 8051. **07**
