PARUL UNIVERSITY
FACULTY OF ENGINEERING & TECHNOLOGY
B.Tech. Summer 2018 - 19 Examination

Semester: 5/6   Date: 30/04/2019
Subject Code: 03107304   Times: 10:30am To 01:00pm
Subject Name: Microcontroller and Interfacing   Total Marks: 60

Instructions:
1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

Q.1	**Objective Type Questions (All are compulsory) (Each of one mark)**	**(15)**

1   Which of the following commands will move the value at port 3 to register 2?
     a) MOV P2, R3   b) MOV R3, P2   c) MOV 3P, R2   d) MOV R2, P3
2   8051 has how many 16 bit registers?
     a) 2   b)3   c) 1   d) 0
3   How many bytes of bit addressable memory are present in 8051 based micro controllers?
     a) 8 bytes   b) 32 bytes   c) 16 bytes   d) 128 bytes
4   Which of the following registers are not bit addressable?
     a) SCON   b) PCON   c) TMOD   d) PSW
5   When we add two numbers the destination address must always be_____
     a) some immediate data   b) any register   c) accumulator   d) memory
6   The internal RAM memory of the 8051 is
     a) 32 bytes   b) 64 bytes   c) 128 bytes   d) 256 bytes
7   This program code will be executed continuously: [TRUE/FALSE]
     STAT: MOV A, #01H JNZ STAT
8   Data transfer from I/O to external data memory can only be done with the MOVX command.
     [TRUE/FALSE]
9   The contents of the accumulator after this operation
     MOV A,#0BH
     ANL A,#2CH
     will be_____
     a) 11010111   b) 11011010   c) 00001000   d) 00101000
10   An alternate function of port pin P3.4 in the 8051 is:
     a)Timer 0   b) Timer 1   c) interrupt 0   d) interrupt 1
11   Which of the following instructions will load the value 35H into the high byte of timer 0?
     a) MOV TH0, #35H   b) MOV TH0, 35H   c) MOV T0, #35H   d) MOV T0, 35H
12   In Timer mode 1, the counter rolls over when the counter goes from _____ to 0000H.
13   What is stack pointer in 8051 Microcontroller?
14   In 8051 program counter is _____ bits.
15   The 8051 has _____ 16-bit counter/timers.

Q.2	**Answer the following questions. (Attempt any three)**	**(15)**

   1. Compare microprocessor and microcontroller.
   2. Explain Addressing modes of 8051 in details with examples.
   3. Give the Classification of instruction set of microcontroller 8051.
   4. Write an 8051 C program to toggle bits of P1 ports continuously with a 250 ms.

Q.3	**A)** Draw Interfacing of 8051 with DC Motor. Write C code to move motor in clock wise and counter clock wise direction.	**(07)**
	B) Explain TMOD and SCON Register in detail.	**(08)**

<div align="center">OR</div>

	B) Explain following instructions with examples	**(08)**
	(1) DAA (2) DIV (3) LCALL (4) MOV Rn,A	
Q.4	**A)** Draw Interfacing of 8051 with LCD. Write C code to display single character on LCD.	**(07)**

<div align="center">OR</div>

	A) Draw Interfacing of 8051 with LEDs and write C code to Blink Led.	**(07)**
	B) Draw and explain Block Diagram of 8051 Microcontroller.	**(08)**