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No. of Printed Pages : 02

SARDAR PATEL UNIVERSITY

M.Sc. (Sem – IV) Examination

Subject:- 8051 Microcontroller and it's applications

Subject Code:- PS04CELC02

Date & Day:- 06/04/2016, Wednesday

Time 2:30 PM To 5:30PM

Instructions:

(a) *Figure to the right indicates full marks.*

(b) *All questions are compulsory.*

(c) *Assume the necessary data.*

Total Marks: 70

Q-1 Choose the correct answer.

[08]

- 1 If CY=1, A=95H and B=4FH prior to the execution of "SUBB A,B" What will be the content of A after the subtraction?
a) 45H b) 35H c) 37H d) 40H
- 2 \overline{EA} pin is connected to _____ in AT89C51.
a) GND b) RST c) V_{cc} d) \overline{PROG}
- 3 In the instruction "MOV TH1,#-200H", the hex value for the TH register is _____.
a) 35H b) 36H c) 37H d) 38H
- 4 The address space for the on – chip ROM of AT89C51 is _____.
a) 00H – 7FH b) 80H – FFH
c) 0000H – 0FFFH d) 1000H – FFFFH
- 5 The internal RAM memory of the 8051 is _____ bytes.
a) 32 b) 64 c) 128 d) 256
- 6 The RAM locations _____ are set aside to save single bit data.
a) 30H – 2FH b) 00H – 1FH
c) 20H – 2FH d) 80H – FFH
- 7 For crystal frequency 22 MHz, what will be the baud rate for TH1= -3 with SMOD = 1?
a) 19093 b) 38186 c) 9546 d) 4773
- 8 There are total _____ port in the 8051 and each has _____ bits
a) 3,8 b) 4,6 c) 4,8 d) 3,6

Q-2 Answer in short [ANY SEVEN]

[14]

- 1 Write instructions to create square wave of 50 % duty cycle on bit 0 of port 1.
- 2 What is the use of ORG 0000?
- 3 Write a program to add two 16 bit number, the number FC45H and 02ECH.
- 4 Describe briefly the function of RET function.
- 5 Why do the PUSH and POP instructions?
- 6 Describe the ACALL and LCALL instructions.
- 7 Describe the function of DPTR register.
- 8 Write a program to multiply 25 by 10 using the technique of repeated addition.
- 9 The instruction ADD R1,R2 is legal, True/False. If false rewrite in correct form.

P.T.O

- Q-3** A Write a program to add first ten natural numbers. [06]
B Write a note on SFR. [06]

OR

- B Write a note on register banks of 8051. [06]
Q-4 A Write a program to add five BCD data from location 50H and store the BCD sum in [06]
location 60H and 61H.
B Write a program to copy the value of 55H into RAM location 40H to 45H using register [06]
indirect addressing mode without loop, and with loop.

OR

- B Explain the execution of MOVC instruction. [06]
Q-5 A Explain any three addressing modes with example. [06]
B Write a program to convert hexadecimal number to decimal. [06]

OR

- B Write a note on Interrupt and discuss in detail all types of Interrupts.. [06]
Q-6 A Ten Hex numbers are stored in RAM location 30H onwards. Write a program to find the [06]
biggest number in the set and saved at 40H.
B Write a short note on I/O ports of 8051. [06]

OR

- B Write a program to get X value from P1 and send X2 to P2 continuously. [06]

== BEST OF LUCK ==