

S.Y. B. SC. (Computer Science) SEM –IV (CBCS - 2016 COURSE) :
WINTER - 2018
SUBJECT : 8051 MICROCONTROLLER

Day : Friday
Date : 19/10/2018

W-2018-0924

Time : 03.00 PM TO 06.00 PM
Max. Marks : 60

N. B. :

- 1) All questions are **COMPULSORY**.
 - 2) Figures to the right indicate **FULL** marks.
 - 3) Draw diagrams **WHEREVER** necessary.
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Q.1 Answer **ANY TWO** of the following: (12)

- a) Explain the function of the following:
i) Registers A and B ii) Stack Pointer iii) Program Counter
- b) State different types of 8051 instructions. Explain any one type with examples.
- c) Draw bit format of IP register and give function of each bit.

Q.2 Answer **ANY TWO** of the following: (12)

- a) Explain the programming of serial communication port.
- b) State different addressing modes for 8051. Explain any two with examples.
- c) Explain the function of TMOD register.

Q.3 Answer **ANY TWO** of the following: (12)

- a) Explain with neat diagram the interfacing of LCD to 8051 microcontroller.
- b) Write a program to find the largest number in an array of 10 numbers.
- c) Draw the internal structure of port 1 pins and explain how read and write operations are carried out.

Q.4 Answer **ANY THREE** of the following: (12)

- a) Explain RAM memory space allocation in 8051 microcontroller.
- b) Write a short note on interrupt Service routine.
- c) Explain any four parameters of ADC.
- d) Draw the bit format of TCON register. Explain the function of the upper four bits of TCON register.

Q.5 Answer **ANY FOUR** of the following: (12)

- a) Explain PCON register.
- b) Explain the following directives : DB, DW, Org 0H
- c) Explain how the interrupt priorities are assigned in 8051 microcontroller.
- d) Explain the following instructions:
i) DAA ii) RLC A iii) MOV @R1, 70H
- e) Give the functions of the following pins:
i) \overline{PSEN} ii) ALE iii) \overline{EA}
- f) Explain the concept of memory banks in 8051.

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