

S.Y.B.SC. (COMPUTER SCIENCE) SEM -IV (2014 COURSE) :
SUMMER - 2018
SUBJECT : 8051 MICROCONTROLLER

Day : **Saturday**
Date : **21/04/2018**

S-2018-0853

Time : **03.00 PM TO 05.00 PM**
Max. Marks : 40

N. B. :

- 1) All questions are **COMPULSORY**.
 - 2) Figures to the right indicate **FULL** marks.
 - 3) Use of scientific calculator is **ALLOWED**.
 - 4) Draw neat and labelled diagrams **WHEREVER** necessary.
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Q. 1 Answer **ANY TWO** of the following: **(10)**

- a) Draw well labeled block diagram of 8051 microcontroller and explain the function of each block.
- b) Give classification of instructions for 8051 microcontroller. Explain any one with example.
- c) Write a short note on interrupts of 8051 microcontroller.

Q. 2 Answer **ANY TWO** of the following: **(10)**

- a) Explain the functions of TMOD register with necessary diagram.
- b) State the alternate uses of port 3.
- c) Write a program to find the smallest of two numbers.

Q. 3 Answer **ANY TWO** of the following: **(10)**

- a) With necessary diagram explain the internal RAM organization of 8051 microcontroller.
- b) Explain the interfacing of DAC to 8051 microcontroller with neat diagram.
- c) Explain IP and IE register with necessary diagrams.

Q. 4 Answer **ANY FIVE** of the following: **(10)**

- a) State pin functions of ALE and \overline{PSEN} of 8051 microcontroller.
- b) How many ports does 8051 have? Name them.
- c) Find the timer's clock frequency and its period for 8051 based systems with crystal frequency of 12 MHz.
- d) State any two points of difference between microprocessor and microcontroller.
- e) List different timers in 8051 microcontroller.
- f) State any two addressing modes for 8051 microcontroller.
- g) What is an assembler?

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