

**S.Y.B.SC. (Computer Science) SEM –IV (2014 COURSE) : WINTER -
2018**

SUBJECT : 8051 MICROCONTROLLER

Day : Friday
Date : 19/10/2018

W-2018-0963

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) State and explain any five parameters of DAC.
- b) Explain the alternate use of port 3 pins.
- c) Draw well-labelled functional block diagram of 8051 microcontroller. Explain the functions of each block.

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

- a) With necessary diagram explain the internal RAM organization of 8051 microcontroller.
- b) Explain any two types of instructions with examples.
- c) With necessary diagram explain the interfacing of ADC to microcontroller.

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

- a) Explain TMOD register with neat diagram.
- b) Write a program to generate a square wave of 50% duty cycle on the P1.5 but use timer 0, mode 0 to generate the time delay.
- c) Explain the interrupts of 8051 microcontroller.

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

- a) State the function of program counter.
- b) Explain the role of RxD and TxD pins of 8051 microcontroller.
- c) State any two applications of microcontroller.
- d) State the pin functions of \overline{PSEN} and ALE.
- e) Find the timer's clock frequency and its period for 8051 based system with the 12 MHz crystal frequency.
- f) Explain in brief the function of RS 232 standard.
- g) Draw the IE register bit format.

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