

**B.TECH SEM – V (2007 COURSE) (ELECTRONICS) : SUMMER
- 2018**

SUBJECT : MICROPROCESSORS & MICRO CONTROLLERS

Day : **Monday**
Date : **21/05/2018**

S-2018-2669

Time : **10.00 AM TO 01.00 PM**
Max. Marks : 80

N.B.:

- 1) **Q.No.1 and Q.No.5 are COMPULSORY.** Out of the remaining questions attempt **ANY TWO** questions from each section.
 - 2) Answers to both the sections should be written in separate answer books.
 - 3) Draw neat and labeled diagram **WHEREVER** necessary.
 - 4) Figures to the right indicate **FULL** marks.
 - 5) Assume suitable data if necessary.
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SECTION – I

- Q.1** a) Interpret port $\bar{0}$ in 8051. [05]
b) Discuss PUSH and POP instructions of 8051. [05]
c) Draw the timing diagram of PUSH cycle. [04]
- Q.2** a) Draw a memory section for an 8085 based system with $2K \times 8$ RAM. [07]
b) Draw and explain block diagram of 8253/54. [06]
- Q.3** a) Discuss the various counter / timer modes of 8051 microcontroller. [07]
b) Explain the following instructions of 8051: [06]
i) ADD A, Rn ii) MUL AB iii) INC Rn
- Q.4** a) Write a 8051 assembly code to transmit 'Hello' to PC at 9600 baud rate for [07]
external crystal frequency of 11.0592 KHz.
b) With the help of a functional block diagram explain any one application of 8051 [06]
microcontroller.

SECTION – II

- Q.5** a) How 20 – bit physical address is obtained in 8085 microprocessor. [05]
b) Write difference between RD, OTP derivatives of 8051. [05]
c) Discuss any three data transfer instructions with example in 8051 [04]
microcontroller.
- Q.6** a) Draw the block schematic of DAC 0808 interfaced to 8051 at port P1 and write [07]
an 8051 program to generate time wave.
b) Describe the register bank concept in 8051. [06]
- Q.7** a) Draw an interfacing diagram considering LM 34 temperature sensor. [07]
b) How many interrupts has the 8051? How they are activated? [06]
- Q.8** a) List the various addressing modes in 8086. [07]
b) What are the two modes of operation present in 8085? [06]

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