

**B.TECH SEM - V (2007 COURSE) (E & TC ENGG.) : SUMMER
2018**

SUBJECT: MICROPROCESSORS AND MICROCONTROLLERS

Day: Monday
Date: 21/05/2018

S-2018-2694

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 attempt **ANY TWO** questions from each section.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answers to both the sections should be written in **SEPARATE** answer book.
- 4) Draw neat diagrams **WHEREVER** necessary.
- 5) Use of non- programmable **CALCULATOR** is allowed.

SECTION-I

- Q.1** a) Draw and explain timing diagram for any one data transfer instruction. (05)
b) Mention features of 8253. (05)
c) Explain contents of flag register of 8051. (04)
- Q.2** a) Explain stack structure of 8085 along with related instructions. (06)
b) Explain addressing modes of 8085 with examples. (07)
- Q.3** a) Draw and explain block diagram of 8255 PPI. (07)
b) Explain initialization Command word format of 8259. (06)
- Q.4** a) How interrupts are organized in 8051? Explain with necessary diagram. (07)
b) Write a note on branching instructions, logical instructions and arithmetic instructions of 8051. (06)

SECTION-II

- Q.5** a) Draw and explain interfacing of stepper motor with 8051. (05)
b) Explain Calculation of 20 bit address in 8086 with example. (04)
c) Write features of PIC microcontroller. (05)
- Q.6** a) Explain interfacing of 8051 with ROM (06)
b) Explain interfacing of ADC with 8051 with a neat diagram. (07)
- Q.7** a) What is the difference between a rotate and a shift instruction in 8086? Explain with an appropriate diagram. (07)
b) Explain following assembler directives: (06)
i) ASSUME ii) PROC iii) ENDP
- Q.8** a) Write an assembly language program (8086) to find reverse of a string. (08)
b) Write a short note on RTC timer. (05)