

**B.TECH SEM - V (2007 COURSE) (E & TC ENGG.) : WINTER -
2017**

SUBJECT: MICROPROCESSORS & MICROCONTROLLERS

Day: **Thursday**
Date: **11/01/2018**

W-2017-2489

Time: **02.30 PM TO 05.30 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.

SECTION-I

- Q.1**
- a) Draw and explain timing diagram for instruction MVI A, 45H (05)
 - b) Name different modes of 8253 and explain them in short. (05)
 - c) Explain following instructions of 8051 with examples: (04)
i) MOVC ii) DJNZ
- Q.2**
- a) Draw and explain interrupt structure of 8085 and contents of registers related to interrupts. (07)
 - b) Name different addressing modes of 8085 instruction set. Explain each of them with examples. (06)
- Q.3**
- a) Draw and explain the block diagram of 8259. (07)
 - b) Explain different modes of operation of 8255 along with the contents of control word. (06)
- Q.4**
- a) Write a note on memory organization and ports of 8051 microcontroller. (08)
 - b) Write an assembly language program to generate BCD up counter at port P1 of 8051. (05)

SECTION-II

- Q.5**
- a) How many interrupts present in 8051? What are they? What are the sources of those interrupts? (05)
 - b) Write a note on Registers present in 8086. (05)
 - c) Differentiate between 8051 and PIC microcontroller. (04)
- Q.6**
- a) Draw the interfacing diagram of LCD with 8051 microcontroller and write an assembly language program to display "BVP ROCKS" on LCD. (07)
 - b) Draw the interfacing of stepper motor with 8051 and explain full step, half step method of stepper motor rotation. (06)
- Q.7**
- a) Explain minimum mode configuration of 8086 with neat diagram. (08)
 - b) Write a note on dedicated interrupts in 8086. (05)
- Q.8**
- a) Write an assembly language program for 8086 to check whether a string is palindrome or not. (08)
 - b) Write a note on RTC with neat diagram. (05)