

B TECH
(SEM IV) THEORY EXAMINATION 2018-19
INTRODUCTION TO MICROPROCESSOR

Time: 3 Hours**Total Marks: 100****Note: 1.** Attempt all Sections. If require any missing data; then choose suitably.**SECTION A****1. Attempt all questions in brief. 2 x 10 = 20**

- (a) What are the differences between 8085 and 8086?
- (b) Find out the physical memory address in 8086 when CS register consist of 3870H and offset register consist 2720H?
- (c) Write down the difference between 8253 and 8254?
- (d) What are the various operation performed by microprocessor?
- (e) What are the rotate instructions?
- (f) Explain PUSH 2000H instruction with the help of T-state.
- (g) The memory location 2050H holds the date byte F7H. Write instruction to transfer the date byte to the accumulator using two different opcodes: MOV and LDA.
- (h) Identify the memory locations that are starting from 3000H by the following instructions.
MVI B, 00H
LXI H, 0075H
MOV H, B
INX H
MOV M, B
HLT
- (i) What is program status word?
- (j) What is BSR Mode?

SECTION B**2. Attempt any three of the following: 10x3=30**

- (a) Discuss the different logic devices used for interfacing?
- (b) Explain and Draw circuit diagram of interfacing of 8085 with memory of size 4KB RAM and 2KB EPROM?
- (c) What is addressing mode? Explain the types of the addressing modes of 8085. What operation can be performed by using the instruction SBB? Specify the status of Z and CY.
- (d) Write an assembly language program to find the smallest number in a block of data. The length of block is in memory location 2200H and the block itself begins from location 2201H. Store the smallest number in 2300H.
- (e) Write an assembly language program to convert a 2 digit BCD number stored at memory address 2200H into binary equivalent number and store the result in memory location. 2300H also draw the flow chart of it.

SECTION C

- 3. Attempt any *one* part of the following: 10X1=10**
- (a) Explain the important pins of 8085 along with the PIN diagram of 8085?
(b) What is a microprocessor? Explain how the microprocessor executes an instruction with neat sketch?
- 4. Attempt any *one* part of the following: 10X1=10**
- (a) Explain the function of the following instruction.
(i) RIM (ii) PUSH (iii) DAA (iv) CALL (v) LDAX
(b) Draw the timing diagram of the following instruction
(i) SUB M (ii) POP H
- 5. Attempt any *one* part of the following: 10X1=10**
- (a) (i) What is transparent latch, and why it is necessary to use a latch with output device.
(ii) Load the data byte 8EH in register D and F7H in register E Mask the high-order bits (D₇-D₄) from both the data bytes. Exclusive-oR the low-order bits (D₃-D₀).
(b) Write a 20ms time delay subroutine using register pair BC. clear the Z flag without affecting any other flogs in the flag register and return to the main program.
- 6. Attempt any *one* part of the following: 10X1=10**
- (a) Write a program to convert Binary number to BCD number?
(b) Write the program of multiplication of 16 bit in 8085?
- 7. Attempt any *one* part of the following: 10X1=10**
- (a) Write instruction to generate a pulse every 50 μ s from counter 0 in 8253 and address of counter 0 is 80H and also explain all modes of 8253?
(b) What is the difference between maximum and minimum mode of operation in 8086? Explain with the help of pin diagram of 8086?