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T.Y.B.Tech. (ETC) (Part-III) (Semester-VI) (CBCS)**Examination, May, 2025****Microprocessor and Microcontrollers****Subject Code : 81647/81857****Day and Date : Monday, 19/05/2025****Total Marks : 70****Time : 02.30 p.m. to 05.00 p.m.**

- Instructions :**
- 1) Figure to right indicate full marks.
 - 2) Assume suitable data wherever necessary.
 - 3) All Questions are compulsory.

Q.1) Attempt the following : **[14]**

- I. In 8085, which interrupt is edge and level triggered?
a) TRAP b) RST 7.5 c) RST 6.5 d) INTR
- II. Number of Address Lines and Data lines required to interface 2K*8 RAM are
a) 10 and 8 b) 11 and 8 c) 8 and 10 d) 8 and 11
- III. How are the bits of the register PSW affected if we select Bank 3 of 8051?
a) RS0 = 0 and RS1 = 0 b) RS0 = 0 and RS1 = 1
c) RS0 = 1 and RS1 = 0 d) RS0 = 1 and RS1 = 1
- IV. Which SFR is used to configure the mode of Timer in 8051?
a) TCON b) TMOD c) PSW d) SCON
- V. In 8051, which operator is the most important while assigning any instruction as register indirect instruction?
a) \$ b) # c) @ d) &

VI. Which of the following is the Input Interfacing device?

- a) Seven Segment Display
- b) ADC
- c) DAC
- d) Stepper motor

VII. In 8051 which mode of Timer is called as 8 Bit Auto Reloaded mode?

- a) Mode 0
- b) Mode 1
- c) Mode 2
- d) Mode 3

Q.2) Attempt any two of the following : [14]

- a) Draw and Explain Flag register in 8085.
- b) Draw Timing Diagram of Instruction **MVI A,40H** in 8085.
- c) Draw and Explain BSR Mode of 8255.

Q.3) Attempt any two of the following : [14]

- a) Differentiate between Memory mapped I/O and I/O Mapped I/O.
- b) Explain Reset Circuit and Oscillator Circuit in 8051.
- c) Explain alternate port functions of PORT 3 in 8051.

Q.4) Attempt any two of the following : [14]

- a) Draw and Explain TMOD SFR of Timer in 8051.
- b) Draw and Explain Interrupts structure in 8051.
- c) Draw PCON SFR and Explain Mode 1 of Serial communication in 8051.

Q.5) Attempt any two of the following : [14]

- a) Draw Interfacing Diagram of DAC 0808 to 8051 and explain its interfacing.
- b) Write the various data types available in embedded C along with their size.
- c) Draw Interfacing Diagram of Seven Segment display to 8051 and explain its interfacing.