

4E4160

Roll No. _____

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B. Tech. IV Sem. (Main) Exam; April-May 2017

Computer Science & Engineering

4CS1A Microprocessors & Interfaces Common with IT

Time : 3 Hours

Maximum Marks : 80

Min. Passing Marks : 24

Instructions to Candidates :-

Attempt any five questions, selecting one question from each unit. All Questions carry equal marks. Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly. Units of quantities used / calculated must be stated clearly.

*Use of following supporting material is permitted during examination.
(Mentioned in form No. 205)*

1. NIL

2. NIL

UNIT - I

1 Write short notes on :

- (1) Multiplexer
- (2) De-multiplexer
- (3) Encoder
- (4) Decoder

4×4=16

OR

1 Explain following :

- (1) Microprocessor
- (2) Microcontroller
- (3) Address bus
- (4) Data bus

4×4=16

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[P.T.O.

UNIT - II

- 2 (a) Draw pin diagram of 8085 and explain each pin. 8
- (b) Classify the instructions set of 8085 and explain them. 8

OR

- 2 (a) Explain the instruction format of 8085. Draw the timing diagram of instruction MOV A, M and explain it. 10
- (b) Explain addressing modes of 8085. 6

UNIT - III

- 3 Explain :
- (a) Interrupts of 8085.
- (b) RST instructions of 8085.
- (c) Maskable and non-maskable interrupts and related data instruction to mask or unmask interrupt.
- (d) Use of stack during interrupt processing. 4×4=16

OR

- 3 (a) Explain, with suitable functional diagram, 8259 interrupt controller and its working. 10
- (b) Explain, how subroutines are implemented and executed. Explain call by value and call by reference. 6

UNIT - IV

- 4 Explain 8255, programmable peripheral interface (controller). Explain all modes of 8255 with example.

16

OR

- 4 Explain, 8254, programmable interval timer, explain all the modes of 8254 with example.

16

UNIT - V

- 5 (a) Write difference between serial communication and parallel communication.

4

- (b) Explain serial communication controller USART 8251. Explain its all modes with example.

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OR

- 5 (a) Explain RS232 interface protocol.

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- (b) Explain interfacing of 4*4 key pad with 8085 using 8255.

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