BTS–IV(SS)–02.20-0055 Reg. No. | | | | | | | | |

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B.Tech. Degree IV Semester special Supplementary Examination February 2020

CS 15-1402 MICROPROCESSORS
(*2015 Scheme*)

Time : 3 Hours Maximum Marks : 60

PART A
(Answer ***ALL*** questions)

(10 × 2 = 20)

I. (a) Explain how the Address/Data bus (AD0-AD7) of 8085 microprocessor is demultiplexed.
(b) Explain the functions of the following signals of 8085 microprocessor
(i) HOLD (ii) X_1, X_2 (iii) ALE (iv) READY
(c) Distinguish between the following pair of instructions.
(i) RST 5 and CALL 0028
(ii) SPHL and PCHL
(d) Explain the register addressing modes and register indirect addressing modes of 8085 with example.
(e) State the significance of LOCK signal in 8086 microprocessor.
(f) For the following instructions, indicate the addressing modes type and the physical address of the source operand, if CS = 2000H, DS = 543AH, SS = 9AC5H, SI = 3200H, DI = 2ABCH, BX = 3F00H, BP = 329AH.
(g) Explain the various assembler directives used while defining Segment Directives in 8086 assembly language programming.
(h) What do you mean by IVT (Interrupt Vector Table) in 8086 microprocessor? What is the size of IVT?
(i) What is the difference between I/O Mode and BSR Mode of operations of 8255 PPI?
(j) What are the various registers used in 8259?

PART B

(4 × 10 = 40)

II. Draw the pin diagram of 8085 microprocessors and explain the functions of all pins. (10)

OR

III. What are vectored interrupts? How is the address of the Interrupt Service routine calculated in vectored interrupts? Explain with an example. List the type of signals that have to be applied to initiate a hardware interrupts in 8085 microprocessors. (10)

IV. (a) Draw the timing diagram of SHLD 2070. (6)
(b) Explain about 8085 microprocessor instructions used for Rotate operations with suitable example. (4)

OR

V. (a) Differentiate between I/O mapped I/O and memory mapped I/O addressing scheme. (5)
(b) What are the functions performed by SIM and RIM instruction in 8085 microprocessors. (5)

VI.	(a)	What are the functions of Bus Interface Unit (BIU) and Execution Unit (EU) in 8086 microprocessor?	(5)
	(b)	Explain maximum mode of 8086 microprocessor. Draw timing diagram for write operation in maximum mode configuration.	(5)
		OR	
VII.	(a)	Draw flag register bit format of 8086 microprocessor and explain each flags.	(6)
	(b)	Explain the operation of the DIV instruction. What is the difference between DIV and IDIV?	(4)
VIII.		Explain the block diagram and operation of programmable interval timer/counter 8254.	(10)
		OR	
IX.	(a)	What are the functions performed by port C of 8255?	(3)
	(b)	What is the advantage of using 8279 for keyboard/display interface? What are scan lines used for? Explain its following modes of operations: (i) Encoded Scan Mode (ii) Decoded scan mode	(7)

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