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Subject Code: ACSE-0405

Roll No: | | | | | | | | | | | | |

NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA

(An Autonomous Institute)

Affiliated to Dr. A.P. J Abdul Kalam Technical University, Uttar Pradesh, Lucknow

Course- B.Tech. **Branch-CSE**

Semester- IV **Examination- PUT** **Year- (2021-22)**

Subject Name: Microprocessor

Time: 2:00 Hrs **Max. Marks:60**

General Instructions:

1. *This Question paper consists of 3 pages & 4 questions. It comprises of three Sections -A, B, & C.*
2. *Section A –Q.No- 1 is Very short answer type questions carrying 1 mark each, Q. No- 2 is short answer type Question carrying 2 mark each. You are expected to answer them as directed.*
3. *Section B- Q.No-3 is Short answer type questions carrying 5 marks each. Attempt any four out of five questions given.*
4. *Section C - Q. No-4 is Long answer type questions carrying 6 marks each. Attempt any four out of six questions given.*

SECTION – A

1.	**Attempt all parts (Very Short Answer Type)-**		**[8x1=08]**	
	1-a.	The weights used in Binary coded decimal code are: a) 4,2,1,8 b) 8,4,2,1 c) 6,4,2,1 d) 2,1,2,1	**(1)**	**CO3**
	1-b.	PROM stands for: a) Programmable read-only memory b) Programmable read write memory c) Programmer read and write memory d) None of these	**(1)**	**CO3**
	1-c.	As the storing of data words onto the stack is increased, the stack pointer is a) incremented by 1 b) decremented by 1 c) incremented by 2 d) decremented by 2	**(1)**	**CO3**
	1-d.	Which of the following is not one of the types of buses? a) Control bus b) Data bus	**(1)**	**CO4**

		c) Address bus d) Utility bus		
	1-e.	All eight address lines are decoded to generate one unique output pulse this known as _____ a) specific decoding. b) absolute decoding. c) partial decoding. d) general decoding.	(1)	CO4
	1-f.	The largest two digit hexadecimal number is _____ a) (FE)16 b) (FD)16 c) (FF)16 d) (EF)16	(1)	CO4
	1-g.	The instruction that exchanges top of stack with HL pair is a) XTHL b) SPHL c) PUSH H d) POP H.	(1)	CO3
	1-h.	The number of counters that are present in the programmable timer device 8254 is a) 1 b) 2 c) 3 d) 4	(1)	CO5
2.	**Attempt <u>all</u> parts (Short Answer Type)-**		[4×2=08]	
	2-a.	What are the different types of methods used for data transmission?	(2)	CO5
	2-b.	What is 8251 USART?	(2)	CO5
	2-c.	Explain IN Instruction.	(2)	CO4
	2-d.	What do you mean by Timer?	(2)	CO3
		<u>SECTION – B</u>		
3.	**Attempt any <u>four</u> out of five questions-**		[4x5=20]	
	3-a.	Draw the flowchart for modulo ten counter and Explain it.	(5)	CO3
	3-b.	What are the conditional CALL statements in assembly language? Explain with example.	(5)	CO3
	3-c.	Draw timing diagram for OUT instruction.	(5)	CO4

	3-d.	Compare memory mapped I/O and I/O mapped I/O.	(5)	CO4
	3-e.	Explain the pin diagram of 8086 microprocessor.	(5)	CO5
		SECTION – C		
4.	**Attempt any four out of six questions-**		[4×6=24]	
	4-a.	Draw timing diagram for STA instruction.	(6)	CO4
	4-b.	Convert a 2-digit BCD number stored at memory location 2200H into its binary equivalent number and stores the result in memory location 2300H.	(6)	CO3
	4-c.	Draw the Block diagram of 8255(PPI) and explain its various operating modes.	(6)	CO5
	4-d.	Draw and explain the architecture of 8086 microprocessor.	(6)	CO5
	4-e.	With Proper diagram explain Memory-Mapped I/O Interfacing.	(6)	CO4
	4-f.	Draw the architecture of DMA controller 8237 and explain it.	(6)	CO5

———THE END———