STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI – 600 086. (For candidates admitted during the academic year 2008-09)

SUBJECT CODE: PH/MC/MM54

B.Sc. DEGREE EXAMINATION NOVEMBER 2010 BRANCH III - PHYSICS FIFTH SEMESTER

COURSE PAPER TIME			0	
		: MAJOR - CORE : MICROPROCESSO : 30 MINS.	MICROPROCESSORS AND MICROCONTRO	
		SEC TO BE ANSWERED IN TI	TION – A HE QUESTION PAPER I	ITSELF
ANSWER ALL QUESTIONS:				$(30 \times 1 = 30)$
I.	CI	OOSE THE CORRECT A	NSWER:	
	1.	The number of data lines ava a. 16	ilable in the μP 8085 is, b. 4	c. 8
	2.	The registers that are not accea. W and Z	essible to the user are, b. H and L	c. B and C
	3.	A buffer is a logic circuit that a. voltage	t amplifies b. current	c. digital voltage
	4.	How many bytes does the RI a. one	M instruction have? b. four	c. three
	5.	For Memory Read operation a. 1 and 1	the lines S_0 and S_1 are, b. 0 and 1	c. 1 and 0
	6.	Which of the following hards a. RST 5.5	ware interrupts has the high b. TRAP	nest priority? c. RST 7.5
	7. The instruction used to set the carry flag is a. STC b. CMC c. CMA		c. CMA	
	8.	The number of 8-bit I/O porta. 2	s supported by one 8255 Pi b. 3	PI chip is c. 5
	9.	The number of mnemonics u a. 80	sed in the instruction set of b. 64	f 8085 is c. 256
	10	f clock frequency is 5 MHz, the time required to execute an 10T states nstruction is		
		a. 2.5 μs	b. 3.6 μs	c. 2 µs

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	11. 1k byte memory chip consisa. 1024 registers		c. 965 registers			
	12. The data bus of the μP 8085 a.unidirectional	is b. bidirectional	c. directionless			
	13. The number of T states requa. 7	ired for the OPCODE Fetch c	ycle is c. 3			
	14. XCHG instruction swaps the a. BC and HL	e contents of b. A and HL	c. HL and DE			
	15. TRAP interrupt is a. maskable	b. non-maskable	c. programmable			
II.	FILL IN THE BLANKS:					
	16. RST instructions are also called interrupts.					
	17. The Program Counter is a register of bits.					
	18. The Register A is also known as					
	19. The	is the first operation in ea	ch instruction cycle.			
	20. The program that translates an assembly language program into machine					
	language is called the	·				
III.	STATE WHETHER TRUE OR FALSE:					
	21. The higher order is address	bus is bidirectional.				
	22. The 8085 has five basic machine cycles.					
	23. The LDA instruction uses d	irect addressing mode.				
	24. Data is to be stored in the st	ack on a LIFO basis.				
	25. There are four modes of ope	eration in the PPI 8255.				

IV. ANSWER BRIEFLY:

26. Mention a logical instruction in 8085.

27. What does the instruction DI do?

28. How do you increment the contents of the memory locations whose address is stored in HL?

29. List the software interrupts available in 8085.

30. Name the destination register in the SBB C.

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COURSE : MAJOR - CORE

PAPER : MICROPROCESSORS AND MICROCONTROLLERS

TIME : 2½ HOURS MAX. MARKS : 70

SECTION - B

ANSWER ANY FIVE QUESTIONS:

 $(5 \times 5 = 25)$

- 1. List out and explain any five instructions available in the data transfer group of μP 8085.
- 2. Write assembly language programs to multiply two 8-bit numbers.
- 3. Discuss the condition flags of 8085.
- 4. Explain briefly the SIM instruction.
- 5. Write short notes on the Interrupt priorities in μP 8085.
- 6. With a neat timing diagram, explain the Memory Write cycle of 8085
- 7. Distinguish between the direct I/O and memory mapped I/O.

SECTION - C

ANSWER ANY THREE QUESTIONS:

 $(3 \times 15 = 45)$

- 8. Write an ALP to sort an array of 20 numbers in ascending order.
- 9. Discuss in detail the internal architecture of microcontroller 8051.
- 10. With a neat diagram explain the internal architecture of the microprocessor 8085.
- 11. Outline the features of the PPI chip 8255 with its functional block diagram.
- 12. Discuss in detail the four types of addressing modes of μP 8085 with suitable examples.

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