PSG COLLEGE OF ARTS & SCIENCE (AUTONOMOUS)

MSc(SS) DEGREE EXAMINATION DECEMBER 2023

(Fourth Semester)

Branch - SOFTWARE SYSTEMS (Five Year Integrated)

MICROPROCESSOR AND INTERFACING

Time: Three Hours Maximum: 50 Marks				
	SECTION-A (5 Marks)			
Answer ALL questions				
	ALL questions carry EQUAL marks $(5 \times 1 = 5)$			
1	. 8085 is one of the most popular bit micro processor.			
	a. 4 b.8			
	c.16 d.32			
2	The program counter points to the memory address of theinstruction to be executed.			
	a. Next b. Previous			
	c. Last d. N th			
3.	PUSH instruction in 8085 is an example for transfer instruction. a. Arithmetic b. Logical c. Looping d. Data			
4.	4. Block transfer is a transfer of multiple of data under the control of an instruction.			
	a. Bits b. Bytes			
	c. Nibble d. Set			
5. 8255 PPI enables the communication between a micro processor and an				
	a. Internal b. Quick			
	c. External d. Common			
	SECTION - B (15 Marks)			
Answer ALL Questions				
	ALL Questions Carry EQUAL Marks $(5 \times 3 = 15)$			
6.	6. (a). Classify the registers used in 8085 microprocessor. (OR)			
	(b). Evaluate the differences between data transfer instructions with arithmetic instructions.			
7.	7. (a). Illustrate the process of de-multiplexing of address and data bus in 8085 with ALE signal. (OR)			
	(b). State the importance of "Memory Interfacing" in 8085 microprocessor.			
8.	3. (a). Illustrate the need of different logical operations. (OR)			
	(b). Analyze the process of "Compare with accumulator" with an example.			
).	(a): Apply 1's and 2's complement of 8-bit number where the starting address is 2000 and the number is stored at 3000 memory address and store result into 3001 and 3002 memory address. [Note: Input data is 5]			
	(OR) (b). Explain an algorithm in 8085 to divide 2 8-bit numbers.			
10				
	0. (a). Evaluate the BSR, IO functioning modes of 8255. (OR)			
	(b). State the control word format and its purpose in 8255.			

Cont...

SECTION -C (30 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks

 $(5 \times 6 = 30)$

11. (a). Enumerate the architecture of 8085 micro processor with neat diagram.

(OR)

- (b). Interpret the bus organization of 8085 microprocessor and its components.
- 12. (a). Formulate the timing diagram of IN 80H instruction with its purpose

 The instruction and the corresponding codes and memory locations are given below

Address	Mnemonics	Opcode
800F	IN 80 H	DB
8010		80

(OR)

- (b). Elucidate the memory organization of 8085 micro processor.
- 13. (a). Differentiate the continuous loops with conditional loops in 8085.

(OR)

- (b). Develop a program to demonstrate the time delay using 8-bit counter.
- 14. (a). Construct an assembly language program to add two 8-bit numbers and store the result at locations 8050H and 8051H.

(OR)

- (b). Elucidate an assembly language program to find the largest number in array of data.
- 15. (a). Analyze the pin diagram of 8255-PPI with a proper sketch.

(OR)

(b). Assess the functioning of water level indicator with the use of 8255 PPI.

Z-Z-Z

END