

PSG COLLEGE OF ARTS & SCIENCE  
(AUTONOMOUS)

MSc DEGREE EXAMINATION MAY 2022  
(Fourth Semester)

Branch – SOFTWARE SYSTEMS  
(Five year Integrated)

**MICROPROCESSOR AND INTERFACING**

Time: Three Hours

Maximum: 75 Marks

**SECTION-A (10 Marks)**

Answer ALL questions

ALL questions carry EQUAL marks (10 x 1 = 10)

1. The 8085 has \_\_\_\_\_ general purpose registers.  
(i) Three (ii) Four (iii) Five (iv) Six
2. The \_\_\_\_\_ is a non volatile memory.  
(i) RAM (ii) SRAM (iii) DRAM (iv) ROM
3. This \_\_\_\_\_ signal indicates that another master is requesting the use of the address and data buses.  
(i) READY (ii) HOLD (iii) HLDA (iv) INTA
4. Which stack is used in 8085 microprocessor?  
(i) FIFO (ii) LILO (iii) LIFO (iv) None of the above
5. In the instruction of the 8085 microprocessor, how many bytes are present?  
(i) one or two (ii) one, two or three (iii) one only (iv) Two or three
6. The addressing technique which is not used in 8085?  
(i) Register (ii) Relative (iii) Immediate (iv) Register indirect
7. The opcode for the instruction “ Add Immediately to accumulator with carry” in 8085 microprocessor is \_\_\_\_\_.  
(i) ADI (ii) ACI (iii) ADC (iv) ADD
8. The carry flag is not affected after the execution of \_\_\_\_\_.  
(i) ADD B (ii) SBB B (iii) INR B (iv) ORA B
9. 8255 is a \_\_\_\_\_ pin IC.  
(i) 40 (ii) 25 (iii) 28 (iv) 20
10. When 8255 is operated in mode-2, \_\_\_\_\_ can be used.  
(i) Port -A, Port-B and Port-C (ii) Port -A and Port-B  
(iii) only Port -A (iv) only Port -B

**SECTION - B (25 Marks)**

Answer ALL questions

ALL questions carry EQUAL Marks (5 x 5 = 25)

11. (a) Write a note on internal data operations.  
(OR)  
(b) Mention the importance of peripheral initiated operations.

Cont...

12. (a) Explain the term: Demultiplexing the bus.  
(OR)  
(b) Explain the operation of address decoding.
13. (a) List and explain data transfer function.  
(OR)  
(b) Analyze the compare instruction with suitable example.
14. (a) Write a program to add two 8-bit numbers.  
(OR)  
(b) How block data is transferred? Explain.
15. (a) Explain the procedure for masking of most significant bits in 8-bit data.  
(OR)  
(b) Design a ring counter and explain its importance.

**SECTION -C (40 Marks)**

Answer ALL questions

ALL questions carry EQUAL Marks (5 x 8 = 40)

16. (a) With a suitable diagram, explain in detail the 8085 bus organization.  
(OR)  
(b) Give a detailed account on memory classification in microprocessors.
17. (a) Draw the architecture of 8085 microprocessor and explain the functions of each block.  
(OR)  
(b) Explain the basic concepts in memory interfacing.
18. (a) Explain with suitable examples, the working of logic operations.  
(OR)  
(b) Give a detailed account on additional data transfer and 16 bit arithmetic instruction.
19. (a) Write a program to find largest number in an array.  
(OR)  
(b) Write a program for sorting numbers in descending order.
20. (a) Draw the block diagram of 8255 PPI and explain its operation.  
(OR)  
(b) Using 8255 PPI, design a water level indicator and explain.

Z-Z-Z END