PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc(SS) DEGREE EXAMINATION MAY 2023
(Fourth Semester)

Branch – SOFTWARE SYSTEMS (Five Years Integrated)

MICROPROCESSOR & INTERFACING

Time: Three Hours   Maximum: 50 Marks

SECTION-A (5 Marks)
Answer ALL questions
ALL questions carry EQUAL marks   (5 x 1 = 5)

1   How many bit program counter is available in 8085?
    (i) 4-bit   (ii) 8-bit
    (iii) 16-bit   (iv) 32-bit

2   Which is not the control bus signal?
    (i) Read   (ii) Write
    (iii) Reset   (iv) None of these

3   Which of the following statement is correct regarding the instruction CMP A?
    (i) Compare accumulator with register A
    (ii) Compare accumulator with memory
    (iii) Compare accumulator with register H
    (iv) This instruction does not exist

4   Which of the following is true about MOV A, B instruction?
    (i) It means move the content of register A to register B
    (ii) It uses immediate addressing mode
    (iii) It doesn't affect the flag register
    (iv) It is a 2-byte instruction

5   How many pins of the 8255 can be used as the I/O ports?
    (i) 8   (ii) 16
    (iii) 24   (iv) 32

SECTION - B (15 Marks)
Answer ALL Questions
ALL Questions Carry EQUAL Marks   (5 x 3 = 15)

6   a   Discuss in detail about Peripheral initiated operations.
                  OR
   b   Classify the Memory types of microprocessors.

7   a   Sketch and explain the details of microprocessor bus timings.
                  OR
   b   Explain the basic concepts of memory interfacing.

8   a   What is Looping? Explain with example.
                  OR
   b   Show the importance of 16-bit arithmetic instructions.

9   a   Write an assembly language program for addition of two 8-bit numbers.

OR

     b   Write an assembly language program for subtraction of two 8-bit numbers.

10   a   With neat sketch draw and explain about 8255 block diagram.

OR

     b   Illustrate how masking of 8-bit data with MSB works.

SECTION -C (30 Marks)
Answer ALL questions
ALL questions carry EQUAL Marks   (5 x 6 = 30)

11   a   Draw and explain in detail about microprocessor architecture and its operations.

OR

     b   Determine the internal data operations and registers of 8085 microprocessor.

12   a   Recommend the importance of memory structure and its requirements.

OR

     b   Differentiate the address decoding with memory addressing.

13   a   What are the logical instructions? Solve with examples.

OR

     b   Develop an ALP using rotate and compare instructions.

14   a   Write an assembly language program for sorting numbers in ascending order.

OR

     b   Develop an assembly language program for multiplication of two 8-bit numbers.

15   a   Design the binary counter and explain it's with functional blocks.

OR

     b   Construct the water level indicator using 8255 PPI with neat diagram.

Z-Z-Z   END