PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2019
(Sixth Semester)

Branch – **PHYSICS**

MICROPROCESSOR ARCHITECTURE & PROGRAMMING

Time : Three Hours Maximum : 75 Marks

SECTION-A (20 Marks)
Answer **ALL** questions
ALL questions carry **EQUAL** marks (10 x 2 = 20)

1 What is a complier?
2 What are the four operations commonly performed by the microprocessor?
3 What is meant by multiplexing the bus?
4 What is the function of IO/M signal?
5 Define opcode and operand.
6 What are the general purpose registers in 8085 microprocessor?
7 What do you mean by conditional jump and unconditional jump instructions?
8 What is meant by counting and indexing?
9 What is a stack?
10 What are PUSH and POP operations?

SECTION - B (25 Marks)
Answer **ALL** Questions
ALL Questions Carry **EQUAL** Marks (5 x 5 = 25)

11 a Explain (i) Machine language, (ii) Assembly language and (iii) High level language.

OR

b Discuss about (i) Encoder and (ii) Decoder.

12 a Explain the 8085 machine cycles and bus timings.

OR

b Explain the execution of memory related data transfer operations.

13 a Discuss (i) Data transfer operations and (ii) Arithmetic operations.

OR

b Explain (i) Branch operations and (ii) Logic operations.

14 a What is meant by looping? Discuss (i) Continuous loop and (ii) Conditional loop.

OR

b Explain the three types of memory transfer instructions in 8085 microprocessor.

15 a Explain the CALL and RET statements in a subroutine.

OR

b Explain the BCD to binary conversion with an example.

SECTION - C (30 Marks)
Answer any **THREE** Questions
ALL Questions Carry **EQUAL** Marks (3 x 10 = 30)

16 Explain the 8085 bus organization with a neat sketch.

17 Describe the pin configuration of 8085 microprocessor.

18 Write instruction to load the two hexadecimal numbers 32H and 48H in registers A and B. Add the numbers and display the sum at the LED output port PORTI.

19 Write instructions to add the contents of memory location 2040 H to A and subtract the contents of memory location 2041 H from the first sum. Assume the accumulator has 30H, the memory location 2040 H has 68H and the location 2041H has 7FH.

20 Write a program to multiply two 8-bit unsigned numbers.