14ITU22

PSG COLLEGE OF ARTS & SCIENCE

(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2019

(Fourth Semester)

Branch - **INFORMATION TECHNOLOGY**

MICROPROCESSSOR AND ITS APPLICATIONS

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 microcomputer?

2 Define the following: (i) Byte (ii) Nibble.

3 Define ROM.

4 What are the four primary operations of a MPU?

5 Define the term "Instruction cycle".

6 Classify the following instructions according to the word size.
(i) CMA (ii) LDA address (iii) ADI data (iv) IN address.

7 What is the difference between Opcode and Operand?

8 Convert the 1 's complement for given number: 101100.

9 What is the purpose for the 8255 PPI?

10 Distinguish between the memories mapped I/O peripheral I/O.

SECTION - B (25 Marks)

Answer **ALL** Questions

ALL Questions Carry **EQUAL** Marks (5 x 5 = 25)

11 a Describe the components of a microprocessor.

OR

b Discuss the functions of various lags in 8085 microprocessor.

12 a Explain the architecture of microprocessors 8085.

OR

b Draw and explain the timing diagram of memory write cycle with example.

13 a Discuss the loop instruction of 8085 with suitable examples.,

OR

b Explain Assembly language program for subtraction with two 8-bit numbers.

14 a Write an Alp program in 8085 to add two 8-bit numbers.

OR

b Write a program to find the smallest number if an array of 8-bit unsigned numbers.

15 a Explain the operating modes of 8255 programmable peripheral interface.

OR

b Explain twisted Ring counter with neat block diagram.

SECTION - C (30 Marks)

Answer any **THREE** Questions

ALL Questions Carry **EQUAL** Marks (3 x 10 = 30)

16 Describe the organization of a microcomputer.

17 With suitable examples explain how I/O devices are connected using memory mapped I/O and peripheral I/O.

18 List out the arithmetic operations of 8085 microprocessor with an example and show how the flags are affected for each operation.

19 . Write a ALP program to arrange an array of unsigned 8-bit numbers in ascendine order.