PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2018
(Fourth Semester)

Branch - INFORMATION TECHNOLOGY

MICROPROCESSOR & ITS APPLICATIONS

Time : Three Hours   Maximum : 75 Marks

SECTION-A (20 Marks)
Answer **ALL** questions
ALL questions carry EQUAL marks   (1 0 x 2 = 20)

1   What is a Microprocessor?
2   What are the classifications of Memory?
3   Define the term Flag.
4   What is the use of ALE Signal?
5   What is the function of data transfer instruction?
6   State the use of machine control instruction HLT.
7   Draw a flowchart of a'simple programme.
8   Write the 1st complement of a 16-bit number, FFFFH.
9   What are the modes of operation of 8255?
10   Mention two control signal of 8255 PPL

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

1 1 a Explain the functions of ach component of a micro computer.
OR
  b   Explain the difference between machine language and assembly language.

12 a   Explain the bus timing in fetching an instruction from memory.
OR
  b Explain how to demultiplex the $AD_7 - AD_Q$ by using a latch.

13 a With example instruction; explain the function of Branch operations.
OR
  b   With examples, explain the function of logical operations.

14 a Write a program to add two 16-bit numbers.
OR
  b Write an ALP to find the one's compliment of the given number.

15 a Write a note on the design of binary counter.
OR
  b Write instructions to configure the 8255 I/O ports in the simple I/O and
      Bit Set/Reset (BSR) mode.

SECTION-C (30 Marks)
Answer any **THREE** Questions
ALL Questions Carry' **EQUAL** Marks (3 x 1 0 = 30)

16   Discuss briefly the address and data bus of 8085.

17   Draw the block diagram of 8085 architecture and explain.

18   Write an assembly language program to multiply two 8-bit data.

19   Explain the arithmetic operations related to memory.

20   Draw the block diagram of 8255 PPI and explain the various modes of operation