PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)
BSc DEGREE EXAMINATION DECEMBER 2019
(Third Semester)

Branch - INFORMATION TECHNOLOGY

<u>8051 MICRO CONTROLLER</u>

Time: Three Hours   Maximum: 75 Marks

<u>SECTION-A (10 Marks!</u>
Answer ALL questions
ALL questions carry EQUAL marks   (10 x 1 = 10)

1   What is the bit size of the 8051 micro controller?
     (i)   8-bit   (ii) 4-bit
     (iii) 16-bit   (iv) 32-bit

2   The Rom losses version of 8051 is called
     (i)   8092   (ii) 8031
     (iii) 8052   (iv) 8088

3   Name the architecture and the instruction set for 8051.
     (i) van - Neumann architecture with CISC instruction set
     (ii) Harvard -architecture with CISC instruction set
     (iii) van - Neumann architecture with RISC instruction set
     (iv) Harvard -architecture with RISC instruction set

4   Which one is used for storing the data storage?
     (i)   RAM   (ii) ROM
     (iii) CPU   (iv) SCON

5   Number of I/O ports in the 8051 Micro controller is
     (i)   2 port   (ii) 3 port
     (iii) 4 port   (iv) 5 port

6   Scon in serial port is used for_____ operation.
     (i)Transform data   (ii) Receive data
     (iii) Controllers   (iv) None.

7   How are the states of the carry auxiliary carry and parity flag affected in the
     write instruction MOV A,# 9 C, ADD A ,# 64H
     (i)   CY=0,AC=0,P=0   (ii) CY=0,AC=T ,P=0
     (iii) CY=T,AC=T,P=0   (iv) CY=1,AC=1,P=1

8   How many bytes of bit addressable memory is present in 8051 based micro
     controller?
     (i)   8 bytes   (ii) 32bytes
     (iii) 16 bytes   (iv) 128 bytes

9   Which pin of the LCD is used for adjusting its contrast?
     (i) pin no 1   (ii) pin no 2
     (iii) pin no 3   (iv) pin no 4

10   An alternating function of port pin P_0.o in 8051 is
     (i) serial port input   (ii) serial port output
     (iii) ADC   (iv) DAC

SECTION - B (25 Marks)
Answer ALL questions
ALL questions carry EQUAL Marks   (5x5 = 25)

11a Explain the PSW register with its bit pattern.
OR
   b Write short notes on micro controller and its family.

12 a Explain logical instruction with example,
OR
   b Explain any 2 Boolean instructions.

13 a Explain the working of timer 1 in 8051.
OR
   b Explain the various interrupts of 8051.

L4 a Write a program to subtract two 8 bit numbers.
OR
   b Write a program to find smallest number in array.

15 a Explain the interfacing of LCD to the 8051 with neat diagram.
OR
   b Explain the interfacing of keyboard with 8051.

SECTION -C (40 Marks!
Answer ALL questions
ALL questions carry EQUAL Marks   (5 x 8 = 40)

16 a Explain the program counter and the register bank operations with neat
      diagram.
OR
   b Write a note on Embedded processor.

17 a Explain Arithmetic & logical instruction with example.
OR
   b Explain various addressing modes of 8051.

18a Explain the various operations of I/O ports of 8051.
OR
   b Explain the interrupt structure of 8051.

19 a Write a program to find the largest number of an array.
OR
   b Write a program to multiply two 8- bit numbers with neat flow t hart.

20 a Draw and explain the interfacing of stepper motor with 8051.
OR
   b Explain the interfacing of LCD with 8051

Z-Z-Z   **END**