PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2024
(Fourth Semester)

Branch - ELECTRONICS

8051 MICROCONTROLLER

Time: Three Hours   Maximum: 50 Marks

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

1   State the number of ports in 8051 microcontroller?
    (i)   4   (ii) 5
    (iii) 6   (iv) 7

2   Identify the number of bytes for the instruction MOV A, #0x05
    (i) 2   (ii) 3
    (iii) 4   (iv) 5

3   How many pins are there in 8051 microcontroller?
    (i)   24   (ii) 40
    (iii) 50   (iv) 60

4   Which register is used to enable interrupts?
    (i) TMOD   (ii) TCON
    (iii) IE   (iv) IP

5   Which is ADC IC?
    (i)   0804   (ii) 8085
    (iii) 8086   (iv) 8080

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

6   a) State the features of 8051 microcontroller.
                        OR
    b) Analyze the microcontroller with microprocessor.

7   a) Explain the operation of program counter.
                        OR
    b) Outline the function of CALL instruction.

8   a) Develop an ALP to interface LED in PORT 1.
                        OR
    b) Explain the function of SETB instruction.

9 a) Outline the basics of serial communication.

OR

   b) State the various interrupts available in 8051 microcontroller.

10 a) Explain the concept of interfacing a stepper motor with 8051 microcontroller.

OR

   b) How DAC is interfaced with 8051? Explain.

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

11 a) Elucidate the different types of addressing modes in 8051 microcontroller.

OR

   b) Discuss various data transfer instructions in 8051 microcontroller.

12 a) Analyze the flag bits of PSW register.

OR

   b) Discuss the data types and directives in 8051 microcontroller.

13 a) Elucidate the pin details of 8051 with a neat pin diagram.

OR

   b) Analyze the TMOD register of 8051 microcontroller.

14 a) Point out the various functions of interrupt priority register.

OR

   b) Discuss the SMOD register in 8051 microcontroller.

15 a) Elucidate the concept of interfacing LCD with 8051 microcontroller.

OR

   b) Discuss the concept of interfacing ADC with 8051 microcontroller.

Z-Z-Z   END