

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2022
(Third Semester)

Branch – INFORMATION TECHNOLOGY

8051 MICRO CONTROLLER

Time: Three Hours

Maximum: 50 Marks

SECTION-A (5 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(5 x 1 = 5)

1. 8051 microcontrollers are manufactured by which of the following companies?
(i) Atmel (ii) Philips (iii) Intel (iv) All of the mentioned
2. Which of the following is not an addressing mode of 8051?
(i) register instructions (ii) register specific instructions
(iii) indexed addressing (iv) none
3. Which pin of the external hardware is said to exhibit INT0 interrupt?
(i) pin no 10 (ii) pin no 11 (iii) pin no 12 (iv) pin no 13
4. When we add two numbers the destination address must always be ____
(i) some immediate data (ii) any register
(iii) accumulator (iv) memory
5. How can we control the speed of a stepper motor?
(i) by controlling its switching rate (ii) by controlling its torque
(iii) by controlling its wave drive 4 step sequence
(iv) can't be controlled

SECTION - B (15 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks

(5 x 3 = 15)

6. a) Draw a block diagram of microcontroller.
Or
b) Explain the flag registers of 8051.
7. a) Classify the function of CALL instruction..
Or
b) Explain register addressing mode with example.
8. a) Explain about the Serial Data Mode 0.
Or
b) Explain briefly about IE and IP special function registers.
9. a) Write a program to multiply two 8-bit numbers.
Or
b) Write a short note about complement.

Cont...

10. a) What are the advantages of LCD over LED?
Or
b) Discuss about interfacing of stepper motor.

SECTION -C (30 Marks)

Answer ALL questions
ALL questions carry EQUAL Marks (5 x 6 = 30)

11. a) Describe the 8051 Hardware with neat block diagram.
Or
b) Explain briefly about port 0, port 2, port 3 of 8051 microcontroller.
12. a) Explain the arithmetic instructions of 8051 with example.
Or
b) Enumerate the addressing modes of 8051.
13. a) Elucidate the timer modes of 8051.
Or
b) Discuss about serial data interrupts.
14. a) Write a program to add two 16-bit numbers with example.
Or
b) Compare ascending and descending order.
15. a) Briefly explain about LCD interface.
Or
b) Draw the interfacing diagram of ADC 809 with 8051 microcontroller and also explain the steps to program ADC.

Z-Z-ZEND