

PSG COLLEGE OF ARTS AND SCIENCE
(AUTONOMOUS)
BSc DEGREE EXAMINATION DECEMBER 2024
(Fourth Semester)

Branch - INFORMATION TECHNOLOGY

MICROPROCESSOR & MICRO CONTROLLER

Time: Three Hrs

Maximum Marks: 75

Section A (25 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks (25 x 1=25)

1. a. The Intel 8085 is an _____-bit microprocessor introduced by Intel in 1977
(i) 4 (ii) 8 (iii) 16 (iv) 2
- b. Which signal is used to reset the microprocessor by setting the program counter to zero.
(i) RESET IN (ii) RESET OUT (iii) INTA (iv) None
- c. Abbreviate SID
- d. The address bus in the 8085 microprocessor is _____-bit wide
- e. In 8085 microprocessor, _____ refers to the time taken to execute a basic operation, such as reading or writing from memory or fetching an opcode
- f. Define ADI
- g. STA is a _____-byte instruction
(i) 1 (ii) 2 (iii) 4 (iv) 3
- h. An _____ mode in a microprocessor defines the way in which the operand (data) is specified for an instruction
(i) Addressing (ii) Instruction (iii) Data (iv) None
- i. What does JNC do ?
- j. RRC Stands for _____
- k. How many types of interfaces are used in the 8085 microprocessor?
(i) 4 (ii) 2 (iii) 6 (iv) 3
- l. The 8085 executes the _____ instruction in three machine cycles and it takes ten T States (Clock Periods) to complete the execution
- m. I/O Devices are also Known as _____
- n. A Seven segment LED Consist of Seven light emitting diode segments and _____ Segment for the decimal point.
- o. _____ Mode is used set or reset the bits in port C
- p. In MCS-51 devices have separate address space a for Program and Data Memory - . (True / False)
- q. The Program Memory can be up to _____ K bytes long
(i) 32 (ii) 16 (iii) 64 (iv) 8
- r. The MCS-51 instruction set is optimized for _____ bit control applications
- s. Which addressing the instruction specifies a register which contains the address of the operand
(i) Direct (ii) Indirect (iii) Immediate (iv) None
- t. The Carry bit in the _____ is used as the single-bit Accumulator of the Boolean processor.
- u. The 8051 provides how many interrupt sources
(i) 4 (ii) 5 (iii) 3 (iv) 8
- v. The _____ Port Interrupt is generated-by the logical-OR of RI and TI.
- w. In this mode 0, the Timer register is configured as a _____-bit register
(i) 10 (ii) 12 (iii) 14 (iv) 13
- x. Abbreviate EOF
- y. The 8051 has Built in Universal Asynchronous Receiver Transmitter. (True / False)

Cont...

Section B (20 Marks)

Answer **ALL** Questions

ALL Questions Carry **EQUAL** Marks (5 x 4=20)

2 a. Discuss about the Registers in detail.

Or

b. Illustrate about Bus Organization.

3 a. Explain about Addressing Modes.

Or

b. Write a Assembly Language Program for 8 Bit Addition.

4 a. Elaborate about Interfacing Input Devices.

Or

b. Explain about Memory Mapped I/O .

5 a . Write a Brief Notes on SFR.

Or

b . Explain about Boolean Processing.

6 a. Explain about Interrupt Priorities in detail.

Or

b. Discuss about Timer and its Types.

Section C (30 Marks)

Answer **THREE** Questions

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

7. Elucidate about 8085 Microprocessor with Diagram.

8. Discuss about the Instruction Set in Detail with Example.

9. Illustrate about Seven Segment LED Display as an Output Device with Diagram.

10. Elaborate about 8051 Micro controller Block Diagram with its functions.

11. Discuss about Counter and Serial Communication in detail.

Z-Z-Z END