SHAHEED BHAGAT SINGH STATE TECHNICAL CAMPUS, FEROZEPUR

ROLL No: | | | | | | | | | | | | |

Total number of pages:[ ]
Total number of questions:06

B.C.A. 3rd Sem
Introduction to Microprocessor
Subject Code: BCAP1-356
Paper ID:

Time allowed: 3 Hrs

Max Marks:100

Important Instructions:

- **All questions are compulsory**

PART A (2×10)

Q. 1. Short-Answer Questions:

(a) Define opcode and operand.

(b) What is the need of demultiplexing the bus?

(c) What is accumulator? Explain its role in 8085 microprocessor?

(d) What is the difference between 8085 and 8086?

(e) What are the essential elements of CPU?

(f) Differentiate between memory mapped and program controlled I/O.

(g) What are nibble, byte and word?

(h) Define T states?

(i) What are the different types of data transfer operations possible?

(j) What are the various types of memories used in microcontroller?

PART B (16×5)

Q. 2. a) What are the various groups of instruction in 8085? Discuss briefly each group by giving two examples of each group? 12

b) What is the operation performed by the following instructions? 04
a) CMP M b)XCHG c) PUSH PSW d) SHLD 5000H

OR

a) Write an assembly language program using 8085 microprocessor instruction set to arrange N numbers in ascending order? 10

b) Discuss any five branch instructions in 8085 microprocessor? 06

Q. 3. a) What is microprocessor? Explain in detail the evolution of microprocessor? Discuss various applications of microprocessor? 12
b) Differentiate between microprocessor and microcontroller. 04

OR

a) What do you mean by bus? Explain the bus structure of a microprocessor based computer system with the help of a block diagram? 08
b) Draw and discuss the pin description of 8085? 08

Q. 4. a) What is timing diagram? Discuss in detail the timing diagram of memory read operation. 10
b) Explain instruction cycle, machine cycle and state. 06

OR

a) Discuss fetch and execution cycles of 8085 by considering any instruction? 08
b) Explain the concept of Machine cycle, instruction cycle and T-state. 08

Q. 5. a) Draw the block diagram showing the memory interfacing with a microprocessor and mention the purpose of each and every signal used therein for interfacing 08
b) What are various types of ROMs ? Discuss in detail 08

OR

a) Differentiate between following 06
i) RAM and ROM ii) EPROM and E^2PROM
b) Discuss in detail microprocessor operations? 10

a) What are the various schemes of I/O data transfer? Discuss in detail 10
Q. 6. b) Discuss two types of address schemes provided by 8085 for I/O ports? 06

OR

a) Explain in detail with circuit diagram the interfacing of microprocessor with any device. 10
b) Write short note on 8086,80386 and 80486 06