POKHARA UNIVERSITY

Level: Bachelor   Semester: Fall   Year   : 2023

Programme: BE   Full Marks:100

Course: Microprocessor and ALP (New)   Pass Marks: 45

                                              Time   :3hrs.

Candidates are required to give their answers in their own words as far as practicable.

The figures in the margin indicate full marks.

Attempt all the questions.

1. a) Define microprocessor. Differentiate between Von Newmann and Harvard architecture along with its block diagram.   7

   b) Draw the functional block diagram of intel 8085 microprocessor and explain each block.   8

2. a) Draw and explain a well-labelled timing diagram of the instruction LXI B, D050H and calculate the time required to execute the instruction if frequency = 4Mhz.   8

   b) Write an ALP in 8085 to transfer 10 bytes of data of memory address starting from 5000H to 6000H .Comment in each line indicate full marks.   7

3. a) What are the major changes and advantages of 8086 over 8085 microprocessors? Explain addressing modes of 8086.   8

   OR

   What are the types of FLAGS available in 8086 microprocessors? Show the Flag position and explain in brief with examples.   7

   b) Write a 8086 program to find square root of a number.

4. a) What are the assembler directives of 8086? List out some common directives that are used while programming.   7

   OR

   What are Macros? Explain DOS interrupt functions.

   b) Design an address decoding circuit to interface 2KB RAM, 4 KB ROM and 8 KB RAM with initial address 2000H.   8

5. a) Define parallel interface. Explain 8255 PPI.   7

   b) Draw and explain the architecture of 8251 USART along with its pins.   8

6. a) What is the difference between polled and Vectored interrupt handling technique? Explain with necessary diagram.   7

   b) What are the sources of interrupt? Explain interrupt vector Table.   8

7. Write short notes on: (**Any two**)   2×5
   a) Microcontroller and applications
   b) Synchronous and Asynchronous Bus
   c) 8259 PIC