

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -3 EXAMINATIONS-2022

B.Tech-V Semester (ECE/Minor ECE)

COURSE CODE (CREDITS): 18B11EC512 (3)

MAX. MARKS: 35

COURSE NAME: Microprocessor and Interfacing

COURSE INSTRUCTORS: Dr. Shweta Pandit

MAX. TIME: 2 Hour

Note: All questions are compulsory. Marks are indicated against each question in square brackets.

- Q1. a) Write an assembly language program to count the number of bytes, between location 60000H and 60100H that are an even number. Place the count of even numbers in register BH. Write proper comments for the program instructions. [3][CO-2]
 b) Develop an assembly language program that skips ASCII-coded spaces in a memory array starting from memory location 1000:2000H for 100H memory locations. Write proper comments for the program instructions. [2][CO-2]
- Q2. a) Develop sequence of instructions which increment register CX from a count of 0H to until it equals the number placed in register DX. Write proper comments for the program instructions. [2][CO-2]
 b) Mention the important features of Pentium processor. [2][CO-5]
 c) Write the instructions to change bit 13 of any word placed in DX to its complement without changing any other bit in the word. [1][CO-2]
- Q3. a) Write a near procedure to copy the contents of byte-sized memory BLOCKA into byte-sized memory BLOCKB until 00H is moved. The size of BLOCKA is 350H. [3][CO-2]
 b) Write an assembly language program using INT 21H which input a letter from keyboard and respond as "The letter you typed is _____". [3][CO-4]
 c) The interrupt vector for an INT 42H is stored at which memory locations? [1][CO-4]
- Q4. Design an address decoder circuit for interfacing eight 8Kx8 EPROM with 8086 microprocessor starting in the address space F0000H - FFFFFH. Specify the address range of each of the eight EPROM interfaced to 8086. [6][CO-3]
- Q5. Interface 7-segment display with the 8086 microprocessor and write set of instructions to display digits 0 to 5 on this 7-segment continuously with some delay. Assume that 7-segment display is connected to the Port-A of 8255 PPI. [6][CO-3]
- Q6. Write a set of instructions for 8086 microprocessor which detect and encode the key pressed by the hexadecimal keyboard interfaced to 8086 microprocessor as shown in Fig. 1 using 8255 Programmable Peripheral Interface (PPI). Consider the lookup table for each of the hexadecimal key is stored at memory location starting from 20000H to 2000FH and also find the hexadecimal number stored at each of these 16 memory locations for the individual key of the keyboard. [6][CO-3]

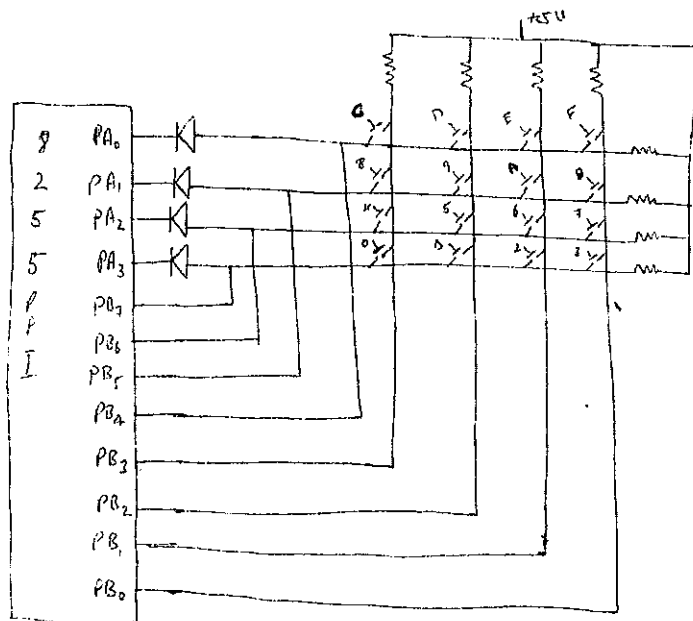


Fig. 1