Q. What are the components of 8086 “Bus” and what is the purpose of each component?

Q. State the reason why the data bus is bidirectional in 8086

Q. Why is the data bus and address bus multiplexed in 8086?

Q. Explain the concept of memory banking in 8086

Q. State and explain the purpose of the following 8086 pins

1. ALE

2. BHE’

3. DT/R’

4. DEN

5. INTR, INTA’

6. HOLD, HLDA

7. RQ/GT

8. M/IO’

9. RD’, WR’

10. READY

Q. A set of 10 ASCII codes are stored in memory location pointed to by char\_list. Determine if the characters are upper case or lower case. Print appropriate message for each character. Hint: Find ascii values for upper and lower character set.

Q. The following code allows to accept a character from keyboard.

Mov ah, 01h

Int 21h

After the execution of the given code, the asci value of the character is available in AL. Use this code to read from the keyboard and save the code in memory. Keep on taking till “Enter” key is pressed. (ASCII for “Enter” key is 0Dh). Stop when enter key is encountered. Assume that the user will not press more than 100 characters at a time.

Q. Write an ALP that does the following:

1. Takes a number from the keyboard ( use the prog. given in earlier question), strips its ascii offset and save the actual number in memory.

2. Takes a number(0 to 9) stored in memory, adds the ascii offset and displays the number on the screen. You can use the following code to display the character

Mov dl, asci\_value

Mov ah,02h

Int 21h

Q. Draw and explain

1. Minimum mode read timing diagram

2. Minimum mode write timing diagram

3. Maximum mode read timing diagram

4. Maximum mode write timing diagram

Q. List the segment registers in 8086. Explain how a 20-bit effective address is generated in 8086.

(Can also expect a numerical based on this)

Q. The general purpose registers AX, BX, CX, DX have a special function too. What are these special functions?

Q. Suggest logic to derive MEMRD’, MEMWR’, IOR’, IOW’ from M/IO’, RD’, WR’

Q. List the addressing modes of 8086 with examples.

Q. List and explain some conditional jump instructions

Q. The following prog reads a port whose upper/lower 4 pins are faulty, only the lower/upper 4 pins have valid data. Complete the code so that only valid data is saved in memory.

Mov dx, my\_port\_address

In AL

Mov mem\_loc, AL

Q. List the possible types of data transfer in 8086

Q. List all the string related instructions in 8086

Q. Explain in detail the difference between call and jmp instructions