

- (ii) Explain various types of Read Only Memory.
- (iii) Differentiate between *RISC* and *CISC* architecture
- (iv) What is encoder ? Explain priority encoder with logical diagram and function table.
- (v) Draw bus structure of 8085 microprocessor and explain all the system buses.
- (vi) Differentiate between program visible and program invisible register. Give example of both.
- (vii) Explain memory map of *64KB RAM* With necessary diagram, considering *20-bit* address line and *16-bit* data lines.

3 Do as directed : **10**

- (i) Explain descriptor of 80286 and above microprocessor and segment register in protected mode memory addressing scheme.

- (ii) Explain internal block diagram of 8086 microprocessor with necessary diagram.

OR

- (i) Explain instruction pipeline with diagram. List and explain all the instruction pipeline hazards and explain any one solution.
- (ii) Draw the pin-in and pin-out diagram for 8086 microprocessor and explain function of minimum mode pins.

4 Do as directed : (any **five**) **10**

- (i) Explain following directive with example :
 - (a) Title
 - (b) .Model.
- (ii) Explain *CMP* instruction with example. Also write how it affects various flags.
- (iii) Differentiate between macro and procedure.
- (iv) Write an assembly language program to clear all general purpose register of 8086 microprocessor.

- (v) Discuss effect on stack when CALL and RET are executed with necessary diagram. List any four conditional call instructions.
- (vi) Discuss following addressing modes :
 - (a) Immediate
 - (b) Register Indirect.
- (vii) Find out value of N for the following module, if frequency of the system is 8 MHz and required time delay is 3 msec.

```

MOV     CX, N
MOV     BX, 03
B-10 MOV     AX, CX
NOP
NOP
NOP
NOP
LOOP    B-10

```

- 5** Write an assembly language program for the following : **10**
(any **two**)
- (i) To find minimum from an array of five numbers, also print the output.
 - (ii) To find whether given string is palindrome or not.
 - (iii) To subtract two 16-bit numbers using macro.
 - (iv) To find factorial of given numbers using procedure.
