322551(22)

B. E. (Fifth Semester) Examination, April-May/Nov.-Dec. 2020

(New Scheme)

(CSE, IT Branch)

MICROPROCESSOR & INTERFACES

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note *: Part (a) of each question is compulsory. Attempt any **two** part from (b), (c) and (d).*

Unit-I

1. (a) Define Microprocessor system.   2

    (b) Write the difference between Harvard and Princeton architecture.   7

(c) Explain the microprocessor based personal computer system with suitable diagram. 7

(d) Enplain the architecture of 8085 microprocessor in detail. 7

Unit-II

2. (a) What is segmentation? 2

(b) Explain the architecture of 8086 microprocessor in detail. 7

(c) Write an ALP to count the even and odd numbers from the series of 100 numbers present in the memory location from 2000 : D100 h. store the even count in register Bx and odd count in register Dx. 7

(d) Explain the following instructions with examples : 7

(i) MOV D, S

(ii) XCHG D, S

(iii) ADD D, S

(iv) INC D

(v) MUL S

(vi) AND D, S

(vii) Rol D, count

Unit-III

3. (a) Define Interrupt in microprocessor. 2

(b) Write the difference between Software and Hardware interrupt. 7

(c) Explain the concept of vector interrupt table. 7

(d) Explain the timing diagram of memory I/O read of minimum mode cycle of 8086 in minimum mode. 7

Unit-IV

4. (a) What is address decoding technique. 2

(b) Connect a 32kB RAM with the microprocessor 8086 using an absolute decoding with suitable address. 7

(c) Explain the functional block diagram of 8255 PPI. 7

(d) Explain the Basic DMA operation. 7

Unit-V

5. (a) What is flag register. 2

(b) Explain paging mechanism in detail. 7

(c) Explain the real mode and protected mode operation in detail. 7

(d) Write the difference between pentium pro (Pentium II, Pentium III and Pentium IV).   7