

328555(28)

**B. E. (Fifth Semester) Examination,
April-May 2021**

(New Scheme)

(ET&T Engg. Branch)

ADVANCED MICROPROCESSOR and INTERFACING

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : Attempt all questions. Part (a) of each question is compulsory. Attempt any two parts from (b), (c) and (d) of each unit.

Unit-I

1. (a) What do you mean by memory segmentation? 2
- (b) State the function of the following signals of 8086 : 7
 - (i) INTR

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- (ii) LOCK
 - (iii) DT/R
 - (iv) IO/M
 - (v) DEN
 - (vi) NMI
 - (vii) Qs1Qs0
- (c) Draw and explain the Architectural block diagram NDP 8087. 7
- (d) Neatly sketch the architectural block diagram of 8086 microprocessor and explain the pipelining. 7

Unit-II

2. (a) What is the difference between LOOPZ and REPZ? 2
- (b) Write an assembly code to transfer 20 bytes from 2000 : 0200 onwards to 3000 : 0300 onwards using string manipulation. 7
- (c) What are the different addressing modes used in 8086? 7
- (d) Write an assembly code with flow chart to add two ASCII no. and store the result at memory location 2000 : 0204 in ASCII. 7

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Unit-III

3. (a) What is the reset address of 8086 microprocessor? Why it is necessary to know the same while interfacing an EPROM. 2
- (b) Interface 64 KB of EPROM and 64 KB of RAM with 8086 microprocessor. 7
- (c) Draw and explain the architectural block diagram of PIC 8259. 7
- (d) Sketch the explain the general concept of memory interfacing using even and odd banking in 8086 also explain the need of BHE and A0 in the same. 7

Unit-IV

4. (a) Write the command word of PPI 8255. 2
- (b) Interface ADC 0808 to 8086 and write a program to receive 100 bytes of data from ADC and store it to the suitable memory location. 7
- (c) Write an assembly language program to rotate the stepper motor 5 time in clockwise direction and 5 time in anti clockwise direction using general interface of the same with 8086. 7

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- (d) Suggest a general interfacing of DAC 0808 with 8086 and also write an assembly code to generate repetitive saw tooth wave form. 7

Unit-V

5. (a) How 64TB memory can be virtually interface with 80386 based systems? 2
- (b) What do you mean by segment translation? Little elaborate on the role of cache memory to speed up the process of segment translation. 7
- (c) What are the advance feature of 80386, little elaborate on the memory protection mechanism used in 80386. 7
- (d) What is multitasking, give detail description of task switch operation made by using TSS descriptors? 7