B.E.Eighth Semester (Electrical Engineering (Electronics & Power)) (C.B.S.)
Elective - III : Advanced Microprocessor and Peripherals

P. Pages : 2

Time : Three Hours

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Max. Marks : 80

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Notes :
1. All questions carry marks as indicated.
2. Solve Question 1 OR Questions No. 2.
3. Solve Question 3 OR Questions No. 4.
4. Solve Question 5 OR Questions No. 6.
5. Solve Question 7 OR Questions No. 8.
6. Solve Question 9 OR Questions No. 10.
7. Solve Question 11 OR Questions No. 12.
8. Due credit will be given to neatness and adequate dimensions.
9. Assume suitable data whenever necessary.
10. Illustrate your answers whenever necessary with the help of neat sketches.

1. a) Draw and explain internal architecture of 8086 microprocessor. Also explain pipelining. **8**

   b) Explain the concept of memory segmentation in 8086 microprocessor. **5**

OR

2. a) Explain the various addressing modes of 8086 with the help of one example instruction for each. **7**

   b) Write a program using 8086 to find the ASCII code of a no. stored in memory location 2010H (EA). Save the result code in 20AOH (EA). **6**

3. a) Draw and explain the block diagram of 8251. **7**

   b) Draw and explain the interfacing of 8257 with 8086. **6**

OR

4. a) Explain the internal block diagram of 8253. Also draw "Read on Fly" operation of 8253. **7**

   b) Interface 8253 at port addresses 00H, 02H, 06H, 08H and write a programme to interrupt the μp-8086 on NMI after 10 ms if PCLK = 2 MHz (peripheral clock frequency) **6**

5. a) Explain and draw the cascade connection of 8259 PIC with 8086 processor indicating one master and three slave 8259 PIC. **7**

   b) Explain the reading operation of IRR, ISR, IMR in 8259 with suitable instruction. **7**

OR

6. a) Explain keyboard, sensor matrix and strobed input operations of 8279. **7**

   b) Explain any four command words of 8279. **7**

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7.	a)	Explain the interfacing of 8086 microprocessor with 8087 numerical data processor.	**8**
	b)	Explain various data types supported by 8087.	**6**

OR

8.	a)	Explain the operation of 8086 in maximum mode.	**8**
	b)	Write a program for 8087 based 8086 system to compute the area of circle whose radius is stored in external memory.	**6**
9.	a)	Give register organization of 80386 microprocessor.	**4**
	b)	Explain real and protected mode of 80386.	**4**
	c)	Explain paging mechanism of 80386.	**5**

OR

10.	a)	Draw and explain the internal architecture of 80286.	**8**
	b)	Explain LDTR and their uses in 80386.	**5**
11.	a)	Write the comparison between 80286, 80386 and 80486 microprocessor.	**6**
	b)	Explain the salient features of 80486.	**7**

OR

12.	a)	Draw and explain the architecture of 8097 microcontroller.	**7**
	b)	Explain serial communication facility of microcontroller 8097.	**6**

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