

B.E. (Electronics Engineering / Elect. Telecommunication / Elect. Communication Engineering)
Fifth Semester (C.B.S.)

Microprocessor & Microcontroller

P. Pages : 2

Time : Three Hours



NRJ/KW/17/4464/4469

Max. Marks : 80

- 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 the architecture of $\mu\text{p}8086$. 7
- B) Explain following pins: 6
- | | |
|---|-----------------------------|
| i) $\overline{\text{DT}}/\overline{\text{R}}$ | ii) $\overline{\text{DEN}}$ |
| iii) $\text{MN}/\overline{\text{MX}}$ | iv) READY |

OR

2. A) Explain addressing modes of 8086 with one example each. 7
- B) Interface two chips of 32KB ROM and two chips of 32KB RAM with 8086 in minimum mode. 6
3. A) Write 8086 assembly Language program to arrange the data of 10 byte in ascending order. 7
- B) Interface 8 units of 7-segment display with 8086 and WAP to display "YEAR2017". 6

OR

4. A) Draw and explain internal block diagram of 8279 PKDC. 7
- B) Explain input/output modes of 8255 PPI. 6
5. A) Draw and explain internal block diagram of 8259 PIC. 7
- B) Explain all ICW'S. 6

OR

6. A) Draw and explain internal block diagram of 8254 PIT. 7
- B) Explain any three modes of operation of 8254. 6

7. A) Draw and explain maximum mode configuration of 8086. 7
- B) Draw and explain architecture of 8237 DMA. 6

OR

8. A) Draw and explain interfacing of 8087 NDP with 8086. 7
- B) Explain data types of 8087. 6
9. A) Draw and explain architecture of 8051. 8
- B) Explain the following pins of 8051. 6
- i) PSEN
- ii) \overline{EA}/V_{PP}
- iii) ALE/PROG

OR

10. A) Explain following SFR's in detail. 9
- i) TMOD
- ii) SCON
- iii) PCON
- B) Explain memory organization of 8051. 5
11. A) Explain addressing modes of 8051. 8
- B) Explain following instruction. 6
- i) MUL AB
- ii) SWAP
- iii) DAA

OR

12. A) Write short note on serial communication of 8051. 6
- B) Write 8051 ALP to transfer 10 bytes of data from internal RAM from address 35H to external RAM from address 5000 H. 4
- C) Draw interfacing of 8051 with stepper motor. 4
