

Section A

Answer all questions. Each question has Marks of 3

1. What are universal gates ? Why are they called so ?
2. What are **don't care** conditions ?
3. What is meant by edge triggering ?
4. Explain the working of a RS flip-flop
5. What is meant by **racing** ?
6. Define the terms **resolution** and **accuracy** of a A/D converter
7. What is resistive-divider ? What are its limitations ?
8. What are the components of a micro-processor system ?
9. Write a short note on 16 bit microprocessors
10. What is meant by bus structure ?

Section B

Answer any 5 questions. Each question has Marks of 6

11. Explain the construction and working of a full adder
12. Simplify using K-map $\Sigma m(0, 1, 4, 7)$
13. Explain the working of IC 555 as an astable multivibrator
14. Discuss the working of a JK master-slave flip-flop
15. Explain counter method of A/D conversion ? What are its limitations
16. Write a short note on frequency counter
17. What are the addressing modes of 8085 ?
18. Write an 8085 assembly language program to add two 2-byte numbers

Section C

Answer any 4 questions. Each question has Marks of 10

19. What are logic families ? Explain their characteristics or parameters ? Discuss the construction of TTL NAND and CMOS NAND. How to interface them ?
20. What are asynchronous counters ? Explain the working of a MOD-10 counter
21. What is meant by A/D conversion ? Explain the method of successive approximation. What are its advantages ?
22. Explain the architecture of 8085 microprocessor
23. What are registers ? Why are shift registers called so ? Explain the construction and working of serial-in serial-out and serial-in parallel-out shift registers
24. Explain the NAND and NOR implementation of SOP and POS