

Assignment

CS1405

1. Define the following terms: (a) memory cell (b) memory word (c) address (d) access time
2. Explain the difference between read (fetch) and write (store) operations.
3. Explain the difference between static and dynamic memory.
4. Write the primary advantages of bipolar memory over MOS memory.
5. How are memory cells organized?
6. Explain the difference between semiconductor memories and memories that use magnetic material.
7. Describe the function of row-select decoder, column-select decoder and output buffers in ROM architecture.
8. Draw the basic circuit of a ROM cell and explain its working.
9. State the differences among ROM, PROM, EPROM, EAPROM and EEPROM.
10. Difference between static RAM cell and dynamic RAM cell. Draw the logic diagrams of both.
11. What is half-adder. Design a half-adder using only NOR gates.
12. What is full-adder. Draw the full adder circuit using NAND gates only. Explain the functioning of the circuits and show that the output is that of full-adder.
13. Design a full adder circuit using only NOR gates. What relation has it to the half-adder circuit
14. What is the difference between full-adder and full subtractor? Draw a full-subtractor using only NAND gates.
15. Design a half-subtractor using only NOR gates.