

1. Explain the following terminologies.(30%)
 (a) VPN (b) Moore's Law (c) LDAP (d) Digital Signature
 (e) Peer-to-Peer Network (f) Information Appliance
2. Give reasons that the page size in a virtual memory system should be neither very small nor very large. (10%)
3. Explain in terms of data link control and physical layer concepts how error and flow control are accomplished in synchronous time-division multiplexing.(10%)
4. Assume a machine that has a single register and six instructions.
 LAD A :Places the operand A into the register
 STO A :Places the contents of the register into the variable A
 ADD A :Adds the contents of the variable A to the register
 SUB A :Subtracts the contents of the variable A from the register
 MUL A :Multiplies the contents of the register by the variable A
 DIV A :Divides the contents of the register by the variable A
 Write a program that accepts a postfix expression containing single letter operands and the operators +, -, *, and / and prints a sequence of instructions to evaluate the expression and leave the result in the register. Use the variables of the form TEMPn as temporary variables. (15%)
5. Give the definitions of algorithm, program, process, and thread separately, and describe the relationship among them.(15%)
6. What are the basic I/O strategies and their corresponding operations of a computer system? (10%)
7. What's the different between a macro and a subroutine? How should a programmer decide whether to use a macro or a subroutine to accomplish a given logic function?(10%)