ATTENTION!!! Answer the questions in their order, otherwise 5 points will be deducted from your score in this exam.

一、（24%）Choice questions, each of the questions below has only one correct answer.

(1) Which of the following is not normally used to increase precision in online searching?
   (A) Adding more concepts
   (B) The “AND” operator
   (C) The “NOT” operator
   (D) Restriction by field
   (E) Turncation

(2) The Internet is owned by
   (A) America Online
   (B) ISOC
   (C) Microsoft
   (D) No individual or company
   (E) The U.S. government.

(3) Which of the following is not one of the main information system conversion strategies?
   (A) parallel
   (B) direct cutover
   (C) unit
   (D) phased
   (E) pilot

(4) An Intranet:
   (A) is a private wide area network
   (B) is a private network based on Internet protocols
   (C) is a public network based on proprietary(private) networking protocols.
   (D) is a private local area network based on proprietary(private)
networking protocols.
(E) none of the above
(5) A relational database management system(DBMS) can relate any data element in one table to any data element in another table as long as:
(A) the two tables have the same number of columns
(B) the two tables are joined
(C) the two tables contain pointers
(D) the two tables share a key field
(E) the two tables have the same primary key
(6) Which of the following is not a determining factor of computer speed?
(A) number of disk drives
(B) internet data bus width
(C) clock speed
(D) external data bus width
(E) (A) and (D) only
(7) Alpha testing is
(A) the highest priority
(B) done by the programming staff
(C) done by the users
(D) version 1.0
(E) (B) and (C) only
(8) If a computer with a 9600 bps modem is communicating with a computer with a 14400 bps modem, the communications is occurring at what rate?
(A) 9600 bps
(B) 14400 bps
(C) both (A) and (B)
(D) (9600+14400)/2 bps
(E) communications cannot occur

Ⅱ、(8%) short answers
(a) What is the difference between half-adder and a full-adder?
(b) Briefly describe how you can use half-adders to build a full-adder.
(c) How many full-adders are needed to add two 5-bit binary numbers?

Ⅲ、(5%) short answers
(a) Name one advantage of using linked-lists instead of arrays.
(b) Name one advantage of using arrays instead of linked lists.
四、(10%) “Surely computers can never be intelligent. They only do what their programmers tell them.” Is the latter statement true, and does it imply the former? Justify your answer.

五、(5%) Discuss the meaning of the following terms in the networking. Be specific but brief.
    Archie
    URL
    HTML
    HTTP
    HYPERTEXT

六、(10%) Describe the meaning of the following terms in the Unix commands. Be specific but brief.
    chmod
    pwd
    cat
    man
    finger

七、(16%) Define the following terms
    (a) search engine
    (b) intelligent agent
    (c) video-on-demand
    (d) firewall

八、(4%) What is the difference between a client and a server?

九、(4%) Distinguish between syntax errors and logic errors. Give examples of each.

十、(4%) What is EDI and how can it reduce a company’s cost?

十一、(10%) (a) What is the resulting value printed out after the following sequence of code in C?
    int arr[20];
    int i;
    int px, py;
    for(i=0;i<20;i++) arr[i]=i;
px=&arr[5];
py=&(*px);
printf("value in py=%d. \n",*py);
(b) What will be printed in the following sequence?
    x=3;
    Switch(x) {  
        Case 1:
        Case 2:
        printf("X<3\n");
        Case 3:
        printf("X=3\n");
        Case 4:
        Case 5:
        printf("X>3\n");
        Default:
        printf("X unknown \n");
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