

**Florida Teacher Certification Examination
Test Preparation Guide
for
Computer Science K-12**



FLORIDA DEPARTMENT OF EDUCATION

www.fdoe.org

Fourth Edition

Developed, produced, and printed under the authority of the
Florida Department of Education

Subject area content developed by the
Institute for Instructional Research and Practice
College of Education
University of South Florida

Produced by the
Institute for Instructional Research and Practice
College of Education
University of South Florida

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Test and Test Preparation Guide Development

Teacher Certification Testing

Since 1980, Florida teacher certification candidates have been required to pass the Florida Teacher Certification Examination (FTCE), which has consisted of tests in reading, writing, mathematics, and professional knowledge. The 1986 Florida Legislature modified the testing program by also requiring teacher candidates to pass a test in the subject area in which they wish to be certified. In addition, the Legislature substituted the Florida College-Level Academic Skills Test (CLAST) for the reading, writing, and mathematics portions of the FTCE. The 2000 Florida Legislature replaced the CLAST with the General Knowledge Test, effective July 1, 2002.

The subject area knowledge tested on the Computer Science K-12 examination was identified and validated by committees of content specialists from within the state of Florida. A majority of the committee members were public school teachers, but the committees also included district supervisors and college faculty with expertise in this field. Committee members were selected on the basis of recommendations by professional associations, experts in the field, and teachers' unions. In developing the test, the committees used an extensive literature review, interviews with selected public school teachers, a large-scale survey of teachers, pilot tests, and their own professional judgment.

Role of the Test Preparation Guide

The purpose of this test preparation guide is to help candidates taking the initial teacher subject area test in Computer Science K-12 prepare effectively for the examination. The guide was designed to familiarize prospective test takers with various aspects of the examination, including the content that is covered and the way it is represented. The guide should enable candidates to direct their study and to focus on relevant material for review.

This test preparation guide is intended primarily for use by certification candidates, who may be students in a college or university teacher-preparation program, teachers with provisional certification, teachers seeking certification in an additional subject area, or persons making a career change to public school teaching. Candidates may have studied and worked in Florida or may be from out of state.

College or university faculty may also use the guide to prepare students for certification, and inservice trainers may find the guide useful for helping previously certified teachers prepare for recertification or multiple certification.

This test preparation guide is not intended as an all-inclusive source of subject area knowledge, nor is it a substitute for college course work in the subject area. The sample items are not an exact representation of the content of the actual test. Instead, the guide is intended to help candidates prepare for the subject area test by presenting an overview of the content and format of the examination.



Preparation for the Test

The following outline may help you to prepare for the examination. Adapt these suggestions to suit your own study habits and the time you have available for review.

Overview

- **Look over the organization of the test preparation guide.**

Section 1 discusses the development of the test and test preparation guide.

Section 2 (this section) outlines test preparation steps.

Section 3 presents information about the content of the test.

Section 4 lists question formats and includes sample test items.

Section 5 offers strategies for taking the test.

Section 6 identifies sources of further information.

Self-Assessment

- **Decide which content areas you should review.**

Section 3 includes the competencies and skills used to develop this subject area test and the approximate proportion of test items from each competency area.

Review

- **Study according to your needs.**

Review all of the competencies, concentrating on areas with which you are least familiar.

Practice

- **Acquaint yourself with the format of the examination.**

Section 4 describes types of questions you may find on the examination.

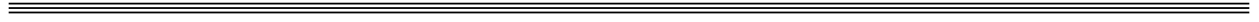
- **Answer sample test questions.**

Section 4 gives you an opportunity to test yourself with sample test questions and provides an answer key.

Final preparation

- **Review test-taking advice.**

Section 5 includes suggestions for improving your performance on the examination.



3

Competencies and Skills

The table on the following pages lists the competencies and skills used as the basis for the Computer Science K-12 examination. These competencies and skills represent the knowledge that teams of teachers, subject area specialists, and district-level educators have determined to be important for beginning teachers. This table could serve as a checklist for assessing your familiarity with each of the areas covered by the test. The competencies and skills should help you to organize your review.

The following excerpt illustrates the components of the table:

<i>Competency</i>	<i>Percentage of total test items</i>
Competency/Skill	%
1 Knowledge of problem solving and algorithms	18%
1 Distinguish between object-oriented and procedural programming paradigms. 2 Identify the stages of the software development process (i.e., problem definition, analysis, design, implementation, testing, and maintenance). 3 Identify an appropriate algorithm for a given problem. 4 Trace an algorithm and predict outputs for a given input. 5 Identify a minimum set of data necessary for testing a computer solution. 6 Identify problems appropriate for computer solution. 7 Distinguish between the classes of algorithmic constructs (i.e., sequence, decision, and iteration). 8 Identify appropriate and efficient search algorithms for linear structures (i.e., sequential and binary).	

Skill

Competencies are areas of content knowledge.

Skills identify behaviors that demonstrate the competencies.

Percentages indicate the approximate proportion of test items that represent the competencies on the test.

Table of Competencies, Skills, and Percentages

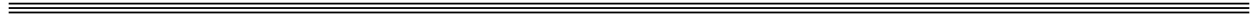
Competency/Skill	%
1 Knowledge of problem solving and algorithms	18%
<ol style="list-style-type: none"> 1 Distinguish between object-oriented and procedural programming paradigms. 2 Identify the stages of the software development process (i.e., problem definition, analysis, design, implementation, testing, maintenance). 3 Identify an appropriate algorithm for a given problem. 4 Trace an algorithm and predict outputs for a given input. 5 Identify a minimum set of data necessary for testing a computer solution. 6 Identify problems appropriate for computer solution. 7 Distinguish between the classes of algorithmic constructs (i.e., sequence, decision, iteration). 8 Identify appropriate and efficient search algorithms for linear structures (i.e., sequential and binary). 9 Identify appropriate and efficient structures for searchable data (i.e., linear lists, binary search trees, hash tables). 10 Identify appropriate and efficient sorting algorithms for data sets (e.g., selection, insertion, merge, quick sort). 11 Identify string-processing algorithms (e.g., concatenation, substring extraction, pattern matching). 	
2 Knowledge of data types and structures	10%
<ol style="list-style-type: none"> 1 Distinguish between local and global identifiers in a procedural program. 2 Distinguish between constants and variables. 3 Distinguish between integer, floating point, character, Boolean, and object data types. 4 Distinguish between data structures or types (e.g., arrays, strings, linked lists, trees, hash tables, records, files, stacks, queues, sets, maps). 5 Distinguish between instance, class, and local (method) variables in an object-oriented program. 6 Identify components of class declarations for an object-oriented program (i.e., instance and class variables, constructors, methods). 7 Distinguish between public and private methods in an object-oriented program. 	

Competency/Skill	%
8 Identify key features of object-oriented programs (i.e., encapsulation, inheritance, polymorphism).	
3 Knowledge of computer programming (All programming will be done in Logo, Visual Basic, C++, and Java)	25%
1 Predict the output of a given program containing sequential, conditional, or iteration statements. 2 Complete a program segment involving only sequential execution when given an incomplete program with a specified output. 3 Complete a program segment for a specified output given an incomplete program containing conditionals. 4 Debug a program containing an error involving conditional and iteration statements. 5 Predict the output of a program segment involving subroutines, functions, or methods. 6 Debug a program segment containing an error associated with subroutines, functions, or methods. 7 Predict the output of a program segment involving interacting objects. 8 Debug a program segment containing an error involving interacting objects. 9 Predict the output of a program segment involving parameters passed by value or reference. 10 Identify error types (i.e., syntax, runtime, logic). 11 Identify the purposes of internal and external program documentation. 12 Identify appropriate internal documentation for a group of program statements. 13 Identify appropriate preconditions or postconditions for given functions or methods. 14 Identify the strengths or weaknesses of object-oriented and procedural languages.	
4 Knowledge of computer hardware	8%
1 Identify the components of a computer system and their functions (i.e., input, output, processing, storage). 2 Distinguish between serial and data transfers.	

Table of Competencies, Skills, and Percentages

Competency/Skill	%
<ul style="list-style-type: none"> 3 Identify the major internal components of a microprocessor and their functions. 4 Identify the advantages and/or disadvantages of various storage media. 	
5 Knowledge of computer software	10%
<ul style="list-style-type: none"> 1 Identify the functions of a computer operating system. 2 Identify the advantages and/or disadvantages of programs that are compiled or interpreted. 3 Identify the features and functions of productivity software (e.g., word processing, spreadsheet, database, presentation, multimedia, Web authoring). 	
6 Knowledge of computer networking	10%
<ul style="list-style-type: none"> 1 Distinguish between various types of wired and wireless computer networks. 2 Identify the advantages and/or disadvantages of networked computing. 3 Identify the functions of the components of a network (e.g., servers, routers, switches, access points, workstations). 4 Identify features and functions of security software (e.g., firewalls, antivirus programs, filtering software, encryption). 5 Identify the advantages and/or disadvantages of different types of Internet connectivity. 6 Identify features and functions of digital communications (e.g., e-mail, instant messaging). 7 Identify features and functions of Hypertext Markup Language (HTML). 8 Identify features and functions of Web browsers. 9 Identify features and functions of search engines. 	
7 Knowledge of the social, environmental, ethical, and legal issues of computer technologies	10%
<ul style="list-style-type: none"> 1 Identify examples of appropriate use (e.g., software licensing, archival copying, fair use of copyrighted materials) and misuse (e.g., plagiarism, music and video piracy) of intellectual property. 	

Competency/Skill	%
<ul style="list-style-type: none"> 2 Identify threats to privacy from centralized databases and commercial use of the Internet. 3 Identify examples of malicious interference with computer systems (e.g., viruses, worms, hacking, spam, spyware, denial-of-service attacks). 4 Identify the positive and negative impacts of computer technology. 5 Identify the roles and responsibilities of computer science professionals. 	
8 Knowledge of the history of computer technology	2%
<ul style="list-style-type: none"> 1 Identify important contributions of individuals or groups to the development of computer technology. 2 Identify generational milestones in the historical development of computer technology. 	
9 Knowledge of computer science pedagogy	7%
<ul style="list-style-type: none"> 1 Identify effective management strategies for teaching computer science (e.g., laboratory work, cooperative learning, electronic communications). 2 Identify appropriate instructional strategies for teaching computer science (e.g., case studies, role-playing, manipulatives, visualizations, simulations, modeling). 3 Identify appropriate assessment strategies for teaching computer science. 4 Identify appropriate accommodations and adaptations for students (e.g., students with exceptionalities, English language learners, students from various socioeconomic levels). 	





4 Test Format and Sample Questions

The Computer Science K-12 subject area test consists of approximately 120 multiple-choice questions. You will have two-and-one-half hours to complete the test.

Each question will contain four response options, and you will indicate your answer by selecting **A**, **B**, **C**, or **D** on the answer sheet.

The table below presents types of questions on the examination and directs you to examples of these formats among the sample items that follow.

Table of Question Formats

Type of question	Sample item
Direct question Choose the response option that best answers the question.	Item 1, page 13
Command Select the best response option.	Item 2, page 13
Sentence completion Select the response option that best completes the sentence.	Item 29, page 27
Scenario Examine a situation, problem, or case study. Then answer a question, make a diagnosis, or recommend a course of action by selecting the best response option.	Item 40, page 29

Sample Items

The following items represent both the form and content of questions you will encounter on the examination. These sample items cannot cover all of the competencies and skills that are tested, and they can only approximate the degree of difficulty of actual examination questions. However, these items will acquaint you with the general format of the examination.

An answer key follows on page 34.

DIRECTIONS: Read each item and select the best response.

1. Which of the following is an exclusive characteristic of object-oriented programming paradigms?

- A. procedures
- B. top-down design
- C. encapsulation
- D. parameter passing

2. Identify the stage of software development in which initial coding occurs.

- A. testing
- B. implementation
- C. maintenance
- D. design

3. Identify the appropriate algorithm to alphabetize a list of student names.

- A. merge
- B. sort
- C. concatenate
- D. search

4. Given the input {2, 5, 4, 5, 4}, what is the correct output of the following algorithm?

```
value = 0
i = 0
while i < 5
    read a number
    if (number mod 2 is equal to zero) then value = value + number
    i = i + 1
end while
avg_total = value / i
output avg_total
```

- A. 2
- B. 4
- C. 10
- D. 20

-
5. Given the following C++ program segment, select the minimum set of data required to test the program segment.

```
cout << "What was your score on the test?";
cin >> score;
if (score >= 90)
    cout << "Excellent!" << endl;
else if (score >= 75)
    cout << "Not too bad." <<endl;
else
    cout << "Study harder next time!" << endl;
```

- A. 90, 80, 70
B. 90, 80, 70, 0
C. 90, 75
D. 90, 80, 75
6. Which algorithmic construct is illustrated by the pseudo code below?

```
if (month = 1) then print "January"
    else if (month = 2) then print "February"
    :
    :
    else print "December"
```

- A. recursion
B. sequence
C. iteration
D. decision
7. Given the following list of integers in the order in which they appear, which search algorithm would be the most appropriate to find the position of the number "7" in the list?

3, 1, 5, 2, 7, 9, 10

- A. selection search
B. random search
C. binary search
D. linear search

-
8. The following operations are performed frequently on a collection: adding a new item, looking up an item, removing an item, listing the items in order. Which of the following data structures would be the best choice for storing this collection?
- A. binary search tree
 - B. queue
 - C. stack
 - D. hash table
9. Identify an appropriate algorithm to combine two or more alphabetized lists of student names.
- A. selection sort
 - B. random sort
 - C. merge sort
 - D. quick sort
10. Given two strings "match" and "make," which of the following string algorithms would be appropriate to create the string "makematch"?
- A. concatenation
 - B. substring extraction
 - C. merge string
 - D. pattern matching

11. Given the following C++ program segment, identify which variable is global.

```
void Fun1(int x, int & y)
{
    int z = 12;
    // various code
}
int w;
void main()
{
    int r = 3;
    int s = 4;
    int t = 5;
    w = 12;
    Fun1(r, s, t);
    // various code
}
```

- A. y
- B. x
- C. w
- D. r, s, or t

12. Given the following C++ program segment, identify the constant.

```
void Fun (int x)
{
    const pi = 3.14159;
    cout << "The area of the circle is: " << pi * x * x << endl;
}
int main()
{
    int a = 5;
    double m;
    cout << "Find the area of a circle." << endl;
    Fun(8);
}
```

- A. pi
- B. 8
- C. a
- D. m

13. When dealing with integer and decimal numbers in the same calculation, what is the resultant data type?

- A. integer
- B. object
- C. character
- D. floating point

14. If a computer program is to keep track of and choose from the list of applicants for available seating at a football stadium, which of the following data structures would be most appropriate?

- A. stack
- B. queue
- C. hash table
- D. binary tree

15. Given the following Java class declaration:

```
public class Rectangle extends Shape {
    private int mywidth;
    private int myheight;

    public Rectangle(int x, int y, int width, int height) {
        super(x, y);
        mywidth = width;
        myheight = height;
    }

    public int getHeight() {
        return myheight;
    }

    public int getWidth() {
        return mywidth;
    }
}
```

Which identifier represents a method?

- A. getWidth
- B. mywidth
- C. height
- D. x

16. In the Java program below, line numbers on the left are used for reference only:

```
1)  import Rectangle;

2)  public class TestRectangle{
3)      public static void main(String[] args){
4)          int xloc, yloc, awidth, aheight;
5)          xloc = 50;
6)          yloc = 30;
7)          awidth = 5;
8)          aheight = 10;

9)          Rectangle rect = new Rectangle(xloc, yloc, awidth,
aheight);
10)         System.out.println("The x coord of the rectangle is " +
rect.getX());
11)         }
12)     }
```

Which line of the code constructs an instance of a class?

- A. 1
- B. 4
- C. 5
- D. 9

17. Given the following Java class declaration:

```
public abstract class Shape {
    private int myx;
    private int myy;
    private int myarea;

    private SetArea () {
        myarea = myx * myy;
    }

    public Shape(int x, int y) {
        myx = x;
        myy = y;
    }

    public int getX() {
        return myx;
    }

    public int getY() {
        return myy;
    }
}
```

If a client program uses the class above, which method **CANNOT** be directly accessed by the client program?

- A. Shape
- B. SetArea
- C. getX
- D. getY

18. Which feature is associated with the concept of encapsulation in an object-oriented program?

- A. Functions and methods for a program are all in the same code.
- B. Methods of a super class are accessible in the child class.
- C. The data and the methods that operate on that data are in the same class.
- D. Multiple methods with the same name having different parameters are legal.

19. Select the correct output of the C++ program segment below:

```
int x = 5;
int y = 10;
int z;
z = x;
x = y;
y = z;
cout << x << ' ' << y ;
```

- A. 5 5
- B. 10 10
- C. 10 5
- D. 5 10

20. The C++ program segment below prompts the user to type in two numbers and the segment prints the average of the two numbers.

```
cout << "Enter the first number";
cin >> num1;
cout << "Enter the second number";
cin >> num2;

_____
average = sum / 2;
cout << "The average is: " << average;
```

Which statement best fills the blank line to correctly complete the program?

- A. `sum = num1 + num2;`
- B. `sum++;`
- C. `num1 + num2 = sum;`
- D. `num1 += num2;`

-
21. The C++ program segment below prompts the user to enter a number representing the grade level and outputs the appropriate string (senior, junior, or sophomore). Assume the input for the level is 12, and the output is the string "senior".

```
cout << "Enter the grade level (10, 11, or 12);  
cin >> level;  
  
if (years == 4)  
    cout << "senior" << endl;  
else if (years == 3)  
    cout << "junior" << endl;  
else if (years == 2)  
    cout << "sophomore" << endl;
```

Which statement best fills in the blank in the program segment?

- A. years = level - 9;
 - B. years - = 8;
 - C. years - = 9;
 - D. years = level - 8;
22. The following C++ program segment contains a logic error. The segment is to determine (and print) if the user input is in the requested range. Which choice below corrects the logic error?

```
cout << "Type a number from 1 to 100";  
cin >> number;  
if (number > 1) || (number < 100)  
    cout >> "The number is in the correct range" << endl;
```

Change the "if" statement to the following:

- A. if (number >= 1) && (number <= 100)
- B. if (number >= 1) || (number <= 100)
- C. if (number > 1) && (number < 100)
- D. if (number < 1) || (number > 100)

23. Given the three Java files below, what is the output of the `System.out.println()` statement in the class `TestRectangle`?

```
////////// file: Shape.java //////////
public abstract class Shape {
    private int myx;
    private int myy;

    public Shape(int x, int y) {
        myx = x;
        myy = y;
    }
    public int getX() {
        return myx;
    }
    public int getY() {
        return myy;
    }
}
```

```
////////// file: Rectangle.java //////////
public class Rectangle extends Shape {
    private int mywidth;
    private int myheight;

    public Rectangle(int x, int y, int width, int height) {
        super(x, y);
        mywidth = width;
        myheight = height;
    }
    public int getHeight() {
        return myheight;
    }
    public int getWidth() {
        return mywidth;
    }
}
```

```
////////// file: TestRectangle.java //////////
import Rectangle;
public class TestRectangle{
    public static void main(String[] args){
        int xloc, yloc, awidth, aheight;
        xloc = 50;
        yloc = 30;
        awidth = 5;
        aheight = 10;
    }
}
```

```
        Rectangle rect = new Rectangle(xloc, yloc, awidth, aheight);
        System.out.println(rect.getX());
    }
}
```

- A. 30
- B. 50
- C. 5
- D. 10

24. Given code from a C++ program, predict the output of the "cout" statement.

```
void Fun1 (int a)
{
    a++;
    cout << a << endl;
}
void Fun2 (int b)
{
    b--;
    Fun1(b);
}
void main()
{
    int x = 5;
    Fun2(x);
}
```

- A. 4
- B. 5
- C. 6
- D. 7

-
25. The following C++ program segment contains a syntax error. The segment is to produce the product of two numbers and output the result.

```
void Fun1(int x, int y)
{
    return x * y;
}
void main()
{
    int a = 5;
    int b = 6;
    int product = Fun1(a, b);
    cout << product << endl;
}
```

Which of the choices below would correct the error?

- A. The return type of function Fun1 must be float or double.
 - B. There must be a reference parameter in the heading of Fun1.
 - C. The parameters of Fun1 must be named "a" and "b".
 - D. The return type of function Fun1 must be int.
26. Given the three Java files below, what error occurs in the TestRectangle file that prevents the program from running?

```
////////// file: Shape.java //////////
public abstract class Shape {
    private int myx;
    private int myy;

    public Shape(int x, int y) {
        myx = x;
        myy = y;
    }
    public int getX() {
        return myx;
    }
    public int getY() {
        return myy;
    }
}
```

```
////////// file: Rectangle.java //////////
public class Rectangle extends Shape {
    private int mywidth;
    private int myheight;

    public Rectangle(int x, int y, int width, int height) {
        super(x, y);
    }
}
```

```

        mywidth = width;
        myheight = height;
    }
    public int getHeight() {
        return myheight;
    }
    public int getWidth() {
        return mywidth;
    }
}

////////// file: TestRectangle.java //////////
import Rectangle;
public class TestRectangle{
    public static void main(String[] args){
        int xloc, yloc, awidth, aheight;
        xloc = 50;
        yloc = 30;
        awidth = 5;
        aheight = 10;

        Rectangle rect = new Rectangle;
        System.out.println("The x coord of the rectangle is " +
            rect.getX());
    }
}

```

- A. There is no setX function in the Shape class.
- B. There is no setX function in the Rectangle class.
- C. The Rectangle object is incorrectly instantiated.
- D. There should be "get" and "set" functions in the Rectangle class.

27. Given code from a C++ program, predict the output of the "cout" statement.

```
void Fun1 (int a)
{
    int x = 5;
    a++;
    x = x + a++;
}
void Fun2 (int &b)
{
    b--;
    Fun1(b);
}
void main()
{
    int x = 5;
    Fun2(x);
    cout << x << endl;
}
```

- A. 4
- B. 5
- C. 9
- D. 6

28. What type of error is committed by the C++ program below?

```
void main()
{
    float price = 10.93;
    float tax = 0.075;
    float cost;
    cost == price * tax + price;
    cout << cost << endl;
}
```

- A. runtime error
- B. logic error
- C. syntax error
- D. spelling error

29. The most important reason for providing internal program documentation is

- A. explanation of code segments.
- B. reduced execution time.
- C. decreased programming time.
- D. increased runtime efficiency.

30. What would be an appropriate comment to document the following piece of C++ code?

```
if (score > = 70)
    pass = true;
else
    pass = false;
```

- A. // Calculate the minimum needed to pass exam.
- B. // Check if score is passing.
- C. // Determine if the test questions were hard.
- D. // Calculate the average score on the exam.

31.

```
void if_true (bool y)
{
    if (y) {
        cout << "ON" << endl;
        return;
    }
    cout << "OFF"<< endl;
    return;
}
```

Given the C++ function above, identify the precondition of the parameter passed to the function in order for the result to be the string "OFF."

- A. The parameter is set to either true or false when the function is called.
- B. The parameter is set to true when the function is called.
- C. The parameter is set to undefined when the function is called.
- D. The parameter is set to false when the function is called.

32. Compared to procedural languages, object-oriented languages

- A. require increased execution time.
- B. have a reduced instruction set.
- C. require version-specific library sets.
- D. are less self-documenting.

33. Identify the four major hardware components of a desktop computer.

- A. central processing unit, input device, output device, storage device
- B. monitor, stylus, floppy disk drive, internal memory
- C. central processing unit, monitor, printer, RAM
- D. central processing unit, monitor, word processor, RAM

34. Choose the interface that is indicative of data flowing across multiple wires simultaneously.

- A. USB
- B. external modem
- C. parallel printer port
- D. IEEE 1394

35. The CPU includes the

- A. ALU, ROM, and RAM.
- B. RAM, ROM, and control unit.
- C. control unit and the ALU.
- D. ROM and the microprocessor.

36. The primary function of the CPU is to

- A. manage system resources.
- B. boot and initialize the computer.
- C. save data and programs.
- D. retrieve, decode, and execute instructions.

-
- 37. Which of the following is the easiest way to transfer large files (10 MB or more) between two stand-alone computers at school?**
- A. compact disk
 - B. USB drive
 - C. magnetic tape
 - D. RAM card
- 38. Which of the following software programs allows a computer user to perform file management tasks?**
- A. database
 - B. word processing
 - C. operating system
 - D. spreadsheet
- 39. Which of the following is generally a standard feature of word processing software?**
- A. calculator of values
 - B. graph
 - C. record search
 - D. spell checker
- 40. A high school computer laboratory is equipped with 25 computers that are networked and share a single high-speed printer. They are connected by a daisy chain with a terminator at each end of the chain. The printer is directly connected to one of the computers in the chain. Identify what type of network this laboratory represents.**
- A. token ring
 - B. peer to peer
 - C. star
 - D. client/server
- 41. Which of the following is an advantage of networking?**
- A. shared access to resources
 - B. physical proximity to users
 - C. easy technical administration
 - D. reduced implementation cost

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- 42. Computer users want to access an application stored on a network. On which network component would the users locate the application?**
- A. switch
 - B. router
 - C. hub
 - D. server
- 43. Which type of security software allows the safe transfer of student data from a school's network to a district-level office?**
- A. antivirus
 - B. encryption
 - C. filtering
 - D. firewall
- 44. What type of connectivity is slowest but most readily available?**
- A. broadband
 - B. direct dial
 - C. satellite
 - D. wireless
- 45. Which of the following e-mail features would support the creation of a list of potential recipients?**
- A. inbox
 - B. reply option
 - C. carbon copy
 - D. address book
- 46. Identify the proper HTML code to provide a link to Bob's Donut House Web site.**
- A. `<html>Bob's Donut House</html>`
 - B. `Bob's Donut House`
 - C. `<html><body>Bob's Donut House</body></html>`
 - D. `<html><body bgcolor="#d0d0d0">Bob's Donut House</html>`

47. Which of the following is a function of Web browsers?

- A. creating a text file
- B. deleting an HTML page
- C. displaying source code
- D. editing source code

48. A teacher who purchased a copy of a commercial desktop publishing software package for personal use would like to install 30 copies of the program in the school's computer laboratory. Should the acceptable user policy of the school district permit this use?

- A. Yes. The software would require an activation code if copying were not allowed.
- B. Yes. The teacher may copy the software for educational purposes.
- C. No. The software package is intended for a single user only and is not licensed for multiple users.
- D. No. The teacher may not use software purchased with personal rather than school funds.

49. A student receives an e-mail message from someone who states that he is a representative of the Internet service provider (ISP). The representative asks the student to supply his parents' credit card numbers and Social Security numbers.

Which of the following would be the best course of action for the student?

- A. informing his parents and suggesting that they contact the ISP about the request
- B. providing the information and contacting the ISP about the request
- C. giving the information to the representative and requesting that the information be safeguarded
- D. asking his parents for the information and giving it to the representative

50. Which of the following is an acceptable use of the school's network by a classroom teacher who does not have administrative network rights?

- A. addition of a computer workstation
- B. demonstration of a Web browser
- C. installation of shareware software
- D. modification of network system files

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- 51. An automated shipping company's packages are being misdirected because of invalid barcode labeling. Which of the following computer professionals could best troubleshoot this problem?**
- A. network administrator
 - B. help desk representative
 - C. database programmer
 - D. Web designer
- 52. Which person is most closely identified with the original concepts of computer programming?**
- A. Lady Augusta Ada Lovelace
 - B. Blaise Pascal
 - C. Charles Babbage
 - D. Grace Hopper
- 53. Identify the milestone that occurred first in the historical development of computer technology.**
- A. integrated circuits
 - B. very large scale integration
 - C. transistors
 - D. vacuum tubes
- 54. Which of the following instructional strategies is an example of using manipulatives?**
- A. showing a media clip on programming robots
 - B. lecturing on programming robots and other devices
 - C. holding a student discussion on robots and their uses
 - D. using robots to explore the outcome of programming instructions
- 55. The Visual Basic instructor has asked students to develop a project that includes list boxes and drop-down boxes. Which of the following is the most effective method of assessing the project?**
- A. multiple-choice examination
 - B. observation with checklist
 - C. short-answer test
 - D. verbal response

56. Which of the following computer laboratory adaptations would be the most effective in helping English language learners (ELLs) listen to a reading program?

- A. headset with microphone
- B. multimedia player with microphone
- C. speech-synthesizer software
- D. voice recognition software

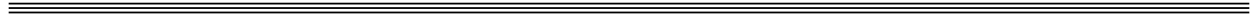
Answer Key

1. C	20. A	39. D
2. B	21. D	40. B
3. B	22. A	41. A
4. A	23. B	42. D
5. A	24. B	43. B
6. D	25. D	44. B
7. D	26. C	45. D
8. A	27. A	46. B
9. C	28. C	47. C
10. A	29. A	48. C
11. C	30. B	49. A
12. A	31. D	50. B
13. D	32. C	51. C
14. B	33. A	52. A
15. A	34. C	53. D
16. D	35. C	54. D
17. B	36. D	55. B
18. C	37. B	56. C
19. C	38. C	



5 Test-taking Advice

- Go into the examination prepared, alert, and well rested.
- Complete your travel arrangements prior to the examination date. Plan to arrive early so that you can locate the parking facilities and examination room without rushing.
- Dress comfortably and bring a sweater or jacket in case the room is too cool.
- Take the following with you to the test site:
 - Admission ticket
 - Proper identification as described in “Identification Policy”
 - Watch
- There are many strategies for taking a test and different techniques for dealing with different types of questions. Nevertheless, you may find the following general suggestions useful.
 - Read each question and all the response options carefully before selecting your answer. Pay attention to all of the details.
 - Go through the entire test once and answer all the questions you are reasonably certain about. Then go back and tackle the questions that require more thought.
 - When you are not certain of the right answer, eliminate as many options as you can and choose the response that seems best. It is to your advantage to answer all the questions on the test, even if you are uncertain about some of your choices.
 - After completing the examination, go back and check every question. Verify that you have answered all of the questions and that your responses are correctly entered.





Additional Information

Please visit the following Web site to review FTCE registration details and to find additional FTCE information, including test locations and passing scores.

<http://www.fldoe.org/asp/ftce>



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