Exam

Name_____

TRUE/FALSE. Write 'T' if the statement is true and 'F' if the statement is false.

1) Software is a collective term for the instructions computers perform to implement applications.   1) _____

2) ARM (Advanced RISC Machine) is a standard processor that is often used as a component of consumer devices.   2) _____

3) The computer first digitized the U.S. census data in 1980.   3) _____

4) The camera in a smart phone can be classified as an input device.   4) _____

5) The early computer, ENIAC, weighed thirty tons.   5) _____

6) Transistors helped advance computing because they increased the complexity of the assembly process.   6) _____

7) Writing software is the job of programmers and software developers.   7) _____

8) If a device does not have a keyboard attached to it, it cannot be considered a computer.   8) _____

9) In software, the agent is anything that can follow instructions.   9) _____

10) In computing, all data is represented by numbers, regardless of whether the data is stored in memory, on a hard disk, in the cloud, or anywhere else.   10) _____

11) Describing a technical problem with the right words helps to facilitate a speedy answer from tech support.   11) _____

12) There is normally only one unique way to solve every computational task.   12) _____

13) Only a computer can use digital information.   13) _____

14) An integrated circuit contains, among other things, transistors.   14) _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

15) A precise, systematic way to produce a specified result is a(n)   15) _____
    A) algorithm   B) abacus   C) computation   D) agent

16) Booting a computer means to   16) _____
    A) start the computer   B) run a program from the hard disk
    C) restart the computer   D) None of these

17) In the story of the tortoise and the hare, the abstraction is 17) _____
    A) that speed is deceiving   B) that slow and steady wins the race
    C) the hare   D) the tortoise

18) Understanding how the pedals on your bicycle transfer power to the wheels 18) _____
    A) is a generalization   B) is an algorithm
    C) makes you operationally attuned   D) is an abstraction

19) Using ROY G BIV to remember, in order, the colors of the rainbow as red, orange, yellow,   19) _____
    green, blue, indigo, and violet is an example of a(n)
    A) algorithm   B) abstraction   C) generalization   D) mnemonic

20) The central idea or concept, removed from a situation, is called 20) _____
    A) abstraction   B) generalization   C) interaction   D) information

21) A simpler way to say, "The ability to apply what we know about how a device or system 21) _____
    works to simplify its use" is to
    A) generalize   B) use a mnemonic
    C) be operationally attuned   D) use an abstraction

22) Rebooting a computer means to 22) _____
    A) run a program from a hard disk   B) start the computer
    C) restart the computer   D) None of these

23) The Basic Input/Output System (BIOS) is stored on a microchip called the 23) _____
    A) flash memory package   B) kernel
    C) boot ROM   D) ARM processor

24) When an integrated circuit is manufactured 24) _____
    A) the parts are created consecutively by type: first created are the operational units, then the
        connection, and then all the rest
    B) the circuit is cut into a silicon chip by a microscopic drill bit
    C) a complicated circuit is created as a unit, with all parts created together
    D) many small parts are assembled by firing them onto a silicon chip

25) In the 1950s and 1960s before integrated circuits were used, memory was made 25) _____
    A) by creating a standing wave on a tightened electrical wire
    B) by using a single transistor
    C) by stringing tiny magnetic "donuts" onto a grid of wire threads
    D) by a process of printing bits, similar to film photography

26) The first production application of digital information was 26) _____
    A) punched card tabulation for the 1890 US Census
    B) the ENIAC computer
    C) the invention of the transistor at Bell Labs
    D) the use of vacuum tubes for calculations needed by the US Army

27) The ARM is a 27) _____
    A) variety of boot ROM B) type of processor
    C) type of software D) brand of microwave oven

28) Select all that apply. Which of the following are advantages of transistors over vacuum tubes? 28) _____
    A) Transistors are more reliable than vacuum tubes.
    B) Transistors can be used alone while vacuum tubes must be used in pairs.
    C) Transistors are smaller than vacuum tubes.
    D) Transistors use less power than vacuum tubes.

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

29) _____ is the physical implementation of a computer, usually electronic, and 29) _____
includes the processor, memory, and, typically, its peripheral devices.

30) _____ are algorithms that have been specialized to a specific set of conditions and 30) _____
assumptions and (usually) are written in a specific programming language.

31) _____ is the collective term for computer programs. 31) _____

32) In *tech speak*, processor is a synonym for _____. 32) _____

33) A(n) _____ is a series of layers of programs that support user applications. 33) _____

34) The agent that runs an algorithm may not be a computer. Often it is a(n) _____ 34) _____
instead.

35) A(n) _____ is a block of silicon in which active and connective parts are fabricated 35) _____
together.

36) Computers can be found _____. 36) _____

37) To apply your knowledge of how a device works as an aid to simplifying its user 37) _____
means to be _____.

38) The replacement of hardware with software, integrated circuits, and layered software 38) _____
are all techniques to _____.

1) TRUE
2) TRUE
3) FALSE
4) TRUE
5) TRUE
6) FALSE
7) TRUE
8) FALSE
9) TRUE
10) TRUE
11) TRUE
12) FALSE
13) FALSE
14) TRUE
15) A
16) A
17) B
18) C
19) D
20) A
21) A
22) C
23) C
24) C
25) C
26) A
27) B
28) A, C, D
29) Hardware
30) Programs
31) Software
32) computer
33) software stack
34) person
35) integrated circuit
36) everywhere
37) operationally attuned
38) reduce the impact of complexity