

Written Examination for Computer Programmer II (Contract of Service)

Name: Applicant 3

Date: (

Position applied for: _____

I. Describe in detail the following (5pts each)

1. Operating System
2. Difference between Hardware and Software
3. Difference between Local Area Network and Wireless LAN
4. Difference between Personal Computer and Server Computer.

II. Describe in detail the following (5pts each)

1. Programming Language
2. Relational Database
3. API
4. Health Data Dictionary

III Multiple choice

1. In what type of topology do all of the computers directly tap into the same cable?

a. Ring
b. Bus
~~c. Star~~
d. Mesh

2. Which network topology provides multiple communication paths so that an alternative path may be used if a connection fails?

- a. Ring
- b. Bus
- ☒ c. Star
- d. Mesh

3. NWLink is Microsoft's implementation of what networking protocol?

- a. IPX/SPX
- b. TCP/IP
- c. NDS
- ☒ d. NCP

4. Which of the following distinguishes peer-to-peer networks from client/server networks?

- a. In peer-to-peer networks, only one computer can send and receive transmissions on the network.
- b. In peer-to-peer networks, only one type of protocol suite can be used to send and receive data.
- ☒ c. In peer-to-peer networks, a central computer manages all file and print sharing.
- d. In peer-to-peer networks, no single computer has more authority than another, by default.

5. Which of the following is an advantage of using a peer-to-peer network over using a client/server network?

- a. A peer-to-peer network allows for more nodes.
- ☒ b. A peer-to-peer network provides greater security.
- c. A peer-to-peer network is easier to set up.
- d. A peer-to-peer network allows for easier expansion.

6. How many layers are incorporated in the OSI model communications subnetwork?

- a. 2
- b. 7
- c. 3
- ☒ d. 4

7. The first services widely used by networks were:

- a. Mail services
- ☒ b. Communications services
- c. Network management services
- d. File and print services

8. Suppose you wanted to share documents among several computers in your household in a peer-to-peer fashion. You could do that by properly configuring which of the following types of software?

- a. Word-processing software
- b. Desktop operating system software
- ☒ c. Mail client software
- d. Remote authentication software

9. What is the primary function of a file server on a network?
- a. It routes traffic between two or more LANs
 - b. It monitors how many users are logged on to a WAN
 - c. It prevents unauthorized remote users from connecting to a LAN
 - ☒ d. It manages access and use of shared applications and data
10. On most LANs, a computer acting as a server differs from a computer acting as a client in which of the following ways?
- a. The server would have a faster connection to the network than the client
 - b. The server would run different network protocols than the client
 - ☒ c. The server would support connections to more media types than the client
 - d. The server would run a different operating system than the client
11. Which of the following describes the combination of voice (such as telephone), video, and data signals sent over the same network?
- a. Switching
 - b. Remote access
 - c. Convergence
 - ☒ d. Network management
12. What is the term used to describe a discrete unit of data that is sent from one node to another over the network?
- a. Capsule
 - ☒ b. Node
 - c. Packet
 - d. Parcel
13. How can a server tell the difference between many clients on a network?
- a. Each has a different electromagnetic characteristic to its signal, similar to differences in human voices.
 - ☒ b. Each regularly transmits a signal that indicates its network location and unique client characteristics.
 - c. Each is identified by a unique network address
 - d. Each uses uniquely modified versions of the same network protocol
14. What device connects a client computer to a network's medium, such as a wire?
- a. Network interface card
 - b. Network terminator
 - c. Network junction clip
 - ☒ d. Network line extender

15. Which of the following is one function of a network protocol?
- ☒ a. To ensure that connectivity devices are configured properly.
 - b. To establish rules for routing mail messages in an organization.
 - c. To ensure that data arrives at its destination in the proper sequence.
 - d. To prevent unauthorized users from logging on to a file server.
16. The physical layout of nodes on a network is known as the network's:
- a. Schematic
 - ☒ b. Topology
 - c. Formation
 - d. Grid
17. Which of the following network topologies is most common on today's networks?
- a. Fan
 - ☒ b. Star
 - c. Ring
 - d. Bus
18. Which layer of the OSI model is concerned with end to end delivery over the network?
- a. Network
 - ☒ b. Transport
 - c. Data Link
 - d. Presentation
19. What OSI layer is associated with IP addressing?
- a. Application
 - b. Network
 - ☒ c. Data link
 - d. Transport
20. Which of the following terms define data streams into smaller pieces suitable for transmission?
- a. Multidirecting
 - b. Multiplexing
 - c. Protocol
 - ☒ d. Segmentation

IV - Computer Basics

1. Which unit is responsible for converting the data received from the user into computer understandable format?

- a. Memory Unit
- b. Arithmetic & Logic Unit
- ☒ c. Input Unit
- d. Output Unit

2. The only language which the computer understands is _____

- a. Assembly Language
- ☒ b. Binary Language
- c. BASIC
- d. C Language

3. The smallest unit of data in computer is _____

- a. Byte
- b. Nibble
- ☒ c. Bit
- d. KB

4. One nibble is equivalent to how many bits?

- a. 2
- b. 4
- ☒ c. 8
- d. 1

5. Which of the following describes the correct format of an input instruction?

- a. IN 82
- b. INPUT 82
- c. INP 82
- ☒ d. 82 INP

6. The input machine which originated in the United States around 1880s is a _____

- a. Mouse
- b. Joystick
- ☒ c. Keyboard
- d. Barcode Reader

7. What does the COMPUTER stand for?

- ☒ a. Commonly Operated Machines Used in Technical and Educational Research
- b. Commonly Occupied Machines Used in Technical and Educational Research
- c. Commonly Operated Machines Used in Technical and Environmental Research
- d. Commonly Oriented Machines Used in Technical and Educational Research

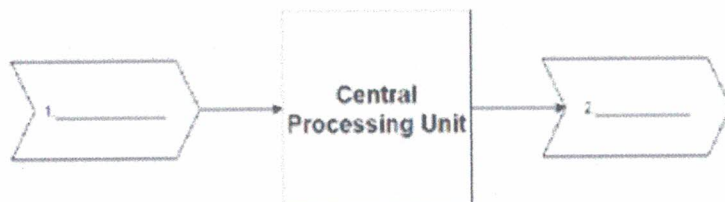
8. 1 yottabyte = _____

- ☒ a. 1024 TB
- b. 1024 EB
- c. 1024 ZB
- d. 1024 PB

9. Which of the following is not a function of the Input Unit?

- a. It reads instructions and data from the outside world
- b. It converts the data into computer acceptable format
- c. It makes the data into user understandable format
- ☒ d. It supplies the data and instructions to the computer for further processing

10. Label the parts 1 and 2:



- a. 1.ALU 2. MU
- b. 1.Output unit 2.Input Unit
- c. 1.MU 2. ALU
- ☒ d. 1.Input Unit 2.Output Unit

11. If your computer monitor turns on but doesn't seem to display an image (or even the built-in info screen), what is probably wrong?

- ☒ a. Your computer monitor isn't connected to your computer correctly
- b. The light bulb (or LED bulb) which provides the lighting for your monitor isn't working correctly
- c. The monitor firmware is broken.
- d. You used the wrong device driver on your computer for your current monitor

12. What is the most likely cause of a Windows Error (Blue Screen of Death) on a typical home computer?

- ☒ a. Bad computer memory (RAM) causes most Windows errors.
- b. Damage to the operating system (Windows) from a computer virus causes most Windows errors
- c. Bugs in Microsoft Windows cause most Windows errors
- d. Bugs in non-Microsoft products cause most Windows errors.

13. What are two computer problems easily diagnosed just by listening to your computer?

- a. You can hear sound card problems and video card problems
- b. You can hear memory problems and computer monitor problems
- c. You can hear magnetic hard drive problems and fan problems.
- ☒ d. You can hear network card problems and CPU problems.

14. Can you replace a sound card or video card built into your motherboard (integrated sound and video)?

- a. Yes, you can replace built-in components by using the right replacement modules.
- b. Yes, you can replace built-in components using generic replacement modules
- c. Yes, you can replace built-in components, but you will need custom replacement parts
- ☒ d. No, you can't normally replace built-in components

15. What is a simple way to fix many problems with USB devices?

- a. Buy a new device to replace the one which doesn't work
- b. Use a shorter cord.
- c. Plug the device into the USB port upside down.
- ☒ d. Run the device through a USB adapter to clean up the signal.

16. What is the name of the system built into most hard drives which predict how long until they'll fail?

- a. Power-On Self-Check (POST) can warn you when a device will fail.
- b. Redundant Array (of) Independent Disks (RAID) can warn you when a device will fail
- ☒ c. Self-Monitoring And Reporting Technology (SMART) can warn you when a device will fail.
- d. Microsoft Checkdisk can warn you when a device will fail.

17. What is usually the easiest way to fix an application which won't start any more?

- a) Run your virus scanner to fix the application because you probably have a virus.
- ☒ b) Reboot your computer to fix the application because it's probably a system error.
- c) Uninstall and reinstall the application to reset the application completely.
- d) Run Windows Registry repair software to fix the application because it's probably a registry error

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20.

If you get strange errors on your computer and don't have a virus, what should you check next?

- A. You should check your firewall in case a hacker is trying to break into your computer.
- ☒ B. You should check your BIOS in case you don't have Plug and Play enabled.
- C. You should check your computer memory (RAM) in case it's starting to fail.
- D. You should check your Windows Updates for any patches you need to install.

21.

If your computer is running slow, what default Windows program will help you find which program is using all of your processing power (CPU) or memory?

- ☒ A. You can use Task Manager to find the offending program
- B. You can use the Control Panel to find the offending program.
- C. You can use Scandisk to find the offending program
- D. You can use the Device Manager to find the offending program.

22.

If it takes a long time to open files, how can you usually speed up Windows without buying anything?

- A. You can increase the speed Windows opens files on a magnetic hard drive by defragmenting the drive with Windows Defrag.
- B. Rebooting Windows will make files open more quickly.
- C. Running Windows Scandisk or Checkdisk to check your disk drive for errors will speed up opening files.
- D. Turning off your firewall will speed up opening files.

V. Programing

Logical Questions:

- ① Write a PHP program to find no of days between these 2 dates: 25-09-2020 and 31-01-2021

2. Write a PHP Function to convert all null values to blank.

```
function convertNullToBlank ($array){  
    foreach ($array as $key => $value){  
        if (is_null ($value)){  
            $array[$key] = " ";  
        }  
    }  
    return $array;  
}
```

3. How to check if an object is an array or not? Provide some code.

```
if ($_.isArray (arrayList)){  
    console.log ('Array');  
} else {  
    console.log ('Not Array');  
}
```

4. How to empty an array in JavaScript?

```
arrayList = [];
```