

MEMORANDUM

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SUBJECT CODE:	CFAF05D
SUBJECT NAME:	COMPUTER FUNDAMENTALS
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QUESTION 1 [MULTIPLE CHOICE]

[15]

1.1 A _____ is the type of case that is used with laptops and tablets

- a) Tower case
- b) Desktop case
- c) Laptop case
- d) **Mobile case**

[Unit 1, slide 6]

1.2 When assembling/installing components back into the computer case, it must be in the following order.

- a) **power supply, drives, motherboard, and cards**
- b) drives, power supply, motherboard, and cards
- c) power supply, motherboard, drives, and cards
- d) power supply, drives, cards and motherboard

[Unit 2, Slide 28]

1.3 _____ is installed on a more powerful computer that is connected to a network and enables multiple users to access information such as e-mail, files, and software.

- a) Desktop operating System
- b) Client OS
- c) **Server operating system**
- d) Kernel

[Unit 7, slide 7]

1.4 Which type of a menu displayed in *Figure 1*?



Source: Intel

Figure 1

- a) BIOS menu [Unit 3, slide 36]
- b) UEFI menu
- c) Home menu
- d) Windows menu

1.5 Which type of channeling does the memory controller access two DIMMs at the same time and doubles memory access speed ?

- a) Quad channel
- b) Single
- c) Triple
- d) Dual [Unit 4, slide 35]

1.6 The sector markings are written to the hard drive at the factory are known as:

- a) High-level formatting
- b) Low-level formatting [Unit 6 slide 9]
- c) Disk formatting
- d) Markings

1.7 _____ is a feature that enables you to upgrade to latest Windows version and be able to run older version of Windows in a virtual machine

- a) Active directory
- b) Online services
- c) Client HyperV [Unit 8, slide 51]
- d) Server HyperV

1.8 Which file type is a .exe file extension?

- a) Application [Unit 9, slide 7]
- b) Installation
- c) Configuration
- d) Initialization

1.9 It is good practice to implement a regular schedule for finding and deleting unneeded files such as temporary files, cookie files, etc. Which tool is used to delete unneeded files in Windows operating system?

- a) Disk Cleaning
- b) Disk Cleanup [Unit 9, slide 11]
- c) File system management
- d) ActiveX

1.10 Computer systems use a cooling assembly designed for a specific processor to keep temperatures below the processor maximum temperature. Which type of cooling system does *Figure 2* display?



Figure 2

- a) RAM cooler
- b) Processor cooler
- c) GPU cooler
- d) CPU cooler

[Unit 5, slide 11]

1.11 Windows 2000 was the first OS to support which feature?

- a) GUI
- b) VPN
- c) Hyper-V
- d) Online services

[Unit 8, slide 10]

1.12 Malope wants to move his files to another folder, but before that he wants to see how much has the disk been utilized. Where can he go for a quick look at current disk utilization?

- a) Disk Cleanup
- b) System settings
- c) Resource Monitor
- d) The internet

[Unit 9, slide 30]

1.13 Windows 10 was released in July 2015; it was built on the successful features of Windows 8/8.1. Quintin was so in triggered with Windows 10 because it has a feature that enables the user to interact with the PC provided, there a microphone, a speaker and internet connectivity. Just like our android phones we use Google assistant and Apple phones we use Siri. What is the name of that feature that enables us to interact with the virtual assistant in Windows 10?

- a) Windows virtual assistant
- b) Windows assistant
- c) Cortana digital assistant
- d) Cortana assistant

[Unit 8, slide 51]

1.14 The process of removing empty pockets between files and other information on a hard drive is called:

- a) Fragging

- b) Fragmentation
- c) Defragmentation [Unit 9, slide 27]
- d) Formatting

1.15 Multitasking is an impressive feature that most OS can perform. Which Microsoft OS was first introduced with this feature?

- a) MS-DOS
- b) Window X
- c) Windows 3.x
- d) Windows 95 [Unit 8, slide 6]

QUESTION 2 [TRUE & FALSE]

[15]

State whether the following statements are True or False

Write your answer in Page Table 123. Only in TABLE 123 will be marked/graded.

- 2.1 Microsoft provides the Program Files and Program Files (x86) folders to differentiate between 32-bit and 64-bit operating systems applications.

a) True [Unit 9 slide 9] b) False
- 2.2 Active Directory is a feature that was incorporated in Windows 2000 OS as a database that is used to store information about resources such as user accounts, computers, and printers.

a) True [Unit 8, slide 10] b) False
- 2.3 By default, USB Flash drives use FAT or exFAT file system [Unit 6 slide 51]

a) True b) False
- 2.4 Task-switching operating systems allows more than one program can run at a time but only one program can have control at a time.

a) True [Unit 7slide 43] b) False
- 2.5 NAS guarantees easy expand of storage capacity of a single computer or make available hard drive storage to an entire network, but it does not support ethernet port

a) True b) False [Unit 6 slide 41]
- 2.6 Most cases have one or more positions on the case to hold a case fan.

a) True [Unit 5 slide 9] b) False
- 2.7 Memory cache inside the processor housing can be L1, L2, and L3 cache.

a) True [Unit 4 slide 11] b) False
- 2.8 A motherboard is considered a field replaceable unit

a) True [Unit 3 slide 52] b) False
- 2.9 One must first create a diagram or take a photo of all cable connections to the motherboard, expansion cards, and drives before taking apart (disassemble) components from the computer case.

a) True [Unit 2 slide 15] b) False
- 2.10 There is a specialized software needed to use a docking station.

a) True b) False [Unit 1 slide 31]

- 2.11 BIOS is not stored in a complementary metal oxide semiconductor (CMOS) memory chip
a) True b) False [Unit 7 slide 25]
- 2.12 Tapes drives are inexpensive way of backing up a hard drive. WORM ensures that data can be overwritten
a) True b) False [Unit 6, slide 43]
- 2.13 Real-time operating system (RTOS) are typically used in embedded systems
a) True [Unit 7 slide 32] b) False
- 2.14 Hot-swapping enable to connect and disconnect drive while system is running
a) True [Unit 6 slide 13] b) False
- 2.15 Older OSs like MS-DOS were single-tasking
a) True [Unit 7 slide 41] b) False

QUESTION 3 [MATCHING]**[15]**

Match by pointing out the terms to the descriptions. Write your answers on page 6 Table 123. Only in TABLE 123 will be marked/graded

3.1 Match the statement with the name. Write only the letter in the space provided below

1. Clustering	A. To improve the airflow in a computer case <i>[Unit 5 slide 42]</i>
2. S.M.A.R.T	B. It displays statistics that include the number of packets sent, received, and lost <i>[Unit 9 slide 54]</i>
3. Centrino Technology	C. It's a technique in which two or more servers are linked to equally share the server processor load, storage, and other server resources <i>[Unit 8 slide 13]</i>
4. Server	D. consistent way for objects, such as programs, files, computers, printers to communicate with each other
5. Loopback plug	E. Holds data and instructions used by CPU <i>[Unit 4 slide 29]</i>
6. Jumpers	F. Its types are fans, coolers and heat sink <i>[Unit 5 slide 5]</i>
7. Spacers (standoffs)	G. It's used to test a port in a computer or other device to make sure the port is working <i>[Unit 1 slide 53]</i>
8. Processor cooler systems	H. Its types involve blade, rack-mounted and traditional <i>[Unit 7 slide 8]</i>
9. Ping utility	I. When processor, chipset and wireless network adapter are interconnected as a unit to improve laptop performance <i>[Unit 4 slide 15]</i>
10. RAM	J. It can be used to clear a forgotten supervisor or power-on password <i>[Unit 3 slide 49]</i>
11. BSOD	K. The round plastic or metal pegs that separate the board from the case <i>[Unit 2 slide 20]</i>
12. Processor	L. It's used to predict when a drive is likely to fail <i>[Unit 6 slide 9]</i>
13. Vents	M. A type of error that occurs during the boot <i>[Unit 5 slide 33]</i>
14. Memory bank	N. The main manufacturers includes Intel and AMD <i>[Unit 4 slide 3]</i>
15. Important power supply feature	O. It enables the OS to automatically detect newly installed hardware
	P. Memory a processor addresses at one time <i>[unit 4 slide 40]</i>
	Q. Wattage rating <i>[Unit 5 slide 15]</i>

TABLE 123

PLEASE WRITE ANSWERS FOR QUESTIONS 1,2, and 3 in this table

Only A; B; C or D			Only True or False			Only Letter e.g. C	
Question 1			Question 2			Question 3	
1	D		1	True		1	C
2	A		2	True		2	L
3	C		3	True		3	I
4	A		4	True		4	H
5	D		5	False		5	G
6	B		6	True		6	J
7	C		7	True		7	K
8	A		8	True		8	F
9	B	9	True	9	B		
10	C	10	False	10	E		
11	B		11	False		11	M
12	C		12	False		12	N
13	C		13	True		13	A
14	C		14	True		14	P
15	D		15	True		15	Q

Question 4 [Abbreviations]**[15]****Write down the following the abbreviations:**

Abbreviation	Meaning
VM	Virtual memory [Unit 9, slide 49]
SO-DIMM	small outline dual inline memory module [Unit 4, slide 30]
ESD	Electro static discharge [Unit 2]
RAM	Random Access Memory [Unit 1, slide 13]
CAG	chassis air guide [Unit 5, slide 43]
ATX	Advanced Technology Extended [Unit 1, Slide 17]
ZIF	Zero insertion force [Unit 3, slide 12]
HDD	Hard disk drive [Unit 6, slide 41]
BIOS	basic input/output system [Unit 7, slide 24]
uPnP	Universal Plug and Play [Unit 8, slide 8]
CPU	Central Processing Unit [Unit 1, slide 11]
UEFI	Unified Extensible Firmware Interface [Unit 1, Slide 50]
LGA	Land grid array [Unit 3, slide 8]
Hz	Hertz [Unit 3, slide 24]
CSM	Compatibility Support Module [Unit 3, slide 43]

Question 5 [Matching Figure]

[11]

Match by pointing out the terms to the descriptions.

Table 1

1. Drives	2. Top of tower case	3. I/O unit	4. Processor	5. Liquid cooling
6. ALU	7. RAID 0 (stripping)	8. 4 pin power connector	9. RAID 5 (Parity checking)	10. CPU fan
11. Front side Bus	12. DIMM cover	13. Control Unit	14. Control Unit	15. USB
16. South Bridge	17. Vents	18. ALU	19. Optical drive	20. RAID 10(mirrored and stripped)
21. Back side Bus	22. RAID 1 (Two pairs of mirrored disks)	23. North bridge	24. Internal data Bus	25. RAM

6.1. Use Table 1 to Match the missing items in *Figure 3*

[5]

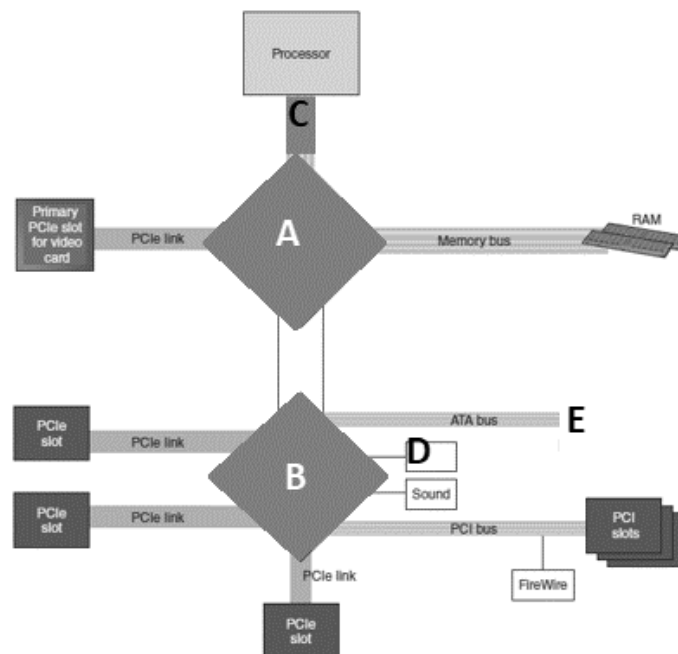


Figure 3

[Answer] [Unit 3, slide 16]

A.	23.	North Bridge
B.	16.	South Bridge
C.	11.	Front Side Bus
D.	15.	USB
E.	1.	Drives

6.2. Use Table 1 to Match the missing items in *Figure 4*

[4]

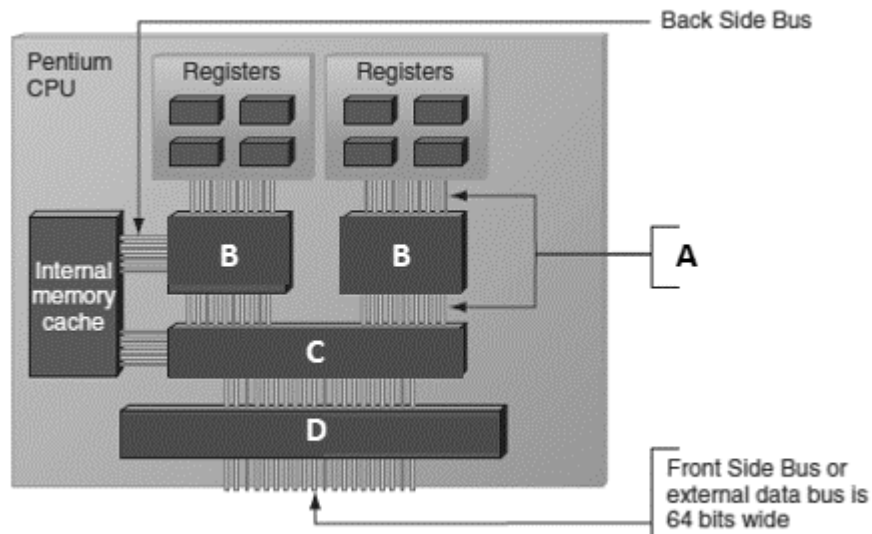


Figure 4

[Answer] [Unit 4, slide 8]

A.	24.	Internal data Bus
B.	18.	ALU
C.	14.	Control Unit
D.	3.	I/O unit

6.3. Use Table 1 to Match the missing items in Figure 5

[3]

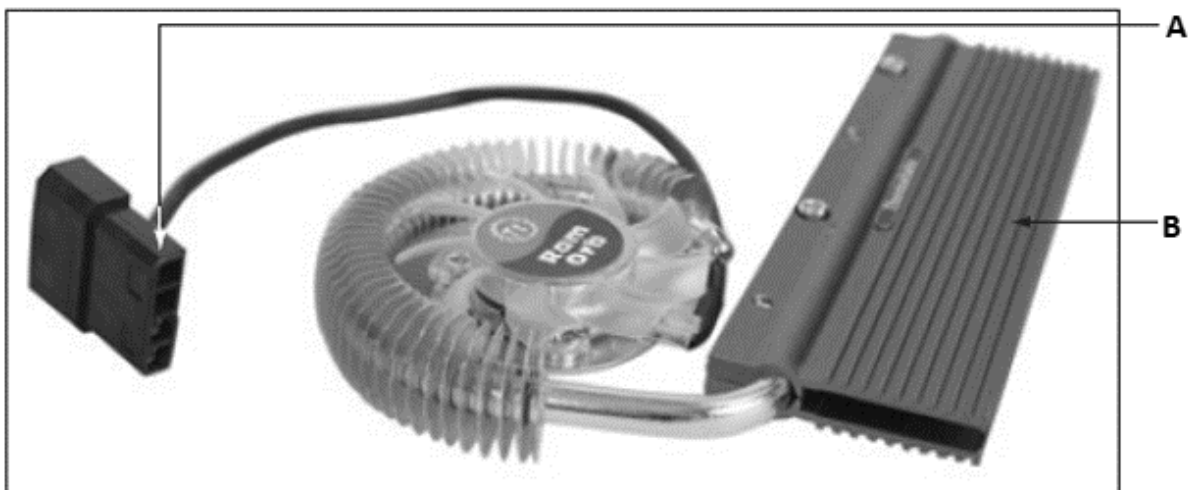


Figure 5

[Answer] [Unit 5, slide 12]

A.	8.	4 pin power connector
B.	12.	DIMM cover

Question 6 [Long questions]

[29]

- 5.1. Nzimande, a student technician at TUT, must disassemble a computer for the first time. Provide at least 1 (one) option for him to find/locate the computer service manual. (1) [Unit 2 slide 41]
- Manufacturer's physical manual
 - Manufacturer's Web site
 - Support or FAQ pages
 - Third party websites
- [Choose Any one]
- 5.2. Define the following terms: (4) [Unit 1 slide 11 and slide 16]
- Processor:
- Processes most of the data and instructions for the entire system
- Form Factor:
- Form factors: standards that describe the size, shape, screw hole positions, and major features of computer cases, power supplies, and motherboards
- 5.3. Operating systems manages all the software and hardware on a computer. List the 5 (five) elements that enable an operating system to work with a computer. (5) [Unit 7 slide 16]
- The kernel
 - Resource managers
 - Device drivers
 - Application software
 - BIOS
- 5.4. You are remotely assisting Prudence via a telephonic conversation on how to open a computer case, after opening a computer case what are the 3 (three) main components that you see? (3) [Unit 2 slide 13]
- Power supply
 - Motherboard
 - Drives
- 5.5. Rafik wanted to pick the best power supply for his setup. List 2 (two) of the most vital power supply feature considerations to assist him. (2) [Unit 5 slide 15]
- Form factor determines power supply size
 - Wattage ratings (listed in documentation)
 - Number and type of connectors
 - Fans inside the PSU
 - Dual voltage options
 - Warranty and overall quality
- [Choose any two]
- 5.6. Windows server 2003 comes with a variety of editions to best suit your needs. List at least 2 (two) of those editions. (2) [Unit 8 slide 18]
- Standard Edition
 - Enterprise Edition
 - Datacenter Edition
- [Choose any two]

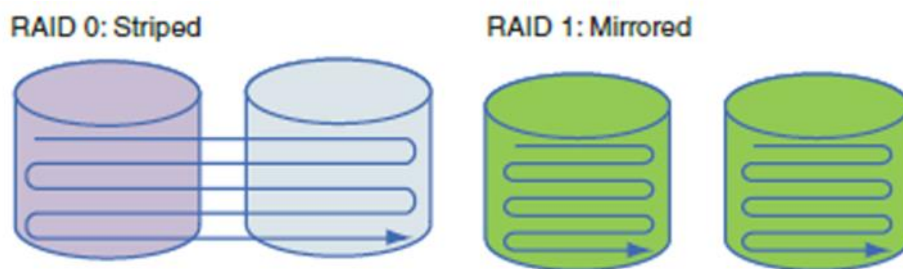
- Web Edition

5.7. Manqoba discovered the importance of backing up your operating system and data files before an operating system upgrade and the importance of being able to recover data in case of a failure. Name and explain any 2 (two) types of back-ups. (4) [Unit 9 slide 35-36]

- Binary backup – backs up the disk contents in binary format to create an exact image of the disk contents, -Simple to perform and includes everything on the disk, -Disadvantage – cannot restore individual files or directories
- Full file-by-file backup – all of the disk contents are back up, but as individual directories and files Enables you to restore a single directory or a set of files without restoring the entire disk
- Differential backup – backs up all files that have an archive attribute (indicates that the file needs to be backed up)
- Incremental backup – backs up all files that have the archive attribute, and removes the attribute from each file after backup

[Choose any two]

5.8. RAID is a technology that configures two or more hard drives to work together as an array of drives. With the aid of illustration [draw] differentiate between RAID 0 and RAID1. (4) [Unit 6 slide 33]



5.9. Windows 10 was released in July 2015 and it's a build on to the successful features of Windows 8/8.1. Name 3 (three) key features that Windows 10 include. (3) [Unit 9 slide 51]

- Virtual desktops
- Return of the Start button
- Microsoft Edge Web browser
- Cortana digital assistant
- Quick access
- Universal application architecture
- Sign-in options

[Choose any three]

5.10. When the OS need to access information on disk, they swap something else to disk, this process is called paging or page file. What is it called in Linux OS? (1) [Unit 9 slide 46]

Swap file

Total

[100]