

Name:.....PTES 9618 Computer Science Worksheet

Source: 9618_s21_qp_33.pdf (Page 5)

- 3 (a) Draw **one** line to connect each **Operating System (OS)** term to the **most appropriate** description about it.

OS term	Description
Multi-tasking	Using secondary storage to simulate additional main memory
Paging	Managing the processes running on the CPU
Interrupt handling	Managing the execution of many programs that appear to run at the same time
Scheduling	Locating non-contiguous blocks of data and relocating them
Virtual memory	Transferring control to another routine when a service is required
	Reading/writing same-size blocks of data from/to secondary storage when required

[5]

- (b) Explain how an interpreter executes a program without producing a complete translated version of it.

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[4]

Source: 9618_s21_qp_11.pdf (Page 5)

2 Bingwen's computer comes with an Operating System and utility software.

(a) Draw **one** line from each utility software to its correct description.

Utility software	Description
	Scans software for errors and repairs the problems
Disk formatter	Moves parts of files so that each file is contiguous in memory
Defragmentation	Creates a copy of data that is no longer required
Back-up	Sets up a disk so it is ready to store files
Disk repair	Scans for errors in a disk and corrects them
	Creates a copy of data in case the original is lost

[4]

(b) Identify **four** key management tasks that the Operating System will perform.

- 1
- 2
- 3
- 4

[4]

Source: 9618_s22_qp_13.pdf (Page 9)

4 A computer has system software including an operating system.

(a) Describe the key management tasks of an operating system.

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..... [4]

(b) Utility software is a type of system software.

(i) Describe the purpose of back-up software and defragmentation software.

Back-up software

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Defragmentation software

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..... [4]

(ii) Give **one other** example of utility software.

..... [1]

Source: 9618_w22_qp_11.pdf (Page 18)

- 7 (a) State **two** benefits to a programmer of using Dynamic Link Library (DLL) files.

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[2]

- (b) Memory management is one of the tasks performed by an Operating System (OS).

Describe the ways in which memory management organises and allocates Random Access Memory (RAM).

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[2]

- (c) An Operating System may include a utility program to compress text files.

Describe **one** appropriate method of compressing a text file.

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[3]

- (d) Explain the reasons why increasing the amount of cache memory can improve the performance of a CPU.

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[2]

- (e) State the name of a peripheral device port that provides a physical connection in the computer for each of these peripherals.

3D printer

Monitor

[2]

Source: 9618_w23_qp_32.pdf (Page 4)

- 5 (a) Outline the reasons why an operating system may need to use virtual memory.

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- (b) Explain the circumstances in which disk thrashing could occur.

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Source: 9618_w24_qp_11.pdf (Page 9)

- (a) The laptop has utility software and an Operating System (OS).

- (i) Describe the file management tasks carried out by an OS.

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- (ii) Explain the need for back-up software.

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- 9 (a) Outline **two** benefits and **two** limitations of a virtual machine.

Benefit 1

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Benefit 2

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Limitation 1

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Limitation 2

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[4]

- (b) Explain the roles of the host operating system and the guest operating system as used in a computer system running a virtual machine.

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