Digital Technologies

Learner Name	
Course	Pearson BTEC Higher National Certificate in Computing
Awarding Body	BTEC (Pearson)
Module Name(s)	Unit 8 – Computer Systems Architecture (2019 rev)
Assignment Title & Number	Assignment 1 of 2
Assessor's Name	John Terry
Hand out Date	30th January 2020
Hand in Date	20th March 2020
Feedback Date	+3 weeks

Assessment Brief IQA by: *(Name & Signature)*		**Assessment Brief sample by Lead IQA: *(Name & Signature)***	
Date:	?/?/2020	**Date**	

Specific outcomes and criteria being assessed		
Module	**Grading Criteria**	**Description**
8	P1 (LO1)	Identify the main subsystems of a computer and explain how they are organised and connected.
8	P2 (LO1)	Explain the purpose of the Central Processing Unit (CPU) and include details on its operation.
8	M1 (LO1)	Review the operation of the CPU and assess its dependency and performance with regards to associated systems and subsystems.
8	D1 (LO1)	Evaluate the structure and functions of an operating system including memory, processor, device, file, security, performance and error management with regards to functionality, operation and dependency.
8	P3 (LO2)	Describe a range of different operating systems including the purpose, use and hardware requirements of each.
8	P4 (LO2)	Discuss the key features associated with the architecture of an operating system.
8	M2 (LO2)	Analyse the services provided by an operating system with regards to user interaction, memory management, file management and hardware support.

English, maths and other Skills for Success covered in this assignment	**English** **Written reports and presentations.**	**Maths** **-**	**Skills for Success** **Describing and explaining concepts**
Learner submission sampled by IQA: (Name and signature)		**Learner submission sampled by Lead IQA: (Name and signature)**	

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Date		**Date**	

COPYING DISCLAIMER

I confirm that all the work contained in this assignment, being presented for assessment, is my own work.

I also confirm that I have not copied this work from other people's papers, electronically from their disk, from textbooks, CD ROM or from the Internet.

I also understand that if I hand in an assignment that has work in it that has been copied, this will be subject to disciplinary action and may cause me to lose my place on the course.

Student Signature:		**Date:**	

Assessor declaration	I certify that the evidence submitted for this assignment is the learner's own. The learner has clearly referenced any sources used in the work. I understand that false declaration is a form of malpractice.		
Assessor signature	John Terry	**Date**	
		Date of feedback to learner	
Resubmission authorisation by Lead Internal Quality Assurer*		**Date**	

* All resubmissions must be authorised by the Lead Internal Verifier. Only one resubmission is possible per assignment, providing:

- The learner has met initial deadlines set in the assignment, or has met an agreed deadline extension.
- The tutor considers that the learner will be able to provide improved evidence without further guidance.
- Evidence submitted for assessment has been authenticated and accompanied by a signed and dated declaration of authenticity by the learner.

**Any resubmission evidence must be submitted within 10 working days of receipt of results of assessment.

Vocational Scenario

You are freelancing in IT consultancy in the Milton Keynes area.

Task 1	**Grading Criteria Covered:** Unit 8: P1 (L01) Identify the main subsystems of a computer and explain how they are organised and connected. Unit 8: P2 (L01) Explain the purpose of the Central Processing Unit (CPU) and include details on its operation.
Evidence Required	A 2 Page Desktop-published document submitted as a PDF file

MK College have contacted you and asked you to produce a 2 x A4 page worksheet that can be used in teaching students about computers.
You should create a 2 page Desktop Published document that gives the following:

- One page that graphically shows the internals of a computer and identifies the different subsystems. You should include the different types of bus that are used to connect devices.
- One page that explains the purpose of the CPU and includes details on its operations. You could include a diagram of a CPU and explain the different parts and how they work together.

Task 2	**Grading Criteria Covered:** Unit 8: M1 (LO1) Review the operation of the CPU and assess its dependency and performance with regards to associated systems and subsystems.
Evidence Required	Illustrated Report

One evening, after completing your consultancy work, you spot a post on the forum of the Tom's Hardware website where somebody is complaining about the speed of their system. As they have not provided specific detail about their setup, nobody appears to have replied to them.
Create a forum post response that includes:

- A review of what the CPU actually does in its operation
- An assessment of how different systems and subsystems connected to the CPU can affect the performance of a computer (you should also include the characteristics of the processor too in this assessment e.g. clock speed, no of cores etc.)

Scenario

The local college were happy with your earlier freelance work for them and have asked you to mentor one of the apprentice team members on the Infrastructure Technicians course. You have offered to help put together a training presentation to help explain aspects of operating systems.

Task 3	**Grading Criteria Covered:** Unit 8: P3 (LO2) Describe a range of different operating systems including the purpose, use and hardware requirements of each.
Evidence Required	PowerPoint Presentation
Produce a presentation that describes at least three different operating systems, one of which should be a mobile OS. For each of your operating systems, you should include: • Purpose of the operating system • Use of the OS • Hardware requirements of the OS	

Task 4	**Grading Criteria Covered:** Unit 8: P4 (LO2) Discuss the key features associated with the architecture of an operating system.
Evidence Required	Word/PDF Document
Provide a discussion of the key features of an OS architecture. Include the different layers within an OS and discuss how these work together.	

Task 5	**Grading Criteria Covered:** Unit 8: M2 (LO2) Analyse the services provided by an operating system with regards to user interaction, memory management, file management and hardware support. Unit 8: D1 (LO1) Evaluate the structure and functions of an operating system including memory, processor, device, file, security, performance and error management with regards to functionality, operation and dependency.
Evidence Required	Web Documents Illustrated
An editor from Tom's Hardware Guide has seen your post describing the CPU and was impressed at the level of detail you included. They have asked you to provide **two articles** (equivalent to 1.5-2 A4 pages each) for the website which will run online one week after the other. For the **first article**, they have asked you to analyse services provided by an operating system of your choice with specific emphasis on UI, Memory Management, File Management (including filing system) and Hardware Support (including drivers). For the **second article**, they have asked you to give good and bad points about the structure and functions of the same operating system that you wrote about in your first article. They have asked you to include Memory, Processor, Device, File, Security, Performance and Error Management. All of these should be written about in relation to Functionality, Operation and Dependency.	

Feedback

Module Number	Criteria included in this assessment		Met or Not Met	Comments
Task 1				
8	P1 (L01)	Identify the main subsystems of a computer and explain how they are organised and connected.		
8	P2 (L01)	Explain the purpose of the Central Processing Unit (CPU) and include details on its operation.		
Task 2				
8	M1 (LO1)	Review the operation of the CPU and assess its dependency and performance with regards to associated systems and subsystems.		
Task 3				
8	P3 (LO2)	Describe a range of different operating systems including the purpose, use and hardware requirements of each.		
Task 4				
8	P4 (LO2)	Discuss the key features associated with the architecture of an operating system.		
Task 5				
8	M2 (LO2)	Analyse the services provided by an operating system with regards to user interaction, memory management, file management and hardware support.		
8	D1 (LO1)	Evaluate the structure and functions of an operating system including memory, processor, device, file, security, performance and error management with regards to functionality, operation and dependency.		
Assessor's Feedback				
What Went Well? **Even Better If...** **SPaG & Maths Feedback**				
Assessor Signature:			**Date:**	
Student Signature:			**Date:**	

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Student's Target (Student to complete from feedback)	
Using the feedback provided, consider how you will improve the quality of your assessed work and identify targets to achieve this.	
Signature:	**Date:**