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 2 of 2
Assessor's Name	John Terry
Hand out Date	2nd April 2020
Hand in Date	21st May 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	P5 (LO3)	Explain the relationships between hardware and network addresses including their use with regards to networking devices and components.
8	P6 (LO3)	Setup, configure and document appropriate hardware and software systems to establish computer based network connectivity.
8	M3 (LO3)	Compare common physical and logical networking topologies and explain the differences and purposes of each.
8	D2 (LO3)	Evaluate the OSI and TCP/IP models with regards to hierarchy, layers and services including information on the associated protocols and hardware.
8	P7 (LO4)	Use information gathering methods to assess, troubleshoot and document solutions to a number of different technical hardware, software and networking issues.
8	P8 (LO4)	Conduct and document a range of maintenance activities with regards to computer hardware and software.
8	M4 (LO4)	Review different diagnostic and troubleshooting skills including data gathering methods and techniques.
8	D3 (LO4)	Assess any future improvements that may be required to ensure the continued effectiveness of a computer system.

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)	
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 working across hardware, software and networking disciplines.

Task 1	**Grading Criteria Covered:** Unit 8: P5 (L03) Explain the relationships between hardware and network addresses including their use with regards to networking devices and components. Unit 8: M3 (L03) Compare common physical and logical networking topologies and explain the differences and purposes of each.
Evidence Required	A 1.5-3 Page wordprocessed document submitted as in Word/PDF format
A local company has contacted you to see if you can set up their network to automatically allocate the same IP address to a machine each time it is switched on. They don't want to use static IP addresses, and have been told there is a way that the hardware address of the network card can be used to help with this. Explain the relationships between the hardware address and network address on networking devices including how a machine determines the hardware address on an Ethernet network. The company have also been wondering if the topology they are using is the most efficient. Give an explanation to them of the differences between physical and logical topologies. Explain the purposes of logical and physical topologies in hardware design.	

Task 2	**Grading Criteria Covered:** Unit 8: D2 (LO3) Evaluate the OSI and TCP/IP models with regards to hierarchy, layers and services including information on the associated protocols and hardware.
Evidence Required	Illustrated Report
You have been contacted to provide a presentation evaluating the two main models for communications. You are requested to include details about: • The hierarchy of each model • Layers of the different models and how they link to each other • Details about different protocols at each layer of the models As an evaluation, this should include good and bad points about the different models.	

Scenario

You are working for an organisation to sort out their network devices.

Task 3	**Grading Criteria Covered:** Unit 8: P6 (LO3) Setup, configure and document appropriate hardware and software systems to establish computer based network connectivity. Unit 8: P7 (LO4) Use information gathering methods to assess, troubleshoot and document solutions to a number of different technical hardware, software and networking issues. Unit 8: P8 (LO4) Conduct and document a range of maintenance activities with regards to computer hardware and software.
Evidence Required	Observation, captioned photos uploaded as secondary evidence uploaded in a Word document.
You will be observed undertaking a number of activities. You should also photograph these to document them and caption them in a document to accompany this observation: • Set up, configure and document the linking of a wireless access point to connect to a router and then configure a wireless device to connect to the AP (either phone, tablet, laptop etc.) Show the security you have chosen. Set your access point not to allocate IP addresses, as this will be done by the router you have connected it to. • Use ping and other troubleshooting tools in order to make sure that you have both a local connection to the above network as well as a connection to the internet. • Use the internet to help you troubleshoot a machine that will be made available to you. You should try to visually find as many issues with the machine as possible without plugging it in and switching it on! • Perform hardware maintenance on a different machine that will be made available to you. This is to make sure the machine is ready to go back into service. • On one of your own machines, carry out software maintenance such as checking for updates, checking the hard drive for errors, clearing temporary files etc.	

Task 4	**Grading Criteria Covered:** Unit 8: M4 (LO4) Review different diagnostic and troubleshooting skills including data gathering methods and techniques. Unit 8: D3 (LO4) Assess any future improvements that may be required to ensure the continued effectiveness of a computer system.
Evidence Required	Word/PDF Document
Provide a review document to your employer, detailing different diagnostic and troubleshooting skills you have used or could have used along with data gathering methods and techniques. Follow this up with an assessment of any future improvements you think might be required to ensure the systems you set up/maintained in Task 3 continue to be effective.	

Feedback

Module Number	Criteria included in this assessment		Met or Not Met	Comments
Task 1				
8	P5 (L03)	Explain the relationships between hardware and network addresses including their use with regards to networking devices and components.		
8	M3 (L03)	Compare common physical and logical networking topologies and explain the differences and purposes of each.		
Task 2				
8	D2 (LO3)	Evaluate the OSI and TCP/IP models with regards to hierarchy, layers and services including information on the associated protocols and hardware.		
Task 3				
8	P6 (LO3)	Setup, configure and document appropriate hardware and software systems to establish computer based network connectivity.		
8	P7 (LO4)	Use information gathering methods to assess, troubleshoot and document solutions to a number of different technical hardware, software and networking issues.		
8	P8 (LO4)	Conduct and document a range of maintenance activities with regards to computer hardware and software.		
Task 4				
8	M4 (LO4)	Review different diagnostic and troubleshooting skills including data gathering methods and techniques.		
8	D3 (LO4)	Assess any future improvements that may be required to ensure the continued effectiveness of a computer system.		

Assessor's Feedback	
What Went Well? **Even Better If…** **SPaG & Maths Feedback**	
Assessor Signature:	**Date:**
Student Signature:	**Date:**

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:**