



JOHN EDMONDSON HIGH SCHOOL

Assessment Notification

Faculty: Computing Course: IPT Year: 12

Assessment Task: Task 2 - Research Task

Assessment Weighting: 25% Due: Term 1,2024 Week 9 Date: 27/03/24

Task Type: Hand in Task In Class Task Practical Task

Outcomes assessed (NESA)

H1 Has knowledge and understanding of the nature and function of information systems

H2 Has knowledge and understanding of the interrelationships among information processes

H3 Has an understanding and appreciation of social and ethical issues

H4 Has an understanding and appreciation of the emerging nature of technologies

H5 Has skills in the selection and ethical use of appropriate resources and tools to support information systems

Task Description/Overview

Detailed Assessment Task Description

Task Details:

Students are to research an information system of their choice to reference when answering questions 1 – 8. Questions 9 – 15 will not require reference to your chosen information system. You will research the following questions but will not be able to refer to any notes in class when completing the assessment. Students will use their class booklets on “Communication Systems” to assist in researching.

- 1) Identify the information technology required for the chosen information system. (3 marks)
- 2) Identify and describe TWO forms of data validation used by the information system. (4 marks)
- 3) The company that runs your chosen information system has changed the use of hubs to routers on their network. Why would routers be preferred when sending data through a number of networks? (4 marks)
- 4) Create a relational database appropriate for your chosen information system, consisting of THREE tables, using the space provided. Name your tables, include appropriate fields for each table, include any keys and relationships for each table. (6 marks)
- 5) Evaluate the use of Voice Over Internet Protocol (VOIP) as a supporting communication tool for the company. (4 marks)

- 6) Describe the advantages and disadvantages of using wired and wireless transmission mediums. Make reference to your chosen information system. (4 marks)

- 7) Identify TWO emerging technologies in communication and describe how their use could be incorporated into your chosen information system. (4 marks)

- 8) Identify TWO protocols and describe their role in communication. (4 marks)

- 9) Explain the role of modems. (4 marks)

- 10) Describe the role of the client and the server in a network. (4 marks)

- 11) Explain how ONE of the following servers provides services to other computers on the network: print servers, file servers, mail servers or web servers. (4 marks)

- 12) The Network Administrator that manages your chosen information system sees the need for a Network Operating System (NOS). Describe some of the tasks the NOS runs for the following categories: Security, Resource management and File management. (3 marks)

- 13) Draw and label a diagram for TWO of the following network topologies: star, bus, ring, hybrid or wireless networks. (4 marks)

- 14) How does the choice of network topology impact communication on a network? (4 marks)

- 15) Compare synchronous and asynchronous data transmission. (4 marks)

Total Marks: 60

You will complete this in class and be provided with an answer sheet containing these questions to complete in 40 minutes.

Assessment Criteria		
Grade	Description	Mark Range
Outstanding (O)	<p>Lists appropriate and accurate software AND hardware used in the system</p> <p>Lists TWO forms of data validation used by the system and describes the purpose of each adequately.</p> <p>Clear, highly detailed and concise response of why routers would be preferred to the use of hubs. Integrates an outstanding level of technical terminology and examples in response.</p> <p>Provides THREE tables with appropriate table names, field choices, use of keys and relationships.</p> <p>Clear, highly detailed and concise evaluation of how VOIP can be used as a supporting communication tool for the company. Integrates an outstanding level of technical reference and examples in terms of VOIP use.</p> <p>Provides a clear, highly detailed and concise description of the advantages and disadvantages of using a wired transmission medium to</p>	51-60

	<p>a wireless transmission medium with reference to the chosen information system.</p> <p>Identifies TWO emerging technologies in communication and describes how their use could be incorporated into your chosen information system adequately.</p> <p>Identifies TWO protocols and describes their role in communication adequately.</p> <p>Clear, highly detailed and concise explanation of the role of modems. Integrates an outstanding level of technical terminology and examples in response.</p> <p>Clearly describes in outstanding detail the role of the client and the server in a network.</p> <p>Clear, highly detailed and concise explanation of a chosen server. Integrates an outstanding level of technical terminology in response.</p> <p>Describes in detail the tasks the NOS runs for security, resource management and file management.</p> <p>Accurately drawn and appropriately labelled diagram for TWO network topologies.</p> <p>Clear, highly detailed and concise response of how the choice of network topology can impact communication on a network. Integrates an outstanding level of technical reference and examples.</p> <p>Provides a highly detailed comparison of synchronous and asynchronous transmission.</p>	
<p>High (H)</p>	<p>Lists some appropriate and accurate software AND hardware used in the system</p> <p>Lists TWO forms of data validation used by the system and describes the purpose of ONE adequately.</p> <p>Detailed response of why routers would be preferred to the use of hubs. Uses examples and integrates sound level of technical terminology in response.</p> <p>Provides TWO to THREE tables with appropriate table names, field choices and may use keys and relationships.</p> <p>Detailed explanation of how VOIP can be used as a supporting communication tool for the company. Uses examples and integrates sound technical reference in response.</p> <p>Accurately identifies and provides a detailed description of the advantages and disadvantages of a wired transmission medium and a wireless transmission medium with reference to the chosen information system.</p> <p>Identifies TWO emerging technologies in communication and describes how the use of ONE could be incorporated into your chosen information system adequately.</p> <p>Identifies TWO protocols and describes the role of ONE adequately.</p> <p>Detailed explanation of the role of modems. Uses examples and integrates sound level of technical terminology in response.</p> <p>Clearly describes in high level of detail the role of the client and the server in a network.</p> <p>Detailed explanation of a chosen server. Integrates sound level of technical terminology in response.</p> <p>Sound description TWO of the tasks the NOS runs OR brief description of THREE tasks the NOS runs.</p> <p>Accurately drawn and appropriately labelled diagram for ONE network topology.</p> <p>Detailed response of how the choice of network topology can impact communication on a network. Uses examples and integrates sound technical reference in response.</p> <p>Provides a detailed comparison of synchronous and asynchronous transmission.</p>	<p>39-50</p>

<p>Sound (S)</p>	<p>Lists some appropriate and accurate software AND hardware used in the system</p> <p>Lists ONE form of data validation used by the system and describes two purpose adequately or lists TWO forms of data validation only.</p> <p>Sound response of router and hub use. May use examples and integrates some technical terminology in response.</p> <p>Provides ONE table with some appropriate information.</p> <p>Sound explanation of how VOIP can be used as a supporting communication tool for the company. May use examples and integrates some technical references in response.</p> <p>Identifies a wired transmission medium and provides a sound description to a wireless transmission medium.</p> <p>Identifies ONE emerging technologies in communication and describes how the use of ONE could be incorporated into your chosen information system adequately or Identifies TWO emerging technologies only.</p> <p>Identifies ONE protocol and describes the role of ONE adequately or Identifies TWO protocols only.</p> <p>Sound explanation of the role of modems. May use examples and integrates some technical terminology in response.</p> <p>Sound description of the role of the client and server in a network.</p> <p>Sound explanation of a chosen server. Integrates some technical terminology in response.</p> <p>Sound description TWO of the tasks the NOS runs OR brief description of THREE tasks the NOS runs.</p> <p>Soundly drawn and some labelling of diagrams for TWO network topologies or ONE Accurately drawn and appropriately labelled diagram.</p> <p>Sound response of how the choice of network topology can impact communication on a network. May use examples and integrates some technical references in response.</p> <p>Provides a sound comparison of synchronous and asynchronous transmission.</p>	<p>22-38</p>
<p>Basic (B)</p>	<p>Lists some software OR hardware used in the system</p> <p>Lists ONE form of data validation.</p> <p>Basic response of router and hub use.</p> <p>Provides ONE table with some appropriate information.</p> <p>Basic explanation of how VOIP can be used as a supporting communication tool for the company.</p> <p>Identifies a wireless or wired transmission medium AND/OR provides a basic description.</p> <p>Identifies ONE emerging technology in communication.</p> <p>Identifies ONE protocol.</p> <p>Basic explanation of modems.</p> <p>Brief description of the role of the client and server in a network.</p> <p>Basic explanation of a chosen server or servers in general.</p> <p>Brief description of ONE of the tasks the NOS runs.</p> <p>Brief diagram and basic labelling of one diagram.</p> <p>Basic response of how the choice of network topology can impact communication on a network.</p> <p>Provides a basic understanding of synchronous or asynchronous transmission.</p>	<p>10-21</p>
<p>Limited (L)</p>	<p>Limited response of router and hub use.</p> <p>Limited explanation of how VOIP can be used as a supporting communication tool for the company.</p>	<p>0-9</p>

	<p>Identifies a wireless or wired transmission medium AND/OR provides a limited description.</p> <p>Identifies ONE emerging technology in communication with a limited description.</p> <p>Limited explanation of modems.</p> <p>Limited description of the role of the client and server in a network.</p> <p>Limited explanation of a chosen server or servers in general.</p> <p>Limited description of ONE of the tasks the NOS runs.</p> <p>Brief diagram and limited labelling of one diagram.</p> <p>Limited response of how the choice of network topology can impact communication on a network.</p> <p>Provides a limited understanding of synchronous or asynchronous transmission.</p>	
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Satisfactory completion of courses

A course has been satisfactorily completed, when the student has:

- Followed the course developed/endorsed by the NSW Educational Standards Authority (NESA)
- Applied himself/herself with diligence and sustained effort to the set tasks and experiences provided in the course.
- Achieved some or all of the course outcomes