

Mark Scheme Summer 2007

GCE

GCE Applied ICT (8751/8752/9751/9752)

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Summer 2007

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Contents

1.	6953 Unit 3 Mark Scheme	5
2.	6957 Unit 7 Mark Scheme	13
3.	6959 Unit 9 Mark Scheme	21

Unit 3 - The Knowledge Worker

Activity		ANSWER	POSS. MARK	MAX
Activity 1		Understanding the problem		
		Any 8 of		
	A1	Working for <u>Birmingham Branch of Denim Daze</u>	1	
	A2	Chain of stores (More than one)	1	
	A3	1 of 35 stores	1	
	A4	3 Seasons	1	
	A5	Season last 17 weeks	1	
	A6	New designs each season (Sets of clothes)	1	
	A7	Restocked at beginning of season	1	
	A8	Unsold items sent back to warehouse	1	
	A9	Unsold Items distributed to <u>independent outlets</u> and <u>sold off cheaply</u>	1	
	A10	New Automatic (Computerised) stock control system introduced	1	
	A11	<u>Main computer</u> accesses store computer every <u>Friday</u>	1	
	A12	Deliveries a <u>week</u> after the following <u>Monday (10 days after Friday)</u>	1	
	A13	Sales <u>increased</u> at <u>2%</u> since <u>2000</u>	1	
				8
	B1	Re-Order Levels need to be decided	1	
	B2	Re Order Quantity needs to be decided	1	
				2
		<i>Any 3 of:</i>		
	C1	Sales rise at same rate	1	
	C2	Pattern of sales is the similar to 2006	1	
	C3	Denim is still in fashion	1	
	C4	Denim Daze's Marketability doesn't change (well know brand)	1	
	C5	No new local competition	1	
				3
		Total Marks for Activity 1		13

Applied GCE ICT Unit 3

Activity		ANSWER		POSS. MARK	MAX
Activity 2		Sources of Information			
	A1	Company Sales <u>2006</u> (Last Year)_(Description)	Birmingham Sales <u>2006</u> (Last Year (Description)	1,1	
	A2	<u>Real</u> (Actual) sales figures used		1	
	A3	Comment about accuracy		1	
	A4	35 branches		1	
	A5	Sales patterns can change		1	
	A6	Last Years Sales		1	
	A7	No Size Data		1	
					8
	B1	Choice Stated		1	
	B2	Local sales patterns (Birmingham)		1	
		Or:			
	B2	Basing on more figures (Larger Population)		1	
					2
	C1	Figures (into spreadsheet) form base		1	
	C2	Figures require adjustment		1	
	C3	Growth needs to be taken into account		1	
		Either			
	C4	Multiply by 1.02		2	
		Or			
	C4	E.g. Divide by 35	Multiply by 1.02	1,1	
					5
		Total Marks for Activity 2			15

Applied GCE ICT Unit 3

Activity		ANSWER	POSS. MARK	MAX
Activity 3		Computer Modelling		
		Importing Data		
	A1	New worksheet created	1	
	A2	Data imported correctly Birmingham 285 267 268 274 229 215 Overall 13265 13790 11620 10115 9835 10325	1	
	A3	Printout exists and complies with Standard ways of working	1	
				3
		Predicted Sales by Week		
	B1	B9 contains formula which transfers data from new worksheet (must reference their own sheet) Either	1	
	B2	B9 contains adjustment due to sales growth only if Birmingham data Or	2	
	B2	B9 contains adjustment for growth and number of shops if Company	1,1	
	B3	Formula replicated correctly across	1	
	B4	Formula replicated correctly down	1	
	B5	Sum not used inappropriately (Only if B2 awarded)	1	
	B6	Working formula in B31	1	
	B7	Sum Function used (Only give if formula correct)	1	
	B8	Correct formula in rest of row	1	
	B9	Correct columns printed (A-D only give if column headings included)	1	
	B10	Printout conforms to Standard ways of working	1	
				11
		Sales Revenue		
	C1	Working Formula in R31 or similar (=Sum(R9:R30))	1	
	C2	Sum Function used in R31 or similar	1	
	C3	Formula replicated.	1	
	C4	Working formula in R32 (=Sum(B31:R31))	1	
	C5	Sum function used in R32 (only give if formula correct)	1	
	C6	Correct columns printed (O-R Only if column headers)	1	
	C7	Printout Conforms to standard ways of working.	1	
				7

Applied GCE ICT Unit 3

Activity	ANSWER	POSS. MARK	MAX																																																																																																												
	Stock Order settings (Formulae)																																																																																																														
D1	Correct Formula in I1 (=‘Sales Revenue’!R32)	1																																																																																																													
D2	Correct Formula in I4 (I1-I2)	1																																																																																																													
D3	Sum function NOT used	1																																																																																																													
D4	Correct rows printed (1-4 only if row headings)	1																																																																																																													
D5	Correct columns printed (G-I only if column headings)	1																																																																																																													
D6	Printout conforms to standard ways of working	1																																																																																																													
			6																																																																																																												
	Stock Order Settings (Data) No marks awarded in this section if a negative number is used																																																																																																														
E1	At least 7 of the settings changed																																																																																																														
	<table border="1"> <tbody> <tr> <td>SG07143</td> <td>loose</td> <td>1500</td> <td>20</td> </tr> <tr> <td>SG07151</td> <td>loose</td> <td>1500</td> <td>20</td> </tr> <tr> <td></td> <td>comfor</td> <td></td> <td></td> </tr> <tr> <td>SG07159</td> <td>t</td> <td>1500</td> <td>20</td> </tr> <tr> <td></td> <td>comfor</td> <td></td> <td></td> </tr> <tr> <td>SG07167</td> <td>t</td> <td>1500</td> <td>20</td> </tr> <tr> <td></td> <td>comfor</td> <td></td> <td></td> </tr> <tr> <td>SG07175</td> <td>t</td> <td>1500</td> <td>20</td> </tr> <tr> <td>SG07181</td> <td>bootleg</td> <td>1500</td> <td>20</td> </tr> <tr> <td>SG07187</td> <td>tight</td> <td>1500</td> <td>20</td> </tr> <tr> <td></td> <td>comfor</td> <td></td> <td></td> </tr> <tr> <td>SG07193</td> <td>t</td> <td>1500</td> <td>20</td> </tr> <tr> <td>SG07199</td> <td>bootleg</td> <td>1500</td> <td>20</td> </tr> <tr> <td>SG07205</td> <td>tight</td> <td>1500</td> <td>20</td> </tr> <tr> <td></td> <td>comfor</td> <td></td> <td></td> </tr> <tr> <td>SG07211</td> <td>t</td> <td>1500</td> <td>20</td> </tr> <tr> <td>SG07217</td> <td>bootleg</td> <td>1500</td> <td>20</td> </tr> <tr> <td>SG07223</td> <td>tight</td> <td>1500</td> <td>20</td> </tr> <tr> <td>SG07229</td> <td>lined</td> <td>1500</td> <td>20</td> </tr> <tr> <td>SG07235</td> <td>unlined</td> <td>1500</td> <td>20</td> </tr> <tr> <td>SG07241</td> <td></td> <td>1500</td> <td>20</td> </tr> <tr> <td>SG07242</td> <td></td> <td>1500</td> <td>20</td> </tr> <tr> <td>SG07243</td> <td></td> <td>1500</td> <td>20</td> </tr> <tr> <td>SG07244</td> <td></td> <td>1500</td> <td>20</td> </tr> <tr> <td>SG07245</td> <td></td> <td>1500</td> <td>20</td> </tr> <tr> <td>SG07248</td> <td></td> <td>1500</td> <td>20</td> </tr> <tr> <td>SG07272</td> <td></td> <td>3000</td> <td>20</td> </tr> </tbody> </table>	SG07143	loose	1500	20	SG07151	loose	1500	20		comfor			SG07159	t	1500	20		comfor			SG07167	t	1500	20		comfor			SG07175	t	1500	20	SG07181	bootleg	1500	20	SG07187	tight	1500	20		comfor			SG07193	t	1500	20	SG07199	bootleg	1500	20	SG07205	tight	1500	20		comfor			SG07211	t	1500	20	SG07217	bootleg	1500	20	SG07223	tight	1500	20	SG07229	lined	1500	20	SG07235	unlined	1500	20	SG07241		1500	20	SG07242		1500	20	SG07243		1500	20	SG07244		1500	20	SG07245		1500	20	SG07248		1500	20	SG07272		3000	20		
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E2	7 more settings changed	1																																																																																																													
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E4	Printout conforms to standard ways of working	1																																																																																																													
	Either:																																																																																																														
E5	Profitability (Calculation has to be correct) greater than base values (£1,124,089.35 or £1,158,908.00) If total sales not	1																																																																																																													

Applied GCE ICT Unit 3

Activity	ANSWER	POSS. MARK	MAX
	divided by 35 - no marks.)		
E6	Profitability greater than base values + 100,000	2	
E7	Profitability greater than base values + 500,000	3	
E8	Profitability greater than base values + 900,000	4	
			8
	Total Marks for Activity 3		35

Applied GCE ICT Unit 3

Activity		ANSWER	POSS. MARK	MAX
Activity 4		Recommendations		
	A1	Chosen levels & quantities stated	1	
	A2	More profit mentioned as reason Must follow on	1	
	A3	Other justification (less storage, less write off stock) Must follow on	1	
				3
		Other Factors		
	B1	<u>Cost</u> of initial stock	1	
	B2	Storage space	1	
	B3	<u>Cost</u> of written off stock	1	
		Plus Any 2 of		
	B4	Sizes	1	
	B5	Sales pattern may have changed	1	
	B6	People might not like current designs	1	
	B7	Weather might affect sales of particular items	1	
	B8	Other/rival shops may open	1	
	B9	May be undercut by supermarkets	1	
	B10	Any other relevant factor	1	
				5
		Graphical Representation of Data		
	C1	Graph included	1	
	C2	Graph fit for purpose	1	
	C3	Graph show information relevant to report	1	
	C4	Either Accompanying text partially explains Graph	1	
		Or Accompanying text fully explains graph	2	
				5
		Suitability for Audience (Only if more than 12 lines)		
	D1	Spelling & Grammar Correct (Three forgivable - 0 unforgivable)	1	
	D2	Language suitable for audience	1	
	D3	Choice of font suitable	1	
	D4	Professional report layout (Intro, Conc, date, at least 2 other sections, suit font colour & size, suitable use of tools)	1	
		Plus any 1 of		
	D5	Concluding Statement	1	
	D6	Headings consistent (At least 3)	1	
	D8	Suitable report title (Who it is to, what it is about and the report)	1	
	D9	Charts labelled (Title, Both axes, units both axes)	1	
				5

Applied GCE ICT Unit 3				
Activity		ANSWER	POSS. MARK	MAX
		Total Marks for Activity 4		18
Activity 5		Evaluation		
	A1	Comment on ease of use	1	
	A2	Statement to the effect that a solution has been provided	1	
	A3	Comment on accuracy of any data	1	
				3
		Max 4 marks		
	B1	Recommendations for improvement	1	
	B2	Recommendations for improvement with any explanation of how to do it	2	
	B4	Recommendations for improvement with any explanation of how to do it with data and source	4	
				4
		Total Marks for Activity 5		7
SWW				
	S1	Authenticating Work (All WP pages have task number, Name, centre number, Needs all tasks).	1	
	S2	Appropriate Structure (Pages in correct order & Folder assembled correctly)	1	
		Total for SWW		2
		Total for Paper		90

Unit 7 - Using Database Software				
Activity		ANSWER	POSS. MARK	MAX
Activity 1		Understanding the problem - Functional specification		
	a	The tasks the database has to perform:		
A1		Store data about Stock, Stores, Suppliers and Orders		
A2		Allow Stock file to be updated		
A3		Generate orders when stock falls below reorder levels		
A4		Provide 3 statuses of order		
A5		Produce Orders to suppliers		
A6		Process orders from store(Create Pick List)		
		Any three of above	1	
		Any four of above	1	
				2
	b	The information the database must supply		
B1		Orders to be processed		
B2		Stock levels for all items		
B3		Items below reorder level so that orders generated from Warehouse to Suppliers		
B4		Items that have been caged		
		Any two of above	1	
		all four of above	1	
				2
	c	The data to be input into the database, how		
C1		Existing data/Import		
C2		New Orders to warehouse/transferred from Branch Computer (File Transfer)		
C3		New Deliveries/Keyboard or Barcode scanner		
		Any two of the above	1	1
	d	The processing that is required		
D1		Stock (quantity) needs to be updated when caged		
D2		Status changed when order processed, delivery processed		

Applied GCE Unit 7

Activity	ANSWER	POSS. MARK	MAX
	and out of stock		
D3	Check stock below reorder level		
D4	Generate orders to suppliers weekly		
D5	Next order displayed		
D6	Validation		
	Any three of the above	1	
	Four or more	1	
			2
e	The level of security needed?		
E1	Mention of passwords / backups/firewall as WAN	1	1
	Total marks Activity 1		8

Applied GCE Unit 7					
Activity		ANSWER		POSS. MARK	MAX
Activity 2	a	Structure			
A1		Stock table		1	
A2		Store table		1	
A3		Order table		1	
A4		Supplier table		1	
A5		Relationship Store - Order (1:M)		1	
A6		Relationship Stock - Order (1:M)		1	
A7		Relationship Supplier - Stock (1:M)		1	
A8		Either Status field added to Order	or three different order tables	2,1	
A9		Suitable Primary Keys (Structure allows many orders for same items from same branch)		1	
					10
	b	Validation			
B1		Only 3 statuses of order <u>allowed</u>		1	
		Plus any 2 of:			
B2		Any range check		1	
B3		Any other List check (Table Lookup)		1	
B4		Presence check (Not primary key)		1	
B5		Format Check/Picture Check/Input Mask (not adding characters)		1	
					3
	c	Check number of records			
C1		Data Successfully Loaded (Stock) 130		1	
C2		Data Successfully Loaded (Store) - 16		1	
C3		Data Successfully Loaded (Order) (Orders Processed) 120		1	
C4		Data Successfully Loaded (Order) (Delivery Pending) 10		1	
		If 1 order file with 130 records give C3 & C4			
C5		Data Successfully Loaded (Supplier) 4		1	
					5
		Total marks for Activity 2			18

Applied GCE Unit 7			
Activity	ANSWER	POSS. MARK	MAX
Activity 3	Warehouse Interface		
A1	Branch Displayed (and named)	1	
A2	Item Displayed (and described)	1	
A3	Quantity Displayed	1	
A4	No drop down lists to select store	1	
A5	Order Date Displayed	1	
A6	Evidence that order date generated automatically (probably default value)	1	
A7	Method of telling system order caged	1	
A8	Method of telling system delivery pending	1	
A9	Displays only those orders not already caged or pending delivery	1	
A10	Close method (not default cross)	1	
A11	No ability to update details	1	
A12	Blank screen when queue empty	1	
A13	Buttons disabled when appropriate	1	
A14	Stock Adjusted	1	
A15	Stock Adjusted Automatically(macro)	1	
			15
	Test Data		
B1	SG07153LS - Order Caged	1	
B2	SG07153LS - New Level 87	1	
B3	SG07238SX - Order Caged	1	
B4	SG07238SX - New Level 1470	1	
B5	SG07150XL - Awaiting Delivery	1	
B6	SG07153LS - Awaiting Delivery	1	
B7	SG07146XS - Order Caged	1	
B8	SG07146XS - New Level 2661	1	
B9	Evidence of Blank Screen at end	1	
			9
	Total marks for Activity 3		24
Activity 4	Delivery Interface		

Applied GCE Unit 7			
Activity	ANSWER	POSS. MARK	MAX
A1	Search for ID	1	
A2	Product Description Displayed	1	
A3	Supplier Displayed (Check)	1	
A4	Stock Delivered Enter Area	1	
A5	SG07150XL New Level 3032	1	
A6	SG07259LL New Level 2030	1	
A7	Order Pending SG07150XL (1 for each)	1,1	
A8	Order Pending SG07259LX	1	
A9	Update Stock Level Automatic	1	
A10	Update Order Outstanding Automatic	1	
A11	Update Order Pending Automatic	1	
			12
		Total marks for Activity 4	12

Applied GCE Unit 7			
Activity	ANSWER	POSS. MARK	MAX
Activity 5	Generating Orders to Suppliers		
A1	Printout for suppliers	1,1,1,1	
A2	All on separate pages (at least 2)	1	
A3	Date order printed (at least 2)	1	
A4	Denim Daze distribution centre name address and telephone number (at least 2)	1	
A5	Denim Daze logo (at least 2)	1	
A6	The word ORDER (at least 2)	1	
A7	Supplier name and address on each order (at least 2)	1	
A8	Details of stock items ordered including price (min code description and price	1	
A9	Total cost per item calculated	1	
A10	Total cost per group calculated	1	
A11	“No Import licence” on 2 UK suppliers (BROK, LAST) (Both)	1	
A12	“Import licence” on 2 Foreign (MAGN,STEW) (Both)	1	
A13	SG07150XL not on LAST (unless not all printed)	1	
A14	SG07259LX not on LAST (unless not all printed)	1	
A15	SG07228LL not on MAGN (unless not all printed)	1	
A16	No page numbers (unless multi page order)	1	
A17	No report heading and footer (unless sensible and on separate pages) <i>Look at Design</i>	1	
	Total marks for Activity 5		20
Activity 6	Main menu		
A1	Opens Automatically	1	
A2	No navigation buttons	1	
A3	No Close	1	
A4	Exit Application method	1	
A5	Process Order method/Order Print/Delivery	1	
A6	Denim Daze name displayed	1	
A7	Logo	1	
A8	Tidy Layout (buttons aligned and same size layout symmetrical)	1	

Applied GCE Unit 7				
Activity	ANSWER		POSS. MARK	MAX
				8
		Total Marks for Activity 6		8
		Standard way of Working		
		Correct Headers & footers (Activity No, Centre Number, Candidate Number)		
		Output submitted as required (In order, tagged correctly)		
		Total marks for Paper		90

Unit 9 - Communication and Networks

Activity 1

Required evidence: Notes explaining the characteristics, properties and uses of the types of networks, PANs LANs WANs and MANs.

Reference should be made to the geographical areas they cover, methods of connection, and possible uses; also to performance and scalability.

PAN

- Operate typically within a range of 10 meters (E)
- Used for connecting e.g. laptop or PDA to a portable printer (E)
- Use wireless technology or USB linked or infra red (E)

LAN

- Operate within a limited geographical area (E)
- Allows users to share files and printers efficiently, (E)
- Provides a means for internal communications. A good example of this technology is e-mail. (C)
- Common LAN technologies are Ethernet, Token Ring, FDDI
1=(E), >1=(C)
- Connection via physical cable or wireless technology (E)

MAN

- spans a metropolitan area such as a city or suburban area. (E)
- usually consists of two or more LANs in a common geographic area. (C)
- Used by e.g. a council with multiple branches (E)
- usually a service provider is used to connect two or more LAN sites using private communication lines or optical services. (C)

A MAN can also be created using wireless bridge technology by beaming signals across public areas. (C)

WAN

- Operate over a large geographically separated areas (E)
- Allow users to have real-time communication with other users in other physical locations (C)
- Provide full-time remote resources connected to local services (C)
- Used for e-mail, connection to World Wide Web, file transfer, and e-commerce
1=(E), >1=(C)
- Connections can be via
 - Modem
 - ISDN
 - DSL
 - Frame Relay
 - T1, T3
2=(E), >2=(C)

Up to 3 marks should be given to each type of network. Maximum of 6 marks can be (E)
Max 12 marks

Your advice to the Board of Directors on the most appropriate network type for Bonnington Holiday Villages and why

Recommendation should take into account plans for future growth. A LAN in each holiday village linked to form a WAN would be the recommended solution.

Candidates should justify the connection method in terms of cost and availability
Marks to be given for relating theory to application e.g. area covered, uses, and characteristics/properties of the network type relates to Bonnington scenario.

2 mark

Total marks for Activity 1: 14

Activity 2

Evidence required

- List of questions you need answered by your client
- An annotated diagram showing how you propose to network the equipment at the Head Office Site

List of questions you need answered by your client

Up to 5 marks to be awarded for a comprehensive list of questions showing an understanding of information needed before agreeing on a functional specification

Examples:

Number of users - will they all be using network at same time

Size of building, distances between buildings

Layout of buildings, positioning of rooms requiring networked PCs, methods of connection

Computers - all new or existing PCs being used

Any cabling in place, can it be used

Why network needed, main uses

What operating system to be used

What arrangement of servers computers to use

How much central storage needed

Budget

What level of security needed

Max 5 marks

A diagram showing how you propose to network the equipment at the Head Office Site

A network layout diagram in an appropriate format showing the logical layout of the network. The diagram should be comprehensive, showing how each building is connected back to the centre and a minimum of how each room or set of computers is connected (showing hundreds of individual PCs would probably not be the most effective method of presentation). The diagram should show how switches/hubs and access points and routers are used together to create the network. There are many possible configurations for the network and thus any sensible layout is acceptable

A basic layout showing direct connections between a number of areas and a central server without the detail of switches/hubs/routers etc

1 mark each for:

Format

Server in IT services

Cables shown

5 departments (optionally + warehouse)

Switch / hub / router

Up to 5 marks

A detailed layout showing accurately how areas are connected to switches/ hubs/ access points etc and then on to the main server

+ 1 mark each for:

Types of cables

Number of PCs and printers (allow more printers)

Position of switches / hubs

Clarity

Server / router connection

Up to 10 marks

A very comprehensive layout showing accurately how all areas are connected and revealing a detailed knowledge of network issues, including e.g. detailed allocation of printers or print servers; routers etc. A very neat diagram would be expected at this level.

+1 mark each for:

Very neat diagram

Overall accuracy

Position of printers

Position of access points

Complexity

Up to 15 marks

Accounts: 10 PCs 1 printer 1 fax
Admin: 8-11 PCs 2 printers
Sales & Marketing: 5 PCs 1 printer
IT Services: 4 PCs / laptops 1 printer
Purchasing: 3 or 4 PCs
Warehouse (optional): cloud, distance 400m

Maximum 15 marks

Annotations identifying devices and media with reasons for choice e.g.

servers

Cable type

switch/hub

router

wireless access point

up to 6 marks

Annotations (anything)

1 mark

Total marks for activity 2 : 27 marks

Activity 3

Required evidence

A document for the Board of Directors explaining the function and costs of all network components used in the design from Activity 2, the role of network operating software and the types of transmission media to connect the devices together. Document to be no more than three A4 pages

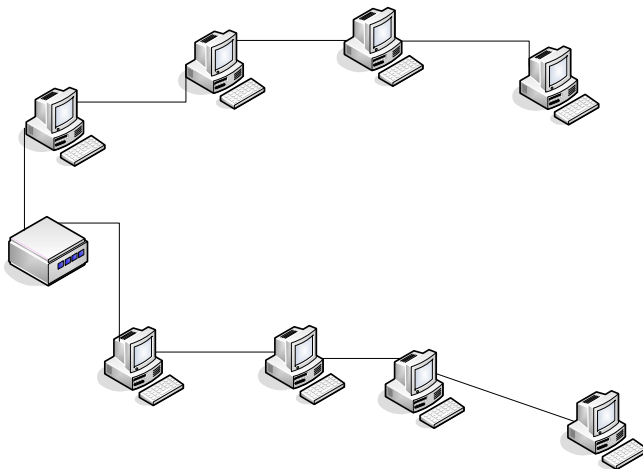
The document should include:

- how each item functions within the network with their costs
- description of the role and purpose of a network operating system
- description of the properties and costs of transmission media that may be used to connect devices together

The hardware devices may include items such as network interface card (NIC), modem, server, repeater, hub, bridge, switch, multi-station access unit (MAU), and router. These should be in their network diagram.

For each device an explanation of their role within a network should be provided in non-technical language. Costs should show evidence of research, manufacturer or supplier should be provided for each. Must have the detailed explanation to get costs mark.

Example;



- Repeater is a device that strengthens a signal so that it can travel on.
- Used to lengthen cable distance between two nodes.
- Removes any unwanted noise in an incoming signal. Even weak and distorted signals can be restored and amplified.
- Amplifying information also means amplifying noise.
- Digital signals fade quicker than analogue signals so need more frequent repeating.
- No more than four repeaters can be used between hosts on a LAN.
- Repeater are only used with Ethernet networks wired with coax cable

Costs: two-port thinnet repeater £100

Up to 2 marks should be given in each case for an explanation and where appropriate a diagram and a guide to costs in each case.

Max 16 marks

A description of the role and purpose of a network operating system

There are many network operating systems to choose from. Up to 2 marks should be given for an overview of the role of an operating system, a list of possible operating systems and approximate costs of each. Evidence of research and understanding.

Example:

A network operating system provides printer sharing, common file system and database sharing, application sharing, and the ability to manage a network name directory, security, and other housekeeping aspects of a network.

Novell NetWare -most popular network operating system for large networks.

Windows NT client/server WAN

Windows 2000 Professional for simple peer to peer network

Max 2 marks

A description of the properties and costs of transmission media that may be used to connect devices together

Examples

Cables:

Thin coaxial

Cost: inexpensive

Bandwidth: 10 Mbps

Max segment length: 185 m

Max nodes per segment: 30

Interference resistance good

Thick coaxial

Cost: inexpensive

Bandwidth: 10 Mbps

Max segment length: 500 m

Max nodes per segment: 100

Interference resistance better

Used as Ethernet backbone

UTP

Cost: least expensive

Bandwidth: 10 - 100 Mbps

Max segment length: 100 m

Max nodes per segment: 1024

Interference resistance poor

Commonly used on Ethernet networks

STP

Cost: cheap moderately expensive
Bandwidth: 10 - 1000 Mbps
Max segment length: 100 m
Max nodes per segment: 1024
Interference resistance fair to good
Common on token ring networks

Fibre optic
Cost: very expensive
Bandwidth: 100 - 1000 Mbps
Max segment length: 80 kilometres
Max nodes per segment: no limit
Interference resistance best
Used for network backbones

Radio
Radio waves used to communicate with one or more access point units located in a building
Each access point can cover a radius between 100- 200 ft
Multiple access points used to cover large area
User can move around building without losing LAN connection

Bluetooth
Uses radio technology at lower power level. Has range of about 10 metres

Microwave
Microwave links limited to line-of-sight transmission

Infrared

Pictures or diagrams may be used.

1 mark for each transmission media described up to a maximum of 6 marks

Max 6 marks

Total marks for activity 3 : 24 marks

Activity 4

Required evidence

- Notes discussing the issues involved in connecting two or more networks

Up to 9 marks to be awarded for a briefing paper which clearly discusses the issues involved in connecting two or more networks

Packet routing

1 mark each for:

- Diagram or explanation of data encapsulation
- the protocols that may be used e.g. RIP, EIGRP, OSPF
- the difference between static & dynamic addressing
- the role of the router in establishing the next hop

Up to 3 marks

Security implications

1 mark each for discussing:

- the difficulties of securing data over a network
- increased security risk to data on a wireless network compared to traditional wired networks
- The need for a security assessment to identify the technical and organisational fallibilities
- Security audits or use of network analyzers to see traffic in the network.
- Use of firewalls.

Up to 4 marks

Compatibility

1 mark each for discussing:

- use of gateway to join two systems that have similar functions e.g LAN to WAN.
- Selection of network operating system e.g Novell NetWare.

Up to 2 marks

Maximum 9 marks

Total marks for activity 4 : 9 marks

Activity 5

Required evidence

- Notes detailing the security procedures the Network Supervisor could introduce
- a memo to the Sales & Marketing Manager explaining the legislation regarding the use of unlicensed software on a network

Examples

Security procedures could include

User accounts passwords

User rights / permissions

File system rights (who gets what)

User profiles

Virus scanning

Audit trails checking

Up to 2 marks for each of up to 4 procedures with an explanation of why needed or how to set up

Maximum 8 marks

Memo to the Sales & Marketing Manager to cover points such as

1 mark for each act:

- The Copyright and Trade Marks Act 2002 / Copyright, Designs and Patents Act 1988
- Computer Misuse Act 1990

Up to 2 marks:

outline of how each Acts protects against illegal copying and usage of software

impact on the company

brief description for 1 mark, detail / with examples 2 marks

Maximum 6 marks

Total marks for activity 5 : 14 marks

Standard ways of working

2 marks

headers & footers with candidate name, centre number & activity number
presented as required: treasury tag, number of pages, font size etc

Total marks for paper 90

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