Unit 3 Networking

	 1- Where one or more central switch, hub or computer acts as a central conduit to transmit messages 2- High data
Star network	3-
	1- Cheap and easy to set up but can be slow under heavy traffic
Name of topology	2-
	1- High transfer speeds
	2- Can fail if 1 node fails
Name of topology	
	 1- A large part of the network may be redundant. 2-
Name of topology	3-

Network hardware					
	A joins together two networks that use				
	b	ase protocols			
	A	joins together two	networks that use		
	b	ase protocols			
Hub					
	Analyses each packet of data and sends it to the computer it was intended for.				
	Stores the address between devices.	ses of computers on the	network and transfers data		
Advantages of a ne	etwork	Disadvantages o	of a network		
1- Share hardware	;	1- Initial cost of	devices can be expensive		
2- Central backup		2-			
3-	3-				
Circuit switching		Packet switching	j		
1- This is susceptil failure	ble to interception an	d 1- If a route fails alternate route.	s then the packet can use an		
2- Line is use	whe	en in 2-			
		3- Data is	into packets that		
3-		all traverse			
		Data packet			
5	00001010001000 10000100010001 1000100100	BILLY & MIT	Checksum (error checking)		
	0100010001010				

Unit 3 Networking

Layers		Protocols	Description of layer		
Application laye)r	HTTPS SMTP FTP	Generates data and requests		
Transport layer		ТСР		_ with remote host	
Network layer			Transfers packets with IP address		
Data link layer		Ethernet	Transfers packets with a	ddress	
Physical layer					
Email protocols	Description			Other protocols	Description
	messages, m		mail typically use SMTP only for server.	HTTP	Allows web pages to computers and
POP3	and stored b	by an email serve	nail, in which email is received er with a client downloading	HTTPS	A more secure version SSL to transport and
IMAP transfers emails between compu				Transmission control procession control procession communication language	
		-	as an alternative	Wireless	2 standards
	Is a protocol and stored b messages w transfers em internet. The email	l for receiving er by an email serve hen ready. nails between co e IMAP protocol	mail, in which email is received er with a client downloading omputer systems via the however is generally used for		A more secure vers SSL to transport ar Transmission contr communication lan

to be shared across different

n of HTTP that uses

data

protocol/ internet protocol – is the basic age or protocol of the Internet.

and

Exam revision	Unit 3	Network hardwa	re	
	Networking	Gateway		
	 1- Where one or more central switch, hub or computer acts as a central conduit to transmit messages 2- 	Hub	Analyses each packet o	f data an
Star network	3-		intended for. Stores the addresses of between devices.	compute
	1- Cheap and easy to set up but can be slow under heavy traffic 2-	Advantages of a 1- Share hardwa 2- Central backu 3-	ire	Disadv 1- Initia 2- 3-
Name of topology	1-	Circuit switching 1- This is suscept failure 2-	otible to interception and	Packe 1- If a alterna 2-
	2-	3-		3- Dat
'Token' Ring network	1- A large part of the network may be redundant.	-	Data	oacket
Name of	2- Complex and	Source address	Information about how the packet will be	
Name of topology	3-			_

and sends it to the computer it was

ters on the network and transfers data

vantages of a network

tial cost of devices can be expensive

et switching

a route fails then the packet can use an nate route.

ata is _____ into packets that

averse _____

	Checksum (error
	checking)

Unit 3 Networking

Layers		Protocols	Description of layer				
Application layer HTTP							
SMTP FTP			Generates the data and requests	S			
Transport layer		TCP	Establishes connection with				
Network layer		IP	Transfers packets with	_ addr	ress		
Data link layer		Ethernet	Transfers packets with	_ addr	ress		
Physical layer							
Email protocols	Description				Other protocols	Description	
	messages, m	use SMTP to ail applications typ sages to a mail serv	mail bically use SMTP only for ver.		HTTP		
POP3	Is a protocol for is received and stored by an en		nail server with a client	-	HTTPS	A more secu	ire version
downloading messages when re IMAP		eady.	-		Transmissio communicat		
					Wi-Fi	2 standards	

n of HTTP that uses

to transport and encrypt data

protocol/ internet protocol – is the basic age or protocol of the Internet.

_ and _____

Unit 3 Networking

TCP/IP is a protocol used for communication between computers when transmitting data over networks.

Complete the diagram below, which shows the typical contents of a TCP/IP (a) packet. [3]

		The destination	n address	
	Reassembly data	/ packet order number		
2	Other track	ing information		
(b)	State the name of each layer in the T	CP/IP 5-layer model.	[5]	
	Layer 5:			
	Layer 4:			
	Layer 3:			
	Layer 2:			
	Layer 1:			
[Describe packet switching.			[3]
(3)				

There are many different types of network topology. State following and explain how the topology will meet the require

	Explanation
(b)	Network needed for a short time (temporary) Topology
	Explanation
(c)	Avoids collisions Topology
	Explanation
Da	ta is split into packets before transmission over a network. Name the two protocol ow packets to be sent and received.

the mo	st suitable	topology	for	the
ement.				[9]