

الإسم الرقم

أجب عن جميع الأسئلة

ورقة الإمتحان تشتمل على عدد 8 صفحات

Questions One: (15 Marks)

Choose the correct answer(s) by putting a circle around it:

- 1- Which of the following regenerates a signal and broadcasts that signal to every computer connected to it?
 - a. Hub
 - b. Switch
 - c. Router
 - d. Firewall
- 2- Which of the following is not a central connecting device?
 - a. Hub
 - b. Switch
 - c. router
 - d. Windows 7 client
- 3- You need to install a network adapter to a computer so that it can be connected to a network that uses twisted-pair cabling. What type of port does the network adapter need to use?
 - a. RJ11
 - b. RJ45
 - c. RG-58
 - d. Fiber optic
- 4- You need to connect a computer's network adapter to a switch. You want the connection to be able to send and receive data simultaneously. What type of connection do you need?
 - a. Half duplex
 - b. Full duplex
 - c. Simplex
- 5- You have just installed a network adapter and configured an IP address and subnet mask. What command can you use to verify that the IP address is configured and listed properly?
 - a. Ping
 - b. Tracert
 - c. CMD
 - d. Ipconfig
- 6- You need to install a router on your company's network that will allow access to the internet. What layer of the OSI does this device reside on?
 - a. Physical
 - b. Data link
 - c. Network
 - d. Transport

- 7- A standard such as 100BASE-T refers to which OSI layer?
- Physical
 - Data link
 - Network
 - Transport
- 8- Users connect to Web sites using web Browser. They usually type domain names such as **www.ABC.com**. What protocol is initiated by default when
- FTP
 - HTTPS
 - HTTP
 - HTP
- 9- Your client requires that you install 284 computers on a single IP network. Which of the following IP classes would be your best option?
- Class A
 - Class B
 - Class C
 - Class D
- 10- You have installed a device that has two IP addresses. One address, 64.51.216.27, is displayed to the Internet. The other address, 192.168.50.254, communicates with the LAN. What type of technology have you implemented?
- Subnetting
 - IPv6
 - Network address translation
 - Class A public IP address
- 11- How long is an IPv6 address?
- 32 bits
 - 128 bytes
 - 64 bits
- 12- Which class of IP address provides a maximum of only 254 host addresses per network ID?
- Class A
 - Class B
 - Class C
 - Class D
- 13- Which protocol does Ping use?
- TCP
 - ARP
 - ICMP
- 14- Where is a hub specified in the OSI model?
1. Application layer
 2. Session Layer
 3. Physical layer
 4. Data Link Layer
- 15- What protocol is used to find the hardware address of a local device?
1. RARP
 2. IP
 3. ICMP
 4. ARP

Questions Two: (30 Marks)

A- Define the following

10 marks

1- NIC Driver

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2- Network Operating System

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3- Network protocol

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4- Protocol Stack

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5- Bandwidth sharing

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6- multicast

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7- Broadband

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8- Internet Service Provider

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9- Hybird Model

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10- Global Topology

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B- Differentiate between the following

10 marks

a- Internetwork layer in OSI And Subnet Layer in TCP/IP

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b- Persistent HTTP and Non Persistent HTTP

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c- Subnetting And Supernetting

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d- Hub and Access point

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e- Frame and packet

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C- Match A with B in C

10 marks

A	B	C
LAN	Internetwork layer	
IPsec	IP to MAC	
IP	Ethernet	
TCP	Frame	
OSPF	Router	
CSMA/CA	CTS	
Wi-Fi	RTC	
switch	Checksum	
UDP	Global IP	
ARP	Port number	

Questions three : (15 Marks)

a- Give a short answer to the following questions

The benefit of using port number in transport layer

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2. Name the OSI layer that responsible of data transformation

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3. Do packets encapsulate segments or do segment encapsulate packets?

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4. Describe how signal travel in bus topology.

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5. Give the OSI layers in the correct order.

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6. what is the signal bounce in bus topology

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7. How do you find the network address from an IP address and netmask?

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8- list three Internet Service provider in sudan

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b- Fill in the blank

- 1- A _____ topology can be defined by connecting several hubs to a switch.
- 2- When several computers are connected in a small geographic area, it is known as a _____.
- 3- A user has connected to a Web site. The information that is sent to that user's computer is encrypted in an encoded format. This change to the data occurs at the _____ layer.
- 4- Your network uses the subnetted IP network 192.168.100.0/26. Its subnet mask is _____.
- 5- The _____ service resolves host names to IP addresses.

Questions Four : (20 Marks)

Given this IP addresses define the following (if the IP address is valid)

- 1- 124.11.5.110/8
network id
first ip addr
subnet mask
broadcast address
- 2- 180.23.50.21/16
network id
first ip addr
subnet mask
broadcast address
- 3- 204.11.2.7.90/24
network id
first ip addr.....
subnet mask
broadcast address
- 4- 33.55.252.7/10
network id
first ip addr
subnet mask
broadcast address
- 5- 25.155.28.7/8
network id
first ip addr.....
subnet mask
broadcast address
- 6- 189.256.45.78/16
network id
first ip addr.....
subnet mask
broadcast address
- 7- 220.33.90.78/8
network id
first ip addr
subnet mask
broadcast address

Give abbreviation for the following

- 1. MTU
- 2. IANA.....
- 3. IMAP.....
- 4. DHCP.....
- 5. IP
- 6. ITIF.....
- 7. POP3.....
- 8. PDU.....
- 9. UDP.....
- 10. FTP.....

Questions Five : (20 Marks)

Give a detailed answer

- 1. using diagrams show how DNS work with WEB
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- 2. mention and explain the fields in IP packet header .
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- 3. using diagram show how computers in a LAN can access the Internet
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4. using diagrams compare between TCP/IP and OSI model

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5. Encapsulation and decapsulation in TCP/IP protocol suite

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6. Presentation layer Functions in OSI model

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7. The advantages and the disadvantages of server-Based model

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Good luck