EXAMINATION PAPER

FACULTY	**:**	**COMPUTER SCIENCE AND MULTIMEDIA**		
COURSE	**:**	**BACHELOR OF INFORMATION TECHNOLOGY (HONS)**		
YEAR/ SEMESTER	**:**	**FIRST YEAR / SEMESTER TWO**		
MODULE TITLE	**:**	**COMPUTER NETWORK**		
CODE	**:**	**BIT 124**		
DATE	**:**	**26 – SEPTEMBER, 2019, THURSDAY**		
TIME ALLOWED	**:**	**3 HOURS**		
START	**:**	**1:00 PM**	**FINISH**	**: 4:00 PM**

Instruction to candidates

1. This question paper has THREE (3) Sections.
2. Answer **ALL** questions in Section A, MCQ.
3. Answer **5** questions in Section B, MSAQ.
4. Answer **2** questions in Section C, MEQ.
5. No scripts or answer sheets are to be taken out of the Examination Hall.
6. For Section A, answer in the OMR form provided.

Do not open this question paper until instructed

(Candidates are required to give their answers in their own words as far as practicable)

SECTION A
Multiple Choice Questions
Attempt All Questions **[30×1=30]**

1. **If the value of checksum is 0, then the message is:**
   A. Accepted
   B. Rejected
   C. Sent back
   D. Resend

2. **CRC stands for:**
   A. Combine resistance check
   B. Cyclic redundancy code
   C. Combine redundancy code
   D. Cyclic redundancy check

3. **Your boss is concerned about security on your network. She wants to make sure that no one can identify passwords if they happen to view a configuration on your router. What command will encrypt all passwords on your router?**
   A. Router1#service password-encryption
   B. Router1(config)#service password-encryption
   C. Router1#enable secret password
   D. Router1(config)#enable secret password

4. **The domain name system is maintained by:**
   A. Distributed database system
   B. A single server
   C. A single computer
   D. None of the above

5. **Transmission Control Protocol (TCP) has the same Checksum controlling like:**
   A. UDP
   B. ICMP
   C. STMP
   D. IP

6. **The header size of a TCP datagram is:**
   A. 4 bytes
   B. 8 bytes
   C. 20 bytes
   D. 28 bytes

7. Guided media provides a conduct from one device to another, includes:

A. Twisted pair cable
B. Fiber optic cable
C. Coaxial cable
D. All of the above

8. Which of the following commands will place an IP address on your Catalyst 1900 switch?

A. Switch1#ip address 10.1.1.1
B. Switch1#ip address 10.1.1.1 255.255.255.0
C. Switch1(config)#ip address 10.1.1.1 255.255.255.0
D. Switch1(config-vlan)#ip address 10.1.1.1 255.255.255.0

9. Routing tables of a router keeps track of:

A. MAC Address Assignments
B. Port Assignments to network devices
C. Distribute IP address to network devices
D. Routes to use for forwarding data to its destination

10. Layer-2 Switch is also called:

A. Multiport Hub
B. Multiport Switch
C. Multiport Bridge
D. Multiport NIC

11. MAC Address is the example of:

A. Transport Layer
B. Data Link Layer
C. Application Layer
D. Physical Layer

12. Which of the following can be Software?

A. Routers
B. Firewalls
C. Gateway
D. Modems

13. What is the benefit of the Networking?

A. File Sharing
B. Easier access to Resources
C. Easier Backups
D. All of the Above

14. Which of the following are NOT the Networking Devices?

A. Gateways
B. Linux
C. Routers
D. Firewalls

15. What do you mean by broadcasting in Networking?

A. It means addressing a packet to all machines except the source pc
B. It means addressing a packet to some machine
C. It means addressing a packet to a particular machine
D. To broadcast the channel

16. The 4 byte IP address consists of:

A. Network address
B. Host address
C. Both network address & host address
D. Only networks

17. What is the function of a router?

A. Converting the data from one format to another
B. Forward the packet to the up links
C. Error detection in data
D. None of the above

18. RIR stands for_____.

A. Regional Internal Registries
B. Registries Internet Regional
C. Regional Internet Registries
D. Registries Internal Regional

19. To test the IP stack on your local host, which IP address would you ping?

A. 127.0.0.0
B. 1.0.0.127
C. 127.0.0.1
D. 127.0.0.255

20. An RPC (remote procedure call) is initiated by the:

A. Server
B. Client
C. Both ‘A and ‘B’
D. Network

21. .In a simple echo-request message, the value of the sum is 01010000 01011100. Then, value of checksum is:

A. 10101111 10100011
B. 01010000 01011100
C. 10101111 01011100
D. 01010000 10100011

22. DNS database contains:

A. Name server records
B. Hostname-to-address records
C. Hostname aliases
D. All of the above

23. Which of the following commands will place an IP address on your Catalyst 1900switch?

A. S1#ip address 10.1.1.1
B. S1#ip address 10.1.1.1 255.255.255.0
C. S1(config)#ip address 10.1.1.1 255.255.255.0
D. S1(config-vlan)#ip address 10.1.1.1 255.255.255.0

24. What is a Firewall in Computer Network?

A. The physical boundary of Network
B. An operating System of Computer Network
C. A system designed to prevent unauthorized access
D. A web browsing Software

25. The wireless network standard is:

A. 803.1
B. 803.2
C. 802.1
D. 802.11

26. If an Ethernet port on a router were assigned an IP address of 172.16.112.1/29, what would be the valid subnet address of this host?

A. 172.16.112.8
B. 172.16.112.0
C. 172.16.96.0
D. 172.16.255.0

27. Each Frame must contain:

A. Only Source MAC address
B. Only Destination MAC address
C. Source and Destination MAC address
D. Source or Destination address

28. _____provides a connection-less service for sending messages:

A. TCP
B. ICMP
C. UDP
D. All of the above

29. Which of the following is correct regarding Class A IP address?

A. Network bit – 14, Host bit – 16
B. Network bit – 7, Host bit – 24
C. Network bit – 18, Host bit – 16
D. Network bit – 21, Host bit – 8

30. You need to subnet a network that has 5 subnets, each with at least 16 hosts. Which class full subnet mask would you use?

A. 255.255.255.192
B. 255.255.255.224
C. 255.255.255.240
D. 255.255.255.248

SECTION B

Short Answers Questions

Answer any five (5) questions out of eight (8) questions [5×6=30]

1. Define the data communication and explain the network processing.

2. Differentiate analog and digital signal as well as analog and digital data transmission.

3. Define protocol. How do you contrast the connection oriented and connectionless service ? [1+5]

4. Illustrates the MAC with its structure and explain it.

5. Define routing table. Explain the advantage and disadvantage of static and dynamic routing protocol. [1+5]

6. Differentiate between traditional Ethernet and fast Ethernet. How do you assign the IP address into protocol? [4+2]

7. Define "domain name". How is a domain name translated to an equivalent IP address? Explain with the help of an example. [1+5]

8. Write short notes on : [**any three**] [3×2]

A. TDMA

B. CDMA

C. Creating subnet

D. Repeaters

SECTION C

Long Answer Questions

Attempt any two (2) questions out of three (3) questions. [2×20=40]

1.

A. Why Subnetting is required? Mention its pros and cons. Explain the class A Subnetting with example. [1+4+5]

B. Let us consider You are in charge of a network that allows a total of 254 (256-2) users (192.168.30.0/24), but the company has a total of 126 employees; 6 in HR, 5 in Accounting, 14 in Legal, 12 in IT, 60 in Sales and 29 in the Warehouse. You need to create subnets that would allow for this number of users and prevent the waste of IP addresses as much as possible. [10]

2.

A. Draw the IPv4 structure and explain? What is NAT? Explain its types. [5+1+4]

B. Explain how does CRC detect the errors with multiple bits? Given message is M(x) = 110010 and the generator is $G(x) = x^3 + x^2 + 1$. Show the actual bit string transmitted, suppose the third bit from the left is inverted during the transmission. Show how the error is detected at the receiver's end. [2+8]

3.

A. Define FLSM. How it is differ from VLSM? Explain the VLSM with examples. [2+2+6]

B. Why is important security protocol in internet? Explain with the help of example.

******BEST OF LUCK******