



MID-TERM EXAMINATION PAPER

FACULTY : COMPUTER SCIENCE AND MULTIMEDIA
COURSE : BACHELOR OF INFORMATION TECHNOLOGY(BIT)
YEAR/ SEMESTER : SECOND YEAR / FOURTH SEMESTER
MODULE TITLE : TCP/IP
DATE : 6TH MARCH 2022
TIME ALLOWED : 3 HOURS
START : 6:30 AM – 09:30 AM
SET : B

Instruction to candidates

1. This question paper has THREE (3) Section
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

(30*1=30)

1. TCP/IP is related to _____.
 - a. OSI
 - b. DECNET
 - c. ALOHA
 - d. **ARPANET**
2. How many levels of addressing is provided in OSI Model?
 - a. One
 - b. **Four**
 - c. Eight
 - d. None of the above
3. You want to implement a mechanism that automates the IP configuration, including IP address, subnet mask, default gateway, and DNS information. Which protocol will you use to accomplish this?
 - a. SMTP
 - b. SNMP
 - c. **DHCP**
 - d. ARP
4. What is the first octet range of Class B address?
 - a. 126 - 191
 - b. 127 - 191
 - c. **128 - 191**
 - d. 129 - 191
5. Which of the following is not private IP address range?
 - a. **10.0.0.0 - 10.255.255.255**
 - b. 172.16.0.0 - 172.31.255.255
 - c. 182.179.0.0 – 190.156.255.255
 - d. 192.168.0.0 to 192.168.255.255
6. You want to implement a mechanism that automates the IP configuration, including IP address, subnet mask, default gateway, and DNS information. Which protocol will you use to accomplish this?
 - a. SMTP
 - b. SNMP
 - c. **DHCP**
 - d. ARP
7. Which protocol uses window flow system?
 - a. UDP
 - b. **TCP**
 - c. FTP
 - d. None of above
8. An IPV4 address is ____ bits.
 - a. 24
 - b. **32**
 - c. 48
 - d. 128
9. A class C address starts with leading bit(s) _____.
 - a. 111
 - b. 010

- c. 101 d. 110
10. What is the subnet mask of Class D address?
a. 255.0.0.0 c. 255.255.255.0
b. 255.255.0.0 d. None
11. Which IP is reserved for loopback testing?
a. 192.168.0.0 c. 255.0.0.0
b. 10.255.255.255 d. None of above
12. What is network id of the address 227.278.119.121?
a. 227 c. 227.278.119
b. 227.278 d. None of the above
13. What is the host id of the address 130.8.23.12?
a. 8. 23.12 c. 12
b. 23.12 d. None of the above
14. Which protocol deals with emails?
a. FTP c. LPD
b. SMTP d. X window
15. Telnet
a. allows user to connect client machine c. sharing files
b. transferring files d. none of above
16. There are _____ different versions of IP popularly used.
a. 2 c. 4
b. 3 d. 5
17. Which of the following is equivalents to 192.168.1.1?
a. 0:0:0:0:0:ffff:c0a8:100
b. 0:0:0:0:0:ffff:c0a8:101
c. 0:0:0:0:0:ffff:c0a8:102
d. 0:0:0:0:0:ffff:c0a8:103
18. Which layer will be used while transmitting data using FTP or Telnet?
a. Presentation c. Application
b. Session d. Transport
19. _____ protocol attack is done in the data-link layer.
a. HTTP b. DNS

- c. TCP/IP
- d. POP
20. TCP/IP model was developed _____ the OSI model.
- a. before
- b. after
- c. simultaneous to
- d. none of the mentioned
21. Which of the following protocols uses both TCP and UDP?
- a. FTP
- b. SMTP
- c. Telnet
- d. None of the above
22. Identify the statement which cannot be associated with OSI model
- a. A structured way to discuss and easier update system components
- b. One layer may duplicate lower layer functionality
- c. Functionality at one layer no way requires information from another layer
- d. None of the mentioned
23. What is the maximum number of valid IP addresses in a class B network?
- a. 65536
- b. 254
- c. 256
- d. None of the above
24. The term _____ means that IP provides no error checking or tracking. IP assumes the unreliability of the underlying layers and does its best to get a transmission through to its destination, but with no guarantees.
- a. reliable delivery
- b. connection-oriented delivery
- c. best-effort delivery
- d. none of the above
25. An application-level protocol in which a few manager stations control a set of agents, known as
- a. TCP
- b. HTML
- c. SNMP/IP
- d. None of the above
26. What protocols are used to find the hardware address of a local device?
- a. ARP
- b. RARP
- c. IP
- d. ICMP
27. Which protocol is connectionless?
- a. ICMP
- b. UDP
- c. IP
- d. TCP
28. To use Simple Network Management System (SNMP), we need
- a. Entities
- b. Standard types
- c. Frames
- d. Rules

29. Which protocol is connection oriented?

- a. ICMP
- b. UDP
- c. IP
- d. **TCP**

30. An application-level protocol in which a few manager stations control a set of agents, known as

- a. HTML
- b. TCP
- c. **SNMP**
- d. SNMP/IP

SECTION B

Short Answer Questions

Answer any five (5) questions out of eight (8) questions.

(5*6=30)

1. Define protocol. Explain Dual stack. (Unit 7, IPv6)
2. Describe TCP/IP in brief. (Unit 3)
3. Difference between TCP and UDP. (Unit 4)
4. Explain briefly about IPV4 address. (Unit 3)
5. What are different types of Network Topology? Explain any one of them with real life example. (Unit 1)
6. What do you mean by SNMP? Explain. (Unit 8)
7. Explain briefly about SCTP. (Unit 6)
8. How can congestion and flow control be obtained using different protocols. (Unit 4)

SECTION C

Long Answer Questions

Answer any two (2) questions out of three (3) questions.

(2*20=40)

1. Explain about TCP/IP model. Describe each layer of TCP/IP model along with their functions. Briefly describe the name of any two protocols used in different layer of TCP/IP model. (Unit 3, 4 & 5)
2. An organization XYZ with listed infrastructure in various department need to design the network. Use Class C IP address and do appropriate sub netting. (Unit 3)
 - i. Reception = 2
 - ii. Administrator = 20
 - iii. Doctors = 300
 - iv. Nurses = 5000

3.

- a. Though IPV4 Addresses have more than 4 billion of available IP addresses but all are not in use. Why? Explain with concrete reason. (5) [Unit 7]
- b. Is IPv6 ultimate solution for IP address? Justify (5) [Unit 7]