Faculty: Computers and Informatics **Class Year:** 2017/2018 **Specialization:** Information Technology **Subject Name:** Computer Networks **Department:** Information Technology	**Midterm Exam**	**Date:** November 2017 **Time Allowed:** 60 min. **No. of Pages:** 2 **No. of Questions:** 30 **Full Mark:** 30 Points

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

1) GBN does not buffer out of order packets, so a receive buffer is not needed
A) False B) True

2) What is the type of the answer to a DNS query for the name of a mail server
A) Type CNAME B) Type NS C) Type A D) Type MX

3) One-hundred 1Kb messages are sent from host A to host B across a network of 5 switches that are separated by 1.5 Mbps links that are 100m long. Assume no acknowledgments, and that the speed of light is 300 meters per microsecond. What is the total transmission delay?
A) 16.6msec B) 0.66msec C) 66msec D) 6.6msec

4) Using the question 3, what is the total propagation delay?
A) 2 microseconds B) 20 microseconds C) 3 microseconds D) 0.3 microseconds

5) Using the question 3, what is the total queuing delay?
A) 10 msec B) 15 msec C) 5 msec D) 0 msec

6) A network router joins two _____ together
A) Gateway B) Networks C) Switches D) Computers

7) Comparing to HTTP 1.0, which method is new to HTTP 1.1?
A) HEAD B) GET C) POST D) PUT

8) UDP are TCP are the same for applications that send one packet at a time
A) False B) True

9) What is the port number for HTTP?
A) 25 B) 21 C) 80 D) 65

10) The situation when a router drops the packet that arrives a full queue is called
A) packet collision B) packet delay C) packet loss D) packet sniffing

11) Which has separate control and data connections?
A) FTP B) SMTP C) POP3 D) HTTP

12) Non-persistent HTTP will require 12 RTTs to transfer 1 web page with 5 objects
A) False B) True

13) Each Web object is addressable by a
A) HTML B) URL C) XML D) HTTP

14) HTTP has a mechanism that allows a cache to verify that its objects are up to date. This mechanism is called
A) Cache Check B) Cache Date C) GET D) Conditional GET

15) TELNET used _____ protocol for data connection
A) IP B) TCP C) DHCP D) UDP

16) Which layer is most likely implemented by hardware?

A) Link Layer B) Application Layer
C) Transport Layer D) Network Layer

17) Suppose on a certain network there are 750 web requests per second. Each request has an average size of 1 Kb. Suppose the link to the Internet is a 1.5 Mbps link. What is the traffic intensity of this link?

A) 0.6 B) 1 C) 2 D) 0.5

18) Using the question 17, suppose the network administrator was worried about queuing delays at the router and wanted to bring the utilization of the link down to 30%. If she decided to upgrade the link, what size link would they have to upgrade to?

A) 2Mbps B) 1.5Mbps C) 3Mbps D) 2.5Mbps

19) The sequence number range must be at least twice the send window for GBN

A) True B) False

20) What is the size of an IP address?

A) 64 bit B) 32 bit C) 16 bit D) 128 bit

21) UDP is an unreliabe protocol

A) False B) True

22) Selective Repeat allows the sender and receiver windows to be unsynchronized

A) True B) False

23) Transport layer of OSI model lies between Network and_____

A) Application B) Data link C) Presentation D) Session

24) Shortening the distance between two routers would reduce the

A) transmission delay B) processing delay
C) propagation delay D) queuing delay

25) Congestion control reduces the transmission rate at the sender when the receiver is overloaded

A) False B) True

26) Protocols are not required to govern communication activity in the Internet

A) False B) True

27) The UDP checksum of the following two binary numbers is

1. 1000 0000 1111 0000
2. 1000 1111 0000 1000

A) 1111 0000 0000 0110 B) 0000 1111 1111 1001
C) 0011 1111 1111 1001 D) 0000 1111 1001 1001

28) UDP implements congestion control but not flow control or reliability

A) True B) False

29) A web cache is both a server and client

A) False B) True

30) A particular FSM is defined by a list of its states, and the triggering condition for each transition

A) False B) True

1) B
2) D
3) C
4) A
5) D
6) B
7) D
8) A
9) C
10) C
11) A
12) B
13) B
14) D
15) B
16) A
17) D
18) D
19) B
20) B
21) B
22) A
23) D
24) C
25) A
26) A
27) A
28) B
29) B
30) B