

## Professional Course Exam., 2020

( 4th Semester )

**BACHELOR OF COMPUTER APPLICATIONS****( Computer Networking )**

Full Marks : 75

Time : 3 hours

*The figures in the margin indicate full marks for the questions***( PART : A—OBJECTIVE )**

( Marks : 25 )

**SECTION—A**

( Marks : 15 )

Tick (✓) the correct answer in the brackets provided :

1×10=10

1. The method of communication, in which transmission takes place in both directions but only one direction at a time, is called

- (a) simplex ( ) (b) multiplexing ( )  
 (c) full-duplex ( ) (d) half-duplex ( )

2. The topology with highest reliability is

- (a) bus topology ( ) (b) star topology ( )  
 (c) mesh topology ( ) (d) ring topology ( )

3. A decrease/loss of energy while data is transmitted is known as

- (a) attenuation ( ) (b) amplitude ( )  
 (c) distortion ( ) (d) noise ( )

4. Which multiplexing technique is used to transmit digital signals?

- (a) FDM ( ) (b) TDM ( )  
 (c) WDM ( ) (d) All of the above ( )

5. Which of the following tasks is **not** done by data link layer?  
 (a) Framing ( ) (b) Error control ( )  
 (c) Channel coding ( ) (d) Flow control ( )
6. Why do we require hamming codes?  
 (a) Error correction ( ) (b) Encryption ( )  
 (c) Decryption ( ) (d) Bit sniffing ( )
7. Which of the following is private IP address?  
 (a) 12.0.0.1 ( ) (b) 168.172.19.39 ( )  
 (c) 172.15.14.36 ( ) (d) 192.168.24.43 ( )
8. The DoD model (also called the TCP/IP stack) has four layers. Which layer of the DoD model is equivalent to the Network layer of the OSI model?  
 (a) Application ( ) (b) Host-to-Host ( )  
 (c) Internet ( ) (d) Network access ( )
9. IEEE 802.11 standards deal with  
 (a) Ethernet ( )  
 (b) Wireless personal area network ( )  
 (c) Bluetooth ( )  
 (d) Wifi ( )
10. Telnet protocol is used to establish a connection to  
 (a) TCP port number 21 ( )  
 (b) TCP port number 22 ( )  
 (c) TCP port number 23 ( )  
 (d) TCP port number 24 ( )

State whether the following statements are *True (T)* or *False (F)* by putting a Tick (✓) mark in the brackets provided : 1×5=5

1. Repeater operates at the application layer of OSI model. ( T / F )
2. The peak amplitude of a signal is the absolute value of its highest intensity, proportional to the energy it carries. ( T / F )
3. Selective repeat ARQ is not efficient for noisy link. ( T / F )

4. The length of an IPv6 address is 128 bits.

( T / F )

5. ICMP is used for reporting errors and management queries.

( T / F )

**SECTION—B**

( Marks : 10 )

Answer the following questions :

2×5=10

1. What is gateway in networking?
2. Explain circuit switching in brief.
3. Explain hamming code
4. What is IP version 4?
5. Why is HTTP a stateless protocol?

**( PART : B—DESCRIPTIVE )**

( Marks : 50 )

1. (a) What is transmission impairment? Explain the common types of transmission impairment in data communication. 3+7=10

**OR**

- (b) Explain the different types of addressing in TCP/IP protocol. 10

2. (a) Explain the working of pulse code modulation for analog to digital conversion with a neat diagram. 10

OR

(b) Explain multiplexing. What are the different types of multiplexing? 3+7=10

3. (a) What is ARQ? Explain the concept of Stop-N-Wait ARQ. 3+7=10

OR

(b) What is ARQ? Explain the concept of selective repeat ARQ. 3+7=10

4. (a) Discuss the differences between distance vector and link state routing with appropriate diagram. 10

OR

(b) Explain the different operations of UDP. 10

5. (a) What is e-mail? Explain the working of various protocols used in e-mail. 3+7=10

OR

(b) What is RTP? Explain the packet format of RTP. 3+7=10

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