

Roll No.

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M. Sc. (Second Semester)
EXAMINATION, May - June, 2022
COMPUTER SCIENCE
Paper Second
[Advanced Computer Networks]

Time : Three Hours]

[Maximum Marks:100

Note : Attempt all sections as directed.

Section - A
(Objective/Multiple Choice Questions)
(1 mark each)

Note : Attempt all questions.

Choose the correct option :

1. In the layer hierarchy as the data packet moves from the upper to the lower layers, headers are -
- (A) Added
 - (B) Removed
 - (C) Rearranged
 - (D) Modified

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2. Communication between a computer and a keyboard involves transmission.
- (A) Automatic
 - (B) Hair-duplex
 - (C) Full-duplex
 - (D) Simplex
3. Why is digital data not easily affected by noise?
- (A) High power transmission
 - (B) Cannot easily change binary 1 to 0
 - (C) High frequency transmission
 - (D) Low frequency transmission
4. What is the number of error bits that occur for a given number of bits transmitted called?
- (A) Bit error
 - (B) Error rate
 - (C) Bit error rate
 - (D) Error bit rate
5. Which of the following is false with respect to digital data transmission?
- (A) LAN is a digital data transmission
 - (B) Can transmit binary data
 - (C) Only restricted to communication between computers
 - (D) Can transmit analog data

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6. Which type of topology is best suited for large businesses which must carefully control and coordinate the operation of distributed branch outlets?
- (A) Ring
 - (B) Local area
 - (C) Hierarchical
 - (D) Star
7. The term HTTP stands for?
- (A) Hyper terminal tracing program
 - (B) Hypertext tracing protocol
 - (C) Hypertext transfer protocol
 - (D) Hypertext transfer program
8. Which software prevents the external access to a system?
- (A) Firewall
 - (B) Gateway
 - (C) Router
 - (D) Virus checker
9. Which among the following represents the objectives/requirements of Data Link Layer?
- (A) Frame Synchronization
 - (B) Error & Flow Control
 - (C) Both (A) & (B)
 - (D) None of the above

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10. The data unit in the TCP/IP layer called a -
- (A) Message
 - (B) Segment
 - (C) Datagram
 - (D) Frame
11. Which of the following OSI layers correspond to TCP/IP's application layer?
- (A) Application
 - (B) Presentation
 - (C) Session
 - (D) All of the above
12. The layer provides a well defined service interface to the network layer, determining how the bits of the physical layer are grouped into frames.
- (A) Data Link
 - (B) Physical
 - (C) Network
 - (D) Session
13. The..... layer is responsible for the process delivery of the entire message.
- (A) Transport
 - (B) Network
 - (C) Data Link
 - (D) Session

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14. In computer networking the term..... refers to selecting paths in a computer network along which to send data.
- (A) Routing
 - (B) Inter-networking
 - (C) Internal organization
 - (D) Congestion control
15. Routing algorithm in contrast change their routing decisions to reflect changes in topology and usually the traffic as well.
- (A) Static or Non-Adaptive
 - (B) Static or daptive
 - (C) Dynamic or Non-adaptive
 - (D) Dynamic or adaptive
16. The task of is to provide reliable, cost effective transport of data from source machine to destination machine.
- (A) Network Layer
 - (B) Transport Layer
 - (C) Presentation Layer
 - (D) Application Layer

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17. A..... gets the data for its zones from locally stored and maintained files.
- (A) Primary name server
 - (B) Secondary name server
 - (C) Ternary name server
 - (D) Primary name client
18. ATM uses.....
- (A) Asynchronous frequency division multiplexing
 - (B) Asynchronous time division multiplexing
 - (C) Asynchronous space division multiplexing
 - (D) Asynchronous amplitude division multiplexing
19. ATM standard defines layers
- (A) 2
 - (B) 3
 - (C) 4
 - (D) 5
20. An ATM cell has the payload field of
- (A) 32 bytes
 - (B) 48 bytes
 - (C) 64 bytes
 - (D) 128 bytes

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Section - B

(Very Short Answer Type Questions)

(2 marks each)

Note: Attempt all questions. Answer using 2-3 sentences.

1. Define Networking?
2. Write the full form of OSI?
3. What is UTP?
4. What is TDM?
5. Write the full form of HDLC?
6. What is PPP?
7. Define client & server?
8. What is ATM?
9. Write the full form of SMDS?
10. What is ISDN?

Section - C

(Short Answer Type Questions)

(3 marks each)

Note: Attempt all question. Answer precisely using <75 words.

1. Discuss Data Communication in brief.
2. Write the benefits of computer network.

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3. Discuss the concept of switching in brief.
4. Discuss 56k and cable modem in short.
5. Discuss flow control-stop and wait in brief.
6. Explain IP address and its header.
7. Discuss the concept of domain name system in short.
8. What is congestion control in ATM?
9. What is frame relay?
10. Discuss RSA Algorithm.

Section - D

(Long Answer Type Question)

(6 marks each)

Note: Attempt all question. Answer precisely using 150 words.

1. Describe the concept of layered architecture with suitable example.
2. Explain the Shannon's and Nyquist theorems for maximum data rate of a channel.
3. Describe the shortest path first routing algorithm with example.
4. Explain the architecture and services of E-mail.
5. Discuss the importance of security in networking in detail?