

Enrollment No.....



Faculty of Engineering
End Sem Examination Dec-2023
CS3CO41 Computer Networks

Programme: B.Tech.

Branch/Specialisation: CSE All

Duration: 3 Hrs.**Maximum Marks: 60**

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d. Assume suitable data if necessary. Notations and symbols have their usual meaning.

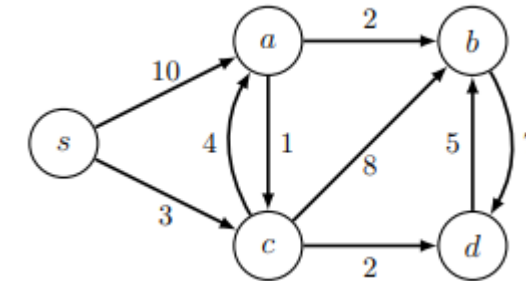
- Q.1 i. The maximum throughput for pure aloha is- **1**
(a) 18.1 (b) 18.2 (c) 18.3 (d) 18.4
- ii. In slotted aloha vulnerable time is _____ the frame transmission time. **1**
(a) Double (b) Tripple (c) Four time (d) None of these
- iii. Which address prefix range is reserved for IPv4 multicast? **1**
(a) 224.0.0.0-239.255.255.255
(b) 224.255.255.255-239.255.255.255
(c) 224.1.1.1-239.0.0.0
(d) 224.0.0.0-239.0.0.0
- iv. ARP request is normally- **1**
(a) Unicast (b) Multicast (c) Broadcast (d) None of these
- v. In a congestion control TCP algorithm, which is correct: **1**
(a) Slow start exponential growth
(b) Threshold is achieved
(c) Variable data transfer after max is reached
(d) Linear after certain interval of time
- vi. Flow control algorithm is _____ while congestion control is _____ **1**
_____.
(a) Break-down maintenance, preventive
(b) Preventive, Breakdown maintenance
(c) Non preventive, breakdown maintenance
(d) Preventive, Non breakdown maintenance

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- vii. Which are the aspects of network performance: **1**
 (a) Performance problems (b) Host design for fast networks
 (c) Fast segment processing (d) All of these
- viii. Delayed acknowledgements reduce the load placed on the network by the receiver is handled by: **1**
 (a) Nagle's Algorithm (b) Silly window syndrome
 (c) Broadcast storm (d) Robust header compression
- ix. SMTP stands for- **1**
 (a) Simple management transfer protocol
 (b) Simple mail transfer protocol
 (c) Single mail transfer protocol
 (d) None of these
- x. Which of the following best describes a domain name? **1**
 (a) It represents the numeric address of an internet site
 (b) It represents the specific location where your LAN is located
 (c) It is the same as the name you give to your primary server
 (d) None of these
- Q.2 i. How collision free protocols come into existence? **2**
 ii. What are the different MAC protocols? Explain in brief. **3**
 iii. Explain binary backoff algorithm with suitable examples. **5**
- OR iv. Out of 32 stations, eight random stations A, B, C, D, E, F, G and H want to transmit data using binary countdown protocol, what will be the order of sending from each station along with the channel efficiency? **5**
- Q.3 i. In IP, the checksum covers only the header and not the data, why do you suppose this design was chosen? **2**
 ii. What are classless and classful addressing schemes used in IPv4? **8**
- OR iii. An IP address of 225.25.54.7 is received at the router. Router has to send this packet into the network. Give the answer of following questions. **8**
 (a) Which class this packet belongs to?
 (b) What is the network address of this class?
 (c) What is the broadcast address of this class?
 (d) Write the number of hosts this class may have?

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- Q.4 i. What are the different QoS services used by the network layer design issues. **3**
 ii. Explain different classifications of routing algorithms on the basis of its functionalities. **7**
- OR iii. Find the shortest path between s and d using Dijkstra algorithm. **7**



- Q.5 i. Explain the header formats for TCP and UDP. **4**
 ii. Write short notes on authentication, PAP, SCP, H.245, socket programming and RTP. **6**
- OR iii. What are the various design issues of transport layer along with following parameters: **6**
 (a) Service primitives (b) Socket programming
 (c) Data transfers (d) Reliability
- Q.6 Attempt any two: **5**
 i. Why do we need DNS system when we can directly use an IP address? **5**
 ii. Why FTP does not have a message format? Explain. **5**
 iii. How HTTP is similar to SMTP, FTP and WWW? **5**
