NPTEL Online Certification Courses

Indian Institute of Technology Kharagpur

Computer Network and Internet Protocol

(Jan-Apr 2024)

Assignment- Week 7

TYPE OF QUESTION: MCQ/MSQ

Number of questions: **10** **Total mark: 10 X 1 = 10**

QUESTION 1:

Based on QoS requirements, video conferencing comes under which class of application?

a) Constant bitrate
b) Real-time variable bitrate
c) Non-real-time variable bitrate
d) Available bit-rate or best-effort

Correct Answer: (b)
Explanation: Video conferencing comes under real-time variable bitrate.

QUESTION 2:

The primary goal of QoS is:

a) Control jitter
b) Degrade loss characteristics
c) Increase communication latency
d) None of the above

Correct Answer: (a)
Explanation: The primary goal of QoS is to control jitter, improve loss characteristics and decrease communication latency.

QUESTION 3:

Which of the following is an example of a traffic scheduling algorithm?

a) Leaky Bucket
b) Token Bucket
c) Weighted Fair Queuing (WFQ)
d) Random Early Detection (RED)

Correct Answer: (c)
Explanation: Weighted Fair Queuing (WFQ) is an example of a traffic scheduling algorithm. It assigns weights to different types of traffic to ensure that they are delivered fairly based on their importance.

QUESTION 4:

What is the transmission delay for pushing a packet of size 1MB through a network with a bandwidth 16Mbps?

a) 2 seconds
b) 0.5 seconds
c) 1 seconds
d) 10 seconds

Correct Answer: (b)
Explanation: Since network bandwidth is 16 Mbps so for sending 1MB (8Mb) of data through the network it will take 0.5 seconds.

QUESTION 5:

What is the role of "Scheduling" in the basic QoS architecture?

a) It regulates the outgoing traffic rate to control jitter.
b) It marks packets according to their service type.
c) Detects which packets violate the QoS, and drops them.
d) Maintains queue and prioritizes packets into the outgoing buffer as per policy.

Correct Answer: (d)
Explanation: In QoS architecture, scheduling maintains queue and prioritizes packets into the outgoing buffer as per policy.

QUESTION 6:

Which of the following statements is TRUE?

a) TCP is for Inelastic Traffic and therefore not preferred for real-time video streaming.
b) TCP is for Elastic Traffic and therefore preferred for real-time video streaming.
c) UDP is for Inelastic Traffic and therefore preferred for real-time video streaming.
d) UDP is for Elastic Traffic and therefore preferred for real-time video streaming.

Correct Answer: (c)
Explanation: UDP is Inelastic Traffic and therefore preferred for real-time video streaming.

QUESTION 7:

Which of the following is true for admission control?

a) It ensures that new flows are entered in the network only if QoS of all the existing flows along with the new flows can be satisfied.
b) It ensures data delivery as fast as it's created by the sender.
c) It ensures that a sender is not overwhelming a receiver by sending packets faster than it can consume.
d) It ensures packet overflow.

Correct Answer: (a)
Explanation: Admission control ensures that new flows are entered in the network only if QoS of all the existing flows along with the new flows can be satisfied.

QUESTION 8:

In differentiated service architecture (DiffServ), what scheduling technique can be used to implement Expedited Forwarding (EF)?

a) Weighted Fair Queueing
b) Priority Queueing
c) Custom Queueing with different queue sizes
d) Combination of Weighted Fair Queueing and Custom Queueing with different queue sizes

Correct Answer: (b)
Explanation: In Differentiated Services (DiffServ) architecture, Priority Queueing, also known as Strict Priority Scheduling, is the scheduling technique commonly used to implement Expedited Forwarding (EF).

QUESTION 9:

Which of the following is TRUE about TCP?

a) TCP sends traffic at a constant rate.
b) TCP ensures congestion will never occur in the network.
c) TCP is a physical layer protocol.
d) TCP detects congestion and acts accordingly to avoid it.

Correct Answer: (d)
Explanation: TCP congestion control algorithm does not ensure that congestion will never happen in the network. Rather it first finds out whether there is congestion in the network, and it updates its sending rate to avoid the congestion from the network.

QUESTION 10:

Which of the following is true for Traffic policing?

a) It is a congestion control mechanism that brings delays in packets.
b) It buffers the packets with rates that are greater than the traffic shaping rate.
c) It is a mechanism that monitors the traffic in any network.
d) It causes delay.

Correct Answer: (c)
Explanation: Traffic policing is a mechanism used for monitoring and controlling the rate of traffic in a network. It involves monitoring the incoming network traffic and determining whether it conforms to a specified traffic profile or meets certain criteria. If the incoming traffic exceeds the specified limits, traffic policing mechanisms may take actions such as dropping or marking packets to enforce traffic policies.
