1000 Computer Networks MCQs

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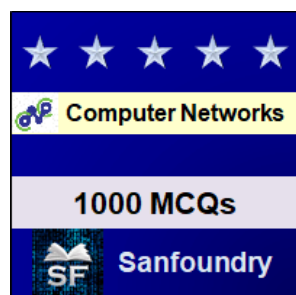- Application Layer - 1
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Computer Networks Questions & Answers – ICMP

This set of Computer Networks Multiple Choice Questions & Answers (MCQs) focuses on "ICMP".

1. Internet Control Message Protocol (ICMP) has been designed to compensate _____
a) Error-reporting
b) Error-correction
c) Host and management queries
d) All of the mentioned

View Answer

Answer: d
Explanation: IP by itself does not provide the features of error reporting or error correction. So, to address these issues a network layer protocol called Internet Control Message Protocol is used. ICMP operates over the IP packet to provide error reporting functionality.

2. Header size of the ICMP message is _____
a) 8-bytes
b) 8-bits
c) 16-bytes
d) 16-bits

View Answer

Answer: a
Explanation: An ICMP message has an 8-byte header and a variable size data section. Out of the 8 bytes, the first 4 bytes are of a fixed format having the type, code and checksum fields and

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3. During error reporting, ICMP always reports error messages to _____
a) Destination
b) Source
c) Next router
d) Previous router

View Answer

Answer: b
Explanation: ICMP notifies the source about the error when an error is detected because the datagram knows information about source and destination IP address. The source can then retransmit the data again or try to correct those errors.

4. Which of these is not a type of error-reporting message?
a) Destination unreachable
b) Source quench
c) Router error
d) Time exceeded

View Answer

Answer: c
Explanation: Router error is not a type of error-reporting message in ICMP. The type of error reporting message is specified in the ICMP header.

5. ICMP error message will not be generated for a datagram having a special address such as _____
a) 127.0.0.0
b) 12.1.2
c) 11.1
d) 127

View Answer

Answer: a
Explanation: 127.0.0.0 is a special address known as the loopback address which is used for testing purpose of a machine without actually communicating with a network. Thus no error reporting message will be generated for such special addresses.

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6. When a router cannot route a datagram or host cannot deliver a datagram, the datagram is discarded and the router or the host sends a _____ message back to the source host that initiated the datagram.
a) Destination unreachable
b) Source quench
c) Router error
d) Time exceeded

View Answer

Answer: a
Explanation: Router sends destination unreachable message if the destination is not found. Destination unreachable is type 3 error reporting message. It is invoked when the router can't find a path to the intended destination to forward the packet through.

b) flow control
c) router control
d) switch control

View Answer

Answer: b
Explanation: Firstly, it informs the source that the datagram has been discarded. Secondly, it warns the source that there is congestion in the network. It's type 4 error reporting message after which the source is expected to reduce the flow of packets.

8. In case of time exceeded error, when the datagram visits a router, the value of time to live field is _____
a) Remains constant
b) Decremented by 2
c) Incremented by 1
d) Decremented by 1

View Answer

Answer: d
Explanation: This field will be decremented by 1 at every router, and will be zero by the time it reaches source. This error reporting message is type 11 and is used to prevent the router from travelling forever in case some unknown path anomaly occurs.

9. Two machines can use the timestamp request and timestamp replay messages to determine the _____ needed for an IP datagram to travel between them.
a) Half-trip time
b) Round-trip time
c) Travel time for the next router
d) Time to reach the destination/source

View Answer

Answer: b
Explanation: The round-trip time refers to the total time taken combining the

by the destination to reach the source. The Router sends destination unreachable message if the destination is not found.

10. During debugging, we can use the _____ program to find if a host is alive and responding.
a) traceroute
b) shell
c) ping
d) java

View Answer

Answer: c
Explanation: Ping program is used to find if a host is alive and responding. It is to be entered into a command line with the syntax "ping (IP address)" to be executed. Traceroute is a program used to find the shortest route to the destination IP.

11. In windows _____ can be used to trace the route of the packet from the source to the destination.
a) traceroute
b) tracert
c) ping
d) locater

View Answer

Answer: b
Explanation: Tracert is used in case of windows, whereas Traceroute in UNIX. Tracert is a program used to find the shortest route to the destination IP. The Router sends destination unreachable message if a path to the destination IP is not found.

12. In a simple echo-request message, the value of the sum is 01010000 01011100. Then, value of checksum is _____