Nokia Scalable IP Networks prerequisites self-evaluation

The Nokia Scalable IP Networks course is designed to transform the knowledge and skills of professionals working in the telecommunications industry. Students attending this course are assumed to have basic telecommunications knowledge and an aptitude for data communications technology. The self-assessment below will help students determine if they have the prerequisite knowledge to ensure they get the most value from attending the course.

If students can answer twelve of the following seventeen questions correctly, they should consider themselves prepared to attend the course. A score of less than twelve may indicate that the student may benefit from some reading or other learning activities before attending the course.

1. Which of the following are characteristics of a connection-oriented network protocol?
   a. A connection is established between the end points before data is exchanged.
   b. Data packets exchanged between the end points may not all travel the same path.
   c. Both end points must have a direct physical connection between them.
   d. The end points maintain state information about the connection between them.
   e. There is typically no acknowledgement or retransmission of data to ensure reliability of the data exchange between the end points.

2. What is the flash memory in a router such as the Nokia 7750 Service Router (SR) typically used for?
   a. The flash memory is used to store the routing and forwarding tables used to forward data packets.
   b. The flash memory is used to store the router OS image and basic configuration information
   c. The flash memory is used to store the route information received from other peer routers in the network.
   d. The flash memory is used only for the storage of log files.
   e. There is typically no flash memory in routers such as the Nokia 7750 SR.

3. What is the purpose of the ping command?
   a. The ping command is used to verify the correct configuration and operation of the TCP/IP software on a host system or router.
   b. The ping command is used to verify the connection to a remote system by sending IP packets to the remote system and verifying the response.
   c. The ping command is used to sound or silence an audible alarm on a computer or network device.
   d. The ping command is used to verify whether or not a system has been infected by a network virus by checking the operation of the TCP/IP protocol stack.
   e. The ping command is used to retrieve user information from a shared system such as a UNIX server.
4. Which of the following is the best definition of the term “NIC”?
   a. NIC stands for “Network InterConnect”, one of the routing protocols used on the Internet.
   b. NIC stands for “Network Interprocess Communication”, a system service provided in UNIX to support communication between an application process and network services.
   c. NIC stands for “Normalized Internet Chat”, the standard Internet protocol used by instant messaging programs such as MSN.
   d. NIC stands for “Network Intrusion Client”, a facility used by anti-virus programs to detect network intrusions.
   e. NIC stands for “Network Interface Card”, the hardware used to physically connect a system to a network.

5. Which of the following relate to the detection of transmission errors in a block of received data?
   a. MAC address
   b. Positive acknowledgement with retransmission
   c. Checksum calculation
   d. Parity bit
   e. Data multiplexing

6. Which of the following statements best defines the meaning of LAN and WAN?
   a. A LAN is a network of devices interconnected using a local area protocol such as Novell Netware while a WAN is a network of devices interconnected using TCP/IP.
   b. A LAN is a network that provides e-mail and file sharing services while a WAN is a network that provides access to Internet web services.
   c. A LAN is a network of computers running a Microsoft operating system such as Windows XP while a WAN is a network of computers running the UNIX or Linux operating system.
   d. A LAN is a network where the systems are physically connected using network cables, while a WAN is a network where the systems are connected using wireless connections.
   e. A LAN is a network of devices where the systems are in close proximity, such as in a building or group of buildings while a WAN is a network of devices where the systems are separated by large distances such as between cities.

7. Which of the following is an accurate description of the bandwidth of a network connection?
   a. 50 Mbits/sec
   b. 10 Mhz
   c. 100 KB d. 802.3
d. None of the above

8. Which of the following is a valid IP address?
   a. 08-00-03-6E-44-3F
   b. 356.42.127.898
   c. 0349.0193.0000
   d. 902-787-8865
e. 62.47.223.147
9. Which of the following is the best definition of the term “communications protocol”?  
   a. A communications protocol defines a set of standard rules for the data representation and signalling required to transmit data over a communications channel.  
   b. A communications protocol defines the operating system and hardware components required for two end systems to communicate over a communications channel.  
   c. A communications protocol defines the maximum size of a data transmission that can occur over a communications channel.  
   d. A communications protocol defines the legal framework by which two end systems in different countries can communicate over a communications channel.  
   e. A communications protocol defines the passwords and process a user must use in order to transmit an e-mail message to another user over a communications channel.

10. Which of the following is the most accurate definition of the Internet?  
   a. The Internet is a network that allows the exchange of documents using the hypertext transfer protocol (HTTP).  
   b. The Internet is a network that allows the exchange of information between MS Windows and UNIX systems through a system of gateways that translate between the different protocols used by these systems.  
   c. The Internet is a protocol developed by the U.S. Department of Defence to allow the exchange of information between dissimilar systems.  
   d. The Internet is a network that allows the direct interconnection of computer systems with the existing telephone network.  
   e. The Internet is a network of interconnected networks and computers that communicate using the Internet protocol (IP).

11. Which of the following best defines the term “Ethernet”?  
   a. Ethernet is a technology that allows a system to connect to a network over a wireless connection.  
   b. Ethernet is a technology that allows computers and network devices such as switches to be physically connected to each other to exchange data.  
   c. Ethernet is a technology that allows a system to exchange e-mail messages with an SMTP mail server.  
   d. Ethernet is a technology that provides the physical interconnection between all the systems that make up the Internet.  
   e. Ethernet is an obsolete technology that allows a system to connect to a network using coaxial cable.

12. Which of the following best describes Telnet?  
   a. Telnet is an application designed for the secure exchange of files over a TCP/IP network.  
   b. Telnet is an application designed for the exchange of files over a TCP/IP network that provides only rudimentary security.  
   c. Telnet is an application that provides secure access to a remote host over a TCP/IP network.  
   d. Telnet is an application that provides non-secure access to a remote host over a TCP/IP network.  
   e. Telnet is the protocol used by IP routers to exchange routing information.
13. How would you express the decimal number 537 as a binary number?
   a. 101001111
   b. 1000011001
   c. 111010101
   d. 1010010101
   e. The decimal number 537 is too large to express as a binary number.

14. What is the decimal equivalent of the binary number 11001000?
   a. 53
   b. 200
   c. 212
   d. 424
   e. 498

15. What is the decimal equivalent of the hexadecimal number AE?
   a. 98
   b. 114
   c. 174
   d. 1014
   e. AE is not a valid hexadecimal number

16. What is the result of a logical AND operation between the two binary numbers 11100010 and 10101010?
   a. 21201020
   b. 1110001010101010
   c. 11101010
   d. 10100010
   e. 10110111

17. Have you had any hands-on experience using a command line interface (CLI) to operate a switch or router, or experience using a CLI to configure and operate a UNIX or Linux system?
   a. Yes
   b. No
### Answer Key

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