BCS Level 4 Certificate in Network Principles
QAN 603/0548/4

Specimen Paper A

Record your surname / last / family name and initials on the answer sheet.

Specimen paper only 20 multiple-choice questions – 1 mark awarded to each question. Mark only one answer to each question. There are no trick questions.

A number of possible answers are given for each question, indicated by either A. B. C. or D. Your answers should be clearly indicated on the answer sheet.

Pass mark is 13/20.

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This qualification is regulated by Ofqual (in England).
1. What is the decimal equivalent of 10101010?

A. 156.
B. 170.
C. 192.
D. 200.

2. Which of the following is the BEST description of a LAN?

A. A virtual private network.
B. An encrypted internet connection.
C. An unencrypted internet connection.
D. A network over a small area.

3. Which protocol is used to map IP addresses to physical MAC addresses?

A. CSMA/CD.
B. Telnet.
C. ARP.
D. UDP.

4. How do network clients use broadcasts to facilitate MAC to IP address mapping?

A. Broadcasts are used for all IP address.
B. Broadcasts are not used for mapping.
C. Broadcast are used for uncached addresses.
D. Broadcast are used over WAN links.

5. In a RIPv2 network, which algorithm does RIP use to calculate the BEST path between networks?

A. Bellmann-Ford.
B. Diffie-Hellman.
C. DUAL.
D. Dijkstra.
6  A byte is a combination of how many bits?

A  4.
B  6.
C  8.
D  32.

7  A customer has a Class B address allocation of 134.104.0.0 and wishes to further divide this into 16 subnets for use across departments. What subnet mask should be used to achieve this?

A  138.172.0.16
B  255.255.16.0
C  255.255.240.0
D  255.255.255.16

8  Which dynamic routing protocol uses Dijkstra’s algorithm to calculate the route between networks?

A  RIPv1.
B  EIGRP.
C  RIPv2.
D  OSPF.

9  Which of the following would BEST describe a MAN?

A  A local network used to connect Bluetooth devices.
B  Many LANs connected to provide global networking.
C  Many LANs connected in the same region.
D  A local network used to connect wireless devices.

10 What service is designed to assign IP addresses to nodes on a TCP/IP network during initialisation?

A  Telnet.
B  PING.
C  Netstat.
D  DHCP.
11. How does encapsulation facilitate data communication?

A. Embeds PDU from higher OSI layers into lower ones.
B. Embeds PDU from lower OSI layers into higher ones.
C. Encrypts PDU from higher OSI layers into lower ones.
D. Encrypts PDU from lower OSI layers into higher ones.

12. What is the maximum decimal number that can be represented in 8 binary bits?

A. 248.
B. 254.
C. 255.
D. 256.

13. Why would dynamic routing be used?

A. To increase network resilience and reduce network administration.
B. To reduce network loading by sharing traffic equally between routers.
C. To reduce network administration by automatically storing the routing tables onto a single server.
D. To allow the use of VPNs in networks where the number of spare IP addresses is limited.

14. Which of the following are routing protocols?

A. OSPF and TCP.
B. RIP and UDP.
C. TCP and UDP.
D. OSPF and RIP.

15. Which port would be opened on a firewall to allow HTTP access to a web server?

A. 25.
B. 53.
C. 80.
D. 88.
A network engineer monitors the company network and notices a bottleneck on the VoIP switch. Which network characteristic is affected?

A Quality of service.
B Default gateway.
C Security.
D DHCP.

What media is used to access wireless devices from a wireless access point?

A Infrared.
B Radio waves.
C Visible light.
D Copper cable.

What is the network IP address of 172.16.150.1 if the subnet mask is 255.255.248.0?

A 172.16.140.0
B 172.16.144.0
C 172.16.148.0
D 172.16.150.0

What is the maximum number of hosts allowed on subnet 172.30.100.0/22?

A 258.
B 510.
C 522.
D 1022.

Which of the following is a characteristic of VLSM?

A The same number of addresses is used in each subnet.
B It provides a more efficient use of addresses.
C The subnet mask is the same for each network.
D VLSM encourages wasted IP addresses on a network.
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