BCS Level 4 Certificate in Network and Digital Communications Theory
QAN 603/0703/1

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 for 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. Media Access Control (MAC) is part of which OSI layer?
A. Network.
B. Physical.
C. Data Link.
D. Transport.

2. Which of the following standards covers Ethernet protocols?
A. 802.3
B. 802.11
C. 802.1
D. 802.6

3. Which of the following would be the result of having a device on the network that is receiving data faster than it can handle, and how COULD it be prevented?
A. Contention and traffic policing.
B. Bottle-neck and traffic shaping.
C. Contention and traffic throttling.
D. Dropped packets and rate throttling.

4. Which layer of the TCP/IP model encapsulates the IP Header?
A. Application.
B. Transport.
C. Network.
D. Data Link.

5. Which of the following is a disadvantage of using the OSPF protocol?
A. Hierarchical protocol.
B. Processor intensive.
C. Uses multicasting.
D. Single copy of routing information.
6 Which of the following is an advantage of using the OSPF protocol?
A Low link overhead.
B Low processing requirement.
C Path consistency.
D Single copy of routing information.

7 Which of the following is an advantage of the TCP / IP network model?
A It supports different architectures.
B It is simple to set up.
C The data is encrypted.
D It has a low overhead.

8 Which of the following is TRUE of traffic shaping?
A Buffers excess traffic.
B Identified packets are dropped.
C Limits the amount of data transferred.
D Increases the speed of data transmission.

9 An ISP (Internet Service Provider) wants to differentiate customer packages by connection speed. Which method would achieve this?
A Bandwidth cap.
B Traffic Policing.
C Bandwidth throttling.
D Traffic Shaping.

10 Which of the following statements is TRUE for using checksums when transmitting data?
A Allows correction of errors.
B Verifies data integrity.
C Verifies data authenticity.
D Data is encrypted.
11 Why does contention in a network cause a slow response for users?
A Networks are limited in the number of connections.
B Causes data packets to be dropped.
C Causes data to be corrupted.
D Data has to be retransmitted.

12 In which of the following scenarios would it be preferable to use static routing?
A Where redundancy is a priority.
B Routing to a stub network.
C In a large constantly changing network.
D Routing to a WAN.

13 Which of the following is an advantage of static routing?
A Scalability.
B Resilience.
C Low processor overhead.
D Easy to update.

14 Which of the following error control techniques COULD give a false-positive result?
A Checksum.
B CRC.
C Parity.
D Redundancy.

15 Which of the following statements is CORRECT?
A The Physical layer specifies the transmission method and the protocol used to transfer data.
B The Data layer specifies the operation of hubs and repeaters.
C The Physical layer determines the electrical connections and the Data layer defines flow control.
D Errors created in the Physical layer are detected in the Data layer.
16 Which of the following protocols is used for network management?
A SMTP.
B TCP / IP.
C SNMP.
D UDP.

17 Which of the following failure modes **MOST LIKELY** occur at the Network layer?
A Complete disconnection of system.
B Windowing failure caused by congestion.
C Hardware / firmware incompatibility.
D Link failure caused by network congestion.

18 Which of the following is an attribute of the UDP protocol?
A Incorporates error correction.
B Creates reliable connections.
C Incorporates flow control.
D Does not retransmit.

19 Which of the following can prevent an unauthorised person from accessing the network by plugging into an open network port?
A 802.1x.
B DHCP.
C 802.1q.
D NIDS.

20 Which of the following may cause a LAN to hang?
A An Ethernet cable with both ends connected into the same switch.
B A fibre optic cable operating too close to a high-power electric motor.
C Network components continually running in a cooled room.
D Cat5e cables connecting network devices spaced 65 m apart.

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