

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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- 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 OSI model would lead to logical addresses being encapsulated?
- A Physical layer.
 - B Data link layer.
 - C Session layer.
 - D Network layer.
- 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 network failures would be considered to be caused by human error?
- A** Changes to configuration files.
 - B** Denial of service attacks.
 - C** Hardware / firmware incompatibility.
 - D** Link failure caused by network congestion.
- 7** 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.
- 8** 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.
- 9** 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.
- 10** Which of the following is the CORRECT definition of bandwidth?
- A** The maximum bit rate across a communication path.
 - B** The maximum data throughput of a communication path.
 - C** The average rate of successful data transfer.
 - D** The amount of data transferred in a prescribed time.

- 11** 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.
- 12** Which of the following protocols is used for network management?
- A** SMTP.
 - B** TCP / IP.
 - C** SNMP.
 - D** UDP.
- 13** Why would you add a static route to a dynamic router?
- A** To limit traffic to nodes.
 - B** To restrict access to a sub-net.
 - C** To provide redundant routes.
 - D** To provide a default route.
- 14** Which of the following describes the effect of contention on network performance?
- A** Increases speed of connections.
 - B** Increases data retransmissions.
 - C** Causes data loss.
 - D** Latency is increased.
- 15** Which of the following is highest priority when implementing traffic control?
- A** Increase connection speed.
 - B** Increase security.
 - C** Reduce data latency.
 - D** Detect data errors.

- 16 Which of the following is an advantage of using static routing for a small network?
- A Increased efficiency.
 - B Less risk of human error.
 - C Network resilience.
 - D Low administration needs.
- 17 The Application layer in the TCP / IP model is equivalent to which **three** layers in the OSI model?
- a) Data link layer.
 - b) Application layer.
 - c) Transport layer.
 - d) Session layer.
 - e) Presentation layer.
- A a, b and e only.
 - B b, d and e only.
 - C a, c and d only.
 - D b, c and e only.
- 18 Which of the following is used to route data from specified applications to specified routes?
- A Traffic shaping.
 - B Network design.
 - C Traffic policing.
 - D Rate limiting.
- 19 Which of the following differentiates RIPv2 over RIP?
- A RIPv2 is a classful routing protocol.
 - B RIPv2 supports IPv6 networking.
 - C RIPv2 has an increased Hop count of 16.
 - D RIPv2 uses Multicast to propagate the routing table.

- 20** Which of the following protocols broadcasts the entire routing table periodically?
- A** RIPv1.
 - B** BGP.
 - C** OSPFv2.
 - D** OSPFv3.

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