Network Principles (for the Level 4 Network Engineer Apprenticeship)

9628-403 Network Principles

Sample question paper answer sheet

Pass mark 21/30 (70%)

Question	ANSWER KEY	Test specification reference
1	A	1.1a Describe the role of the technologies used in a network of computers and shared devices, including • Shared storage o NAS/SAN o Virtualisation o Cloud based o Input and output.
2	A	1.1a Describe the role of the technologies used in a network of computers and shared devices, including • Shared storage o NAS/SAN o Virtualisation o Cloud based o Input and output.
3	D	1.1b Describe the role of the technologies used in a network of computers and shared devices, including • File sharing o FTP o TFTP o NFS o NTFS.
4	A	1.1b Describe the role of the technologies used in a network of computers and shared devices, including • File sharing o FTP o TFTP o NFS o NTFS.
5	C	1.1c Describe the role of the technologies used in a network of computers and shared devices, including • Email o IMAP o POP3 o SMTP.

6	B	1.1d Describe the role of the technologies used in a network of computers and shared devices, including • Remote execution o Telnet o SSH o Remote desktop.
7	C	1.1e Describe the role of the technologies used in a network of computers and shared devices, including • Distributed computing o Virtualisation o Cloud computing.
8	D	1.1f Describe the role of the technologies used in a network of computers and shared devices, including • Resource redundancy o High availability o Load balancing o Clustering.
9	C	1.1g Describe the role of the technologies used in a network of computers and shared devices, including o Disaster recovery (warm site, hot site, cold site).
10	A	1.2a Describe concepts of physical and logical networks • Local area networks • Metropolitan or campus networks • Wide area network • Wired and wireless networks.
11	B	1.2a Describe concepts of physical and logical networks • Local area networks • Metropolitan or campus networks • Wide area network • Wired and wireless networks.
12	D	1.2b Describe the advantages and disadvantages of each physical and logical network to meet a given requirement • Local area networks o Ethernet o Fibre-optic o Powerline.
13	D	1.2c Describe the advantages and disadvantages of each physical and logical network to meet a given requirement • Metropolitan or campus networks o ATM o Gigabit Ethernet • Wide area network o Cable broadband o ADSL.

14	B	1.2d Describe the advantages and disadvantages of each physical and logical network to meet a given requirement • Wired and wireless networks o Wireless 802.11 standard o IEEE 802.15 standard.
15	D	1.3 Explain the function of typical infrastructure components of physical networks • Physical cabling • Repeaters • Hubs • Switches • Bridges • Routers • Inter-protocol gateways.
16	B	1.3 Explain the function of typical infrastructure components of physical networks • Physical cabling • Repeaters • Hubs • Switches • Bridges • Routers • Inter-protocol gateways.
17	D	2.1a Compare and contrast the OSI and TCP/IP models • Function of each layer.
18	A	2.1b Compare and contrast the OSI and TCP/IP models • Protocols associated with layers.
19	C	2.1b Compare and contrast the OSI and TCP/IP models • Protocols associated with layers.
20	C	2.2 Identify infrastructure components associated with the appropriate layers of the OSI and TCP/IP models • Physical cabling • Repeaters • Hubs • Switches • Bridges • Routers • Inter-protocol gateways.
21	A	2.2 Identify infrastructure components associated with the appropriate layers of the OSI and TCP/IP models • Physical cabling • Repeaters • Hubs • Switches • Bridges • Routers • Inter-protocol gateways.

22	C	3.1a Describe the differences between a class based (IPv4) and classless interdomain routing scheme • IPv4 addressing schemes for classes A-D • Subnet IPv4 address • Supernet IPv4 address • Address format for IPv6.
23	D	3.1b Explain reasons for using each of the following in a given context • IPv4 addressing schemes for classes A-D • Subnet IPv4 address • Supernet IPv4 address • Address format for IPv6.
24	C	3.1b Explain reasons for using each of the following in a given context • IPv4 addressing schemes for classes A-D • Subnet IPv4 address • Supernet IPv4 address • Address format for IPv6.
25	C	3.1c Calculate subnet values, including conversions • Binary to decimal • Decimal to binary.
26	D	3.1c Calculate subnet values, including conversions • Binary to decimal • Decimal to binary.
27	A	3.1d Convert binary and decimal to hexadecimal notation.
28	D	3.2a Explain the advantages and disadvantages offered by static and dynamic routing for a local area network • Static routing.
29	B	3.2b Explain the advantages and disadvantages offered by static and dynamic routing for a local area network • Dynamic routing.
30	A	3.2c Describe how routing protocols function • Link state o OSPF • Distance vector o IGRP o RIP • Interior and exterior gateway o BGP o EGP.