CORRELATION OF STANDARDS WITH

GOODHEART-WILLCOX

Standard	Text	Laboratory Manual	Study Guide
Domain 1.0 PC Hardware			
1.1 Configure and apply BIOS settings.	111–112		
Install firmware upgrades—flash BIOS	110–112		
BIOS component information	20 (third	Lab Activity 26	
	paragraph), 64–65,		
	111–112		
BIOS configurations	64–65, 110–111	Lab Activity 26	
Use built-in diagnostics	637–638	Lab Activity 26	
Monitoring	637–638	Lab Activity 26	
1.2 Differentiate between motherboard	16–24, 77–120		4–6, 25
components, their purposes, and properties.			
Sizes	79–84		20–21
Expansion slots	21, 87–93, 113	Lab Activity 01,	5–6, 23
	(Figure 3–46)	Lab Activity 41	Practice 3.5, 3.8
RAM slots	18, 19, 113 (Figure	Lab Activity 01,	5–6, 42–43 (6.5)
	3–46), 208–215	Lab Activity 34	Practice 3.8
CPU sockets	16, 17, 113, 146–	Lab Activity 30	5–6, 30 (4.9)
	148		
Chipsets	85–86		
Jumpers	114 (CMOS Clear), 377 (SCSI ID	Lab Activity 01	70 (9.13)
	Jumper)		
Power connections and types	113 (Fig 3–46), 115 (fig 3–49), 175–179	Lab Activity 01	37 (5.9)
Fan connectors	83, 113, 114, figure 3–47	Lab Activity 01	
Front panel connectors	113, 114 (Fig 3–47)	Lab Activity 01	26
Bus speeds	88, 215		Practice 3.5, 3.6
1.3 Compare and contrast RAM types and features.			
Types	200–206	Lab Activity 34, Lab Activity 46	39–41
RAM compatibility and speed	208–215	Lab Activity 34	42–43
1.4 Install and configure expansion cards.	200 213	Lab / letivity 54	12 73
Sound cards	308–309, 311–313		
Video cards	288–292	Lab Activity 40,	
		Lab Activity 41	
Network cards	696–698		147 (16.20)
Serial and parallel cards	15		
USB cards	93–98		
FireWire cards	99		
Storage cards	474–475		

CORRELATION OF STANDARDS WITH

GOODHEART-WILLCOX

Modem cards	519-523		
Wireless/cellular cards	93, 100		
TV tuner cards	297		
Video capture cards	311		
Riser cards	81–83, 100		
1.5 Install and configure storage devices and use	370–378		
appropriate media.			
Optical drives	405-407	Lab Activity 52,	70 (10.2), 73
		Lab Activity 53	(10.4), 74
Combo drives and burners	393	Lab Activity 52,	74
		Lab Activity 53	
Connection types	367–383, 405–407	Lab Activity 41,	68 (9.10), 69
		Lab Activity 52,	
		Lab Activity 53	
Hard drives	347–349, 370	Lab Activity 01,	63
		Lab Activity 43,	
		Lab Activity 44,	
		Lab Activity 45,	
		Lab Activity 52	
Solid-State Drives and flash drives	220–222, 357,		
	381–382		
RAID types	378		Practice 17.15,
			17.16
Floppy drive	333–335	Lab Activity 01	63
Tape drive	335–336		63
Media capacity	333, 334, 338, 355,		
	357, 363, 367, 376,		
	400		
1.6 Differentiate among various CPU types and	137–146, 151–160		
features and select the appropriate cooling			
method.			
Socket types	126–128		30 (4.9)
Characteristics	137–147		29–30 (4.8)
Cooling	151–156		
1.7 Compare and contrast various connection			
interfaces and explain their purpose.			
Physical connections	12–16	Lab Activity 01,	4–6, 25
		Lab Activity 41,	
		Lab Activity 43,	
		Lab Activity 45,	
		Lab Activity 52,	
		Lab Activity 53,	
Consider distances and for account a finite of	102 255 260	Lab Activity 99	Dunation 42 2 42
Speeds, distances, and frequencies of wireless	183, 255–260	Lab Activity 99	Practice 12.3, 12-
device connections	475 404		11.
1.8 Install an appropriate power supply based on	175–181		

CORRELATION OF STANDARDS WITH

GOODHEART-WILLCOX

a given scenario.			
Connector types and their voltages	175–181	Lab Activity 32	33, 34
connector types and their voltages	173 101	Lub Activity 32	Practice 5.9
Specifications	180		Tructice 3.5
Dual voltage options	179–180		
1.9 Evaluate and select appropriate components	173 100		Practice 4.6, 4.7,
for a custom configuration to meet customer			4.8
specifications or needs.			All of chapter 8
			practice.
Graphic/CAD/CAM design workstation	303		
Audio/Video editing workstation	290	Lab Activity 41	
Virtualization workstation,	68, 134	,	
Gaming PC	317–318, 320		
Home Theater PC	296–297		
Standard thick client	699 (last paragraph		
	of Thin Client)		
Thin client	69, 699		
Home Server PC	809 (Network		
	Attached Storage)		
1.10. Given a scenario, evaluate types and			All of chapter 8
features of display devices.			practice.
Types	274–287		
Refresh rates	278		55-56 (8.6, 8.7)
Resolution	271		54 (8.4)
Native resolution	284		53 (8.2)
Brightness/lumens	280, 282, 283–284		
Analog vs. digital	288–296		
Privacy/antiglare filters	552		
Multiple displays	470–481	Lab Activity 42	
1.11 Identify connector types and associated	14		
cables.			
Display connector types	14, 294–295	Lab Activity 01,	58–59
		Lab Activity 41	Practice 1.7
Display cable types	289, 294–295	Lab Activity 01	60
Device connectors and pin arrangements	298–302	Lab Activity 32,	Practice 1.7
		Lab Activity 41,	
		Lab Activity 99	
Device cable types	298–302	Lab Activity 41,	
		Lab Activity 99	
1.12 Install and configure various peripheral devices.			
Input devices	236–264	Lab Activity 37,	Practice 1.7
		Lab Activity 38,	Practice 7.2, 7.3,
		Lab Activity 39	7.4, 7.5, 7.8,
Multimedia devices	249-251	-	All of chapter 8
			practice.
	II.	II.	_ ! '

CORRELATION OF STANDARDS WITH

GOODHEART-WILLCOX

Output devices	291–293, 311–313,	Lab Activity 41	Practice 1.7
	429–439		All of chapter 8
			practice.
Domain 2.0 Networking			
2.1 Identify types of network cables and	676–684		
connectors.			
Fiber	680–681		141 (16.9), 142
			(16.11), 143
	670 670		(16.13)
Twisted pair	678–679	Lab Activity 99	141–142 (16.9–
			16.10), 143–144 (16.13–16.14)
			Practice 1.7
Coaxial	677		108 (13.9), 141
Coaxiai	077		(16.9
2.2 Categorize characteristics of connectors and			
cabling.			
Fiber	680–681		141 (16.9), 142
			(16.11), 143
			(16.13)
Twisted pair	678–679		141–142 (16.9–
			16.10), 143–144
			(16.13–16.14)
Coaxial	677		108 (13.9), 141
			(16.9
2.3 Explain properties and characteristics of			
TCP/IP			
10.1	755 756		D 1: 40.4
IP class	755–756	Lab Activity 83	Practice 18.4,
ID. A. va. ID. C	670 754 755	Lab Astivity OF	18.5, 18.6
IPv4 vs. IPv6 Public vs. private vs. APIPA	670, 754–755 757–758	Lab Activity 95 Lab Activity 88,	Practice 18.2, 18.3
Public vs. private vs. APIPA	757-756	Lab Activity 95	
Static vs. dynamic	757	Lab Activity 88	
Client-side DNS	759, 760 (Tech tip)	Lab Activity 00	
DHCP	669	Lab Activity 88	Practice 18.7
Subnet mask	756	Lab Activity 88	Practice 18.5, 18.6
Gateway	764	Lab Activity 88	
2.4 Explain common TCP and UDP ports,		232 / (017)() 00	
protocols, and their purpose.			
Ports	581–582	Lab Activity 62,	Practice 18.10,
		Lab Activity 63	18.11
Protocols	669–674	Lab Activity 62,	140 (16.7), 144
		Lab Activity 63,	(16.15)
		Lab Activity 83,	Practice 17.7

CORRELATION OF STANDARDS WITH

GOODHEART-WILLCOX

	1	1	,
		Lab Activity 87,	Practice 18.16,
		Lab Activity 89,	18.17
		Lab Activity 92,	
		Lab Activity 94,	
		Lab Activity 96,	
		Lab Activity 99	
TCP vs. UDP	670		
2.5 Compare and contrast wireless networking			
standards and encryption types.			
Standards	701	Lab Activity 58,	143 (16.12), 148
		Lab Activity 99	(16.24)
			Practice 16.19,
			16.20, 16.24
			Practice 7.6, 7.7
Encryption types	691–693, 782, 784		·
	(HTTPS), 785 (SSH),		
	803		
2.6 Install, configure, and deploy a SOHO wireless/wired router using appropriate settings.			
MAC filtering	817	Lab Activity 99	
Channels (1–11)		Lab Activity 99	
Port forwarding, port triggering	818-820	Lab Activity 99	Practice 19.8
SSID broadcast (on/off)	817	Lab Activity 99	
Wireless encryption	691–693, 803	Lab Activity 99	
Firewall	581–582, 764–766	Lab Activity 93	Practice 19.7
DHCP (on/off)	756-758	Lab Activity 99	
DMZ	817	Lab Activity 99	Practice 19.8
NAT	810	Lab Activity 93,	Practice 19.4,
		Lab Activity 96,	19.5, 19.6, 19.9,
		Lab Activity 99	19.13
WPS	691-693	Lab Activity 59,	
		Lab Activity 99	
Basic QoS	673 (last		
	paragraph, Tech		
	Tip), 755		
2.7 Compare and contrast Internet connection			
types and features.			
Cable	526-528		108–109 (13.10–
			13.11)
			Practice 16.10,
			16.11, 16.13,
			16.14, 16.15
DSL	523-526		100 (10 1)
Dial-up	521–522	Lab Activity 61	103 (13.1)
Fiber	527		Practice 16.11

CORRELATION OF STANDARDS WITH

GOODHEART-WILLCOX

Satellite	528-529		
ISDN	523		
Cellular (mobile hotspot)	529–535, 812		
Line of sight wireless Internet service	666–667		
WiMAX	535		
2.8 Identify various types of networks.	333		
LAN	662		136 (16.2)
LAIN	002		130 (10.2)
WAN	662		136 (16.2), 163-
			172 (18.1–18.21)
PAN	662		136 (16.2)
			Practice 7.7
MAN	662		136 (16.2)
Topologies	662–667		136-137 (16.3)
2.9 Compare and contrast network devices, their			
functions, and features.			
Hub	689		137–138 (16.4)
Switch	689		146 (16.18)
			Practice 18.9
Router	689–691	Lab Activity 99	146 (16.18)
			Practice 18.9
Access point	681	Lab Activity 96,	
		Lab Activity 99	
Bridge	762		Practice 18.9
Modem	514	Lab Activity 96	105 (13.3)
			Practice 13.1,
			13.6,13.8
NAS	809	Lab Activity 96	Practice 19.3
Firewall	581–582	Lab Activity 93	Practice 18.9
VoIP phones	669, 673–674		
Internet appliance	761–766, 822		
2.10 Given a scenario, use appropriate			
networking tools.			
Crimper	684		145–146 (16.16–
			16.17)
Multimeter	167–172	Lab Activity 31	145–146 (16.16–
			16.17)
			Practice 5.3, 5.5,
	505 /T		5.6, 5.7
Toner probe	685 (Tone		145–146 (16.16–
Cabla tasta	Generator)		16.17)
Cable tester	686		145–146 (16.16–
Landard of the	505		16.17)
Loopback plug	686		145–146 (16.16–
Dung ala dayuna ta a l	COC		16.17)
Punchdown tool	686		145–146 (16.16–

CORRELATION OF STANDARDS WITH

GOODHEART-WILLCOX

			16.17)
Domain 3.0 Laptops			,
3.1 Install and configure laptop hardware and	467–477, 496–502		
components.			
Expansion options	468–407		Practice 12.7
Hardware/device replacement	492-502		
3.2 Compare and contrast the components			
within the display of a laptop.			
Types	473		
Wi-Fi antenna connector/placement	498–499, 501	Lab Activity 58	
Inverter and its function	280		
Backlight	280		
3.3 Compare and contrast laptop features.			Practice 12.1
Special function keys	475–476		
Docking station vs. port replicator	470–471		95 (12.5)
Physical laptop lock and cable lock	492		
Domain 4.0 Printers			
4.1 Explain the differences between the various	420–427		
printer types and summarize the associated			
imaging process.			
Laser	420–424		78–81 (11.3)
Inkjet	424–425		81 (11.3)
Thermal	427		Practice 11.5
Impact	425–427		82 (11.4)
4.2 Given a scenario, install, and configure	433–438		Practice 11.6,
printers.	404 400		11.7, 11.8
Use appropriate printer drivers for a given	431–433		
operating system	422 420		04 (11 0 11 10)
Print device sharing	433–438		84 (11.9–11.10)
Printer sharing	433–438		
4.3 Given a scenario, perform printer maintenance.	420–427		
Laser	420–424		89–91 (11.15)
Thermal	427		09-91 (11.13)
Impact	425–427		
Domain 5.0 Operational Procedures	425-427		
5.1 Given a scenario, use appropriate safety		vi	
procedures.		V1	
ESD straps	25		8
Lob straps	23		
ESD mats	25		
Self-grounding	25 (Tech tip)		
Equipment grounding	174–175		
Personal safety	27–30		8–9, 38 (5.12)
			, (,
Compliance with local government regulations	271–274		

CORRELATION OF STANDARDS WITH

GOODHEART-WILLCOX

5.2 Explain environmental impacts and the		
purpose of environmental controls.		
MSDS documentation for handling and disposal	451	
Temperature, humidity level awareness, and	154-156	
proper ventilation		
Power surges, brownouts, blackouts	183	38 (5.11)
Protection from airborne particles	642	
Dust and debris	600	
Component handling and protection	24–26	7 (1.12)
Compliance to local government regulations	871–874	
5.3 Given a scenario, demonstrate proper		
communication and professionalism.		
Use proper language—avoid jargon, acronyms,	859, 826–863	184–186 (20.3–
slang when applicable		20.9)
Maintain a positive attitude	863	
Listen and do not interrupt the customer	864	185 (20.5)
Be culturally sensitive	868-869 (Handling	
	Difficult Situations)	
Be on time (if late contact the customer)	869 (Your Word)	
Avoid distractions	863 (last	Practice 20.5
	paragraph)	
Dealing with difficult customer or situation	868-869	187 (20.13)
Set and meet expectations/timeline and	869, 870 (Follow-	188 (20.14)
communicate status with the customer	Up, Contracts,	
	Teamwork)	
Deal appropriately with customers confidential	868	188 (20.15)
materials		
5.4 Explain the fundamentals of dealing with		
prohibited content/activity.		
First response	873	Practice 20.15
Use of documentation/documentation changes	873	Practice 20.15
Chain of custody	873	Practice 20.15