

Intermediate TCP/IP

Introduction.....	1
IP Address.....	1
Subnetwork Mask.....	1
Domain Name Server.....	2
Gateway.....	2
Exercise 1 -- Introduction.....	3
TCP/IP Review.....	4
Physical Layer.....	4
IP Layer.....	5
TCP and UDP Layer.....	10
Application Layer.....	10
Hexadecimal Conversions.....	11
IP Addresses.....	15
Static IP Addresses.....	15
Dynamic IP Addresses.....	16
Classifications of IP Addresses.....	17
Subnet Mask.....	19
Exercise 2.....	22
Exercise 3.....	23
Gateway.....	25
DNS.....	25
TCP/IP Stack.....	26
Configuring TCP/IP.....	26
Verifying the TCP/IP Configuration.....	27
Computer Setup.....	28
Exercise 4 – Configuring TCP/IP in Windows.....	29
Exercise 5 – Configuring TCP/IP in UNIX/Linux.....	30

Address Resolution Protocol (ARP)	32
Booting Up.....	33
Pinging a Computer on the Same Network.....	33
Pinging a Computer on a Different Network.....	35
Exercise 6 -- ARP	39
Subnetting	40
IP Classes and Breakout.....	40
Subnetting Example	43
Exercise 7 -- Subnetting.....	45
Appendix A: Frame and Packet Formats	48
Appendix B: Solutions to Exercises	49
Solutions to Exercise 1 -- Introduction	49
Solutions to Exercise 2.....	51
Solutions to Exercise 3.....	52
Solutions to Exercise 6 -- ARP.....	55
Solutions to Exercise 7-- Subnetting.....	57