Computer Networks
Jacobs University Bremen
Fezile Manana

Course: CO20-320301
5th March 2019

Homework 2

Problem 2.1

Solution:

a) (i) In our case we will take into consideration the ports with the lowest port ID. Though this may be inaccurate to real life where the many types of cables and speeds are taken into account.
B2: P2.2
B4: P4.2
B8: P8.2
B3: P3.2
B7: P7.1
B5: P5.1
B6: P6.1

(ii) Ports for each segment:
A: P4.1
B: P1.1
C: P2.1
D: P1.2
E: P2.3
F: P3.3
G: P6.2
H: P4.3
I: P7.2
J: P1.3
K: P8.3
L: P2.4

(iii) Ports that will be blocked:
C: P3.1
G: P5.2
I: P5.3
K: P6.3
L: P8.1

b) (i) The root bridge would be B2.
B3: P3.2
B6: P6.1
B8: P8.1
B5: P5.1
B4: P4.1
B7: P7.1

(ii) Ports for each segment:
A: P3.1
C: P2.1
E: P6.1
F: P3.3
G: P6.2
H: P4.3
I: P5.3
K: P6.3
L: P2.4

(iii) Ports that will be blocked:
G: P5.2
I: P7.2
K: P8.3

Problem 2.2

Solution:

a) 106280 packets have been captured.
19689056 bytes have been captured.
For the Ethernet broadcasts 52837 packets and 6826K bytes have been broadcasted.
49.7% of the packets were broadcasted. Meaning that 34.7% of all bytes transferred were broadcasted.

b) The PDUs are sent over the MAC address 00:0c:30:80:d5:55 to the destination 01:80:c2:00:00:00.
The bridge PDUs are being sent at 2 seconds. The Bridge identifier is 24576 / 5/ 50:57:a8:04:33:40.

c) The protocols using LLC are:
BROWSER
CDP
DTP
IPX RIP
IPX SAP
NBIPX
STP
ZIP.