

EE3A2 Tutorial 1
Recommended Tutorial and Private Study Questions (from Past Exam Papers)
on Layers, LANs and Ethernet

2009

1. Why is a spanning tree algorithm used in an extended LAN?. [2]

2011

2. Sketch an encapsulated packet which has been passed through all OSI layers. Clearly label each of the headers to indicate which layer they result from. [2]

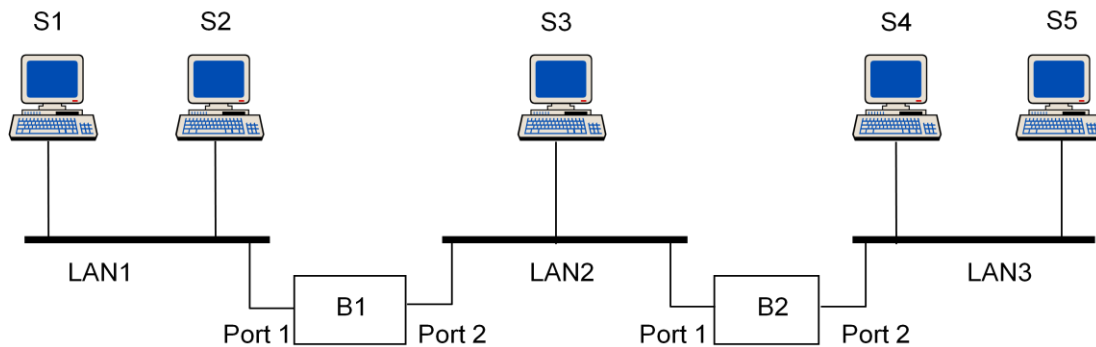
2010

3. (a) Briefly explain the difference between hubs, bridges and routers. [3]

- (b) Write down the forwarding tables for the bridges B1 and B2 shown in Figure 2 and show the entries they would make for each of the following communications:

- (i) S1 to S5
- (ii) S2 to S5
- (iii) S4 to S2
- (iv) S3 to S2
- (v) S5 to S4

[5]



Address	Port

Address	Port

- (c) Use a spanning tree algorithm to remove the loops shown in the bridge-extended LAN in Figure 3. The port values are shown in parentheses and you should assume the cost of each segment is the same. Redraw the network clearly showing the root ports and designated ports that are put in a forwarding state. [4]

