Subject Summary

If you missed some lectures, then don’t miss this one!

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A computing department
Main Topics in this Subject

- Perl
- SNMP
- Network Troubleshooting
- Network Design
  - DHCP and DNS systems
  - LDAP directories and querying them
- Routing, Route Summarisation
Perl

- We covered the basics of the language
- Refer to the Perl Summary that I wrote
- You did some laboratory exercises on Perl
  - Revise your work carefully in all of them
  - Detailed solutions are on the website
- Make sure you know how to write a subroutine and how to call it, and how to pass parameters
- I will provide a copy of the booklet Perl Reference Guide in the exam (no need to bring your own copy)
  - Please return the booklet in the exam
  - Please do not write in it or mark it
- There is one question in the exam on this topic
There are *two* sets of notes on this topic;

- one (short set) from Albert on the ISO network management model
  - don’t just memorise the names; sorry, you need to *understand* what you study!
- one (long set) on the practicalities of SNMP; read them *carefully*

You put some effort and time into Cricket in the lab.
- Make sure you know what you were doing, and
- what Cricket can do.

Make sure that you understand *all* the details of the SNMP operations (requests); read the labs again.

There is one question on this topic in the exam.
This is a *new topic*; there are *no previous exam questions* on this topic.

I focussed on the use of Ethereal and `tcpdump` for collecting information about network problems.

However, Ethereal screen dumps don’t fit well into an exam paper.

I wrote additional notes on using `tcpdump` with DHCP.

Some of these may be included as an appendix in the exam; understand, don’t memorise.

So you may use your judgement as to which Ethernet packet sniffing tool I refer to in the exam.
We also examined many uses of such important and commonly available basic tools as traceroute (or tracert) and ping.

Do not waste time memorising any lengthy formulas; if they are required, they will appear in an appendix to the exam.

We covered many topics in this area, including troubleshooting a switched network.

Altogether, there is one question directly on this area, and half a question that is at least partly on this area.
DHCP and DNS Management Systems

- We covered the basics of DHCP operation
  - including normal operation, and
  - problems that can occur in DHCP operation

- We also studied two schemes for automating DHCP and DNS management
  - One scheme introduced at this Institute, in the Computer Centre and our Department,
  - One fully automated registration scheme involving a web registration application to which new users are automatically directed

- There is half a question directly on these topics, and another half question that includes these topics
LDAP directories and querying them — 1

- We covered a number of aspects of LDAP directories, and
- I provided a laboratory exercise in setting up network accounts on a directory server,
- But due to insufficient laboratory time, we did not work through this in the classroom
- That will not be in the exam
- However, we covered a few topics in authentication and authorisation
  - both in the lectures and in the laboratory
LDAP directories and querying them — 2

- I have already told you that:
  - an appendix to the exam paper from RFC 2254 describes the grammar for LDAP
  - Another appendix to the exam paper from RFC 2255 describes the grammar for LDAP URLs.
- There is one question on this topic in the exam.
Due to the SARS epidemic, my planned coverage of this area has been reduced, mainly to covering:

- route summarisation and
- address block allocation and design.

In particular, we have *not* covered the same areas of switching as in the previous year.

I suggest that you be guided by the tutorial exercises we do in this area.

There is *half a question* on this topic in the exam.

- There are *five* questions
- There are *no options*—do all five questions
- That’s good—no need to waste time deciding which one to leave out!
Advice for the Exam

- **Budget your time** wisely in the exam:
  - Spend a few minutes to *plan* your time
  - Divide remaining time by five
  - Do *not* spend more than this time on any one question until you have answered five questions fully

- **Show your working**
  - A wrong answer with no working gets *zero* marks
  - A wrong answer with some working that is on the right track gets *some* marks
# Summary of Topics in Exam

<table>
<thead>
<tr>
<th>Topic</th>
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<td>SNMP</td>
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<td>1, $\frac{1}{2}$</td>
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</tr>
<tr>
<td>Routing, Route Summarisation</td>
<td>$\frac{1}{2}$</td>
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Watch the Subject Web Site

I will begin writing *solutions* to past exam papers, the test, laboratory exercises and workshops, and *post them on our subject web site*

Watch the web site for announcements:

I will write and post *solutions* to problems as soon as I can.

I will make a *new icon* to highlight changes on the site, including solutions to problems as I write them.