

# 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

# SNMP

- 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

# Network Troubleshooting — 1

- 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.

# Network Troubleshooting — 2

- We also examined many uses of such important and commonly available basic tools as `tracert` (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.

# Routing, Route Summarisation

- 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.

# Format of the Exam (2002–2003)

- 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

Topic	Number of Questions: directly, partly
Perl	1
SNMP	1
Network Troubleshooting	1, 1/2
Network Design:	
DHCP and DNS systems	1/2, 1/2
LDAP directories and querying them	1
Routing, Route Summarisation	1/2

# 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.