

Name ..... ID ..... Section ..... Seat No .....

# Sirindhorn International Institute of Technology Thammasat University

Midterm Exam: Semester 2, 2010

**Course Title:** ITS332 Information Technology Laboratory II

**Instructor:** Steven Gordon

**Date/Time:** Friday 24 December 2010; 13:30–15:00

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## Instructions:

- This examination paper has 19 pages (including this page).
- Conditions of Examination: Closed book; No dictionary; Non-programmable calculator is allowed
- Students are not allowed to be out of the exam room during examination. Going to the restroom may result in score deduction.
- Students are not allowed to have communication devices (e.g. mobile phone) in their possession.
- Write your name, student ID, section, and seat number clearly on the front page of the exam, and on any separate sheets (if they exist).
- Assume the user in all questions has administrator privileges (that is, you can ignore the need for `sudo`).
- Each question part is worth 1 mark, unless otherwise stated.
- Reference material at the end of the exam may be used.

## ITS332 Midterm Hints

- Exam is 90 minutes (1.5 hours)
- 8 Questions, each with multiple parts
- Covers topics from first 5 labs
- 50 marks total
- Reference material is given at the end of the exam for you to use (see following two pages)
- Most questions require a short (one word, one number or one phrase) answer
- Most questions either present an output from an application (e.g. ifconfig, wireshark) or file and ask you questions about that output

## Reference Material

Below is the syntax of commonly used commands. The values that the user must choose are given enclosed in < and >. Optional fields are enclosed in [ and ]. You may use this information in your answers.

```
ifconfig [<interface>] [up | down]
ifconfig <interface> <ipaddress> netmask <subnetmask>
ping [-c <count>] [-s <packetsize>] [-i <interval>] <destination>
tracert <destination>
nslookup <domain> [<dnsserver>]
route [-n]
arp [-n]
dhclient [<interface>]
apache2ctl [start | stop | restart]
htpasswd <passwordfile> <username> [-b <password>]
```

Commonly used files and directories are listed below. You may use this information in your answers.

```
/etc/hosts
/etc/resolv.conf
/etc/network/interfaces
/etc/services
/var/lib/dhcp3/dhclient.leases
/proc/sys/net/ipv4/ip_forward
/var/www/
/etc/apache2/sites-available/default
```

Port numbers used by common applications include:

- 20 FTP data transfer
- 21 FTP connection control
- 22 SSH, secure remote login
- 23 TELNET, (unsecure) remote login
- 25 SMTP, email transfer between servers
- 53 DNS, domain name lookups
- 67 DHCP server
- 80 HTTP, web servers
- 110 POP3, client access to email
- 123 NTP, network time

**443** HTTPS, web servers with secure access

**520** RIP, routing protocol

**631** IPP, Internet printing

**1503** Windows Live Messenger

**1512** WINS, Windows naming service

**3306** MySQL database server

**3723** Blizzard games

**5060** SIP, voice/video signalling

**5190** ICQ, instant messaging

**8080** HTTP proxy server

Protocol numbers for commonly used transport protocols include:

**1** ICMP

**2** IGMP

**6** TCP

**17** UDP

**33** DCCP

**41** IPv6 encapsulation

**47** GRE

**89** OSPF

Status codes and their meaning for common HTTP responses include:

**100 Continue** Client should continue to sent the request

**200 Ok** Requested content is included in response

**301 Moved Permanently** This and all future requests should be redirected to the given URL

**304 Not Modified** Requested content has not been modified since last access

**401 Unauthorized** Requested content requires authentication that has not been provided or is incorrect

**403 Forbidden** Request is ok, but not allowed to access the requested content

**404 Not Found** Requested content could not be found on server

**503 Service Unavailable** Requested server is currently unavailable