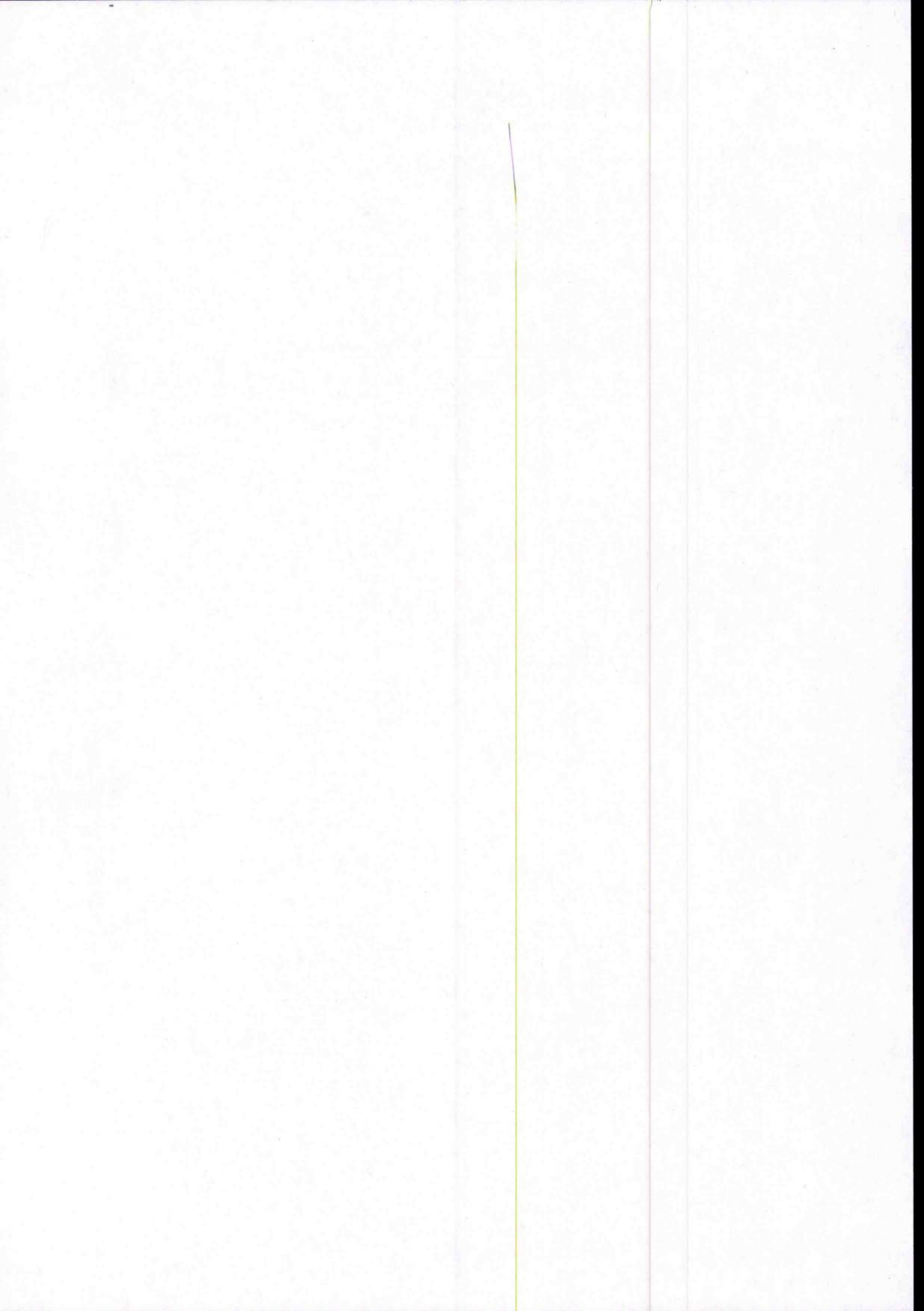




## Försättsblad Prov Original

Kurskod	Provkod	Tentamensdatum
D T 1 4 9 G	T 1 0 1	2 0 1 8 - 0 4 - 0 6
Kursnamn	Datateknik GR (B), Administration av UNIX-lika system	
Provnamn	Tentamen	
Ort	Sundsvall	
Termin	V18	
Ämne	Datateknik	





## Final Exam

# DT149G Administration of UNIX-like systems

Lennart Franked  
lennart.franked@miun.se  
Phone: 010 142 8683

Nayeb Maleki  
nayeb.maleki@miun.se  
Phone: 010 142 8853

2018-04-06

## Instructions

Carefully read the questions before you start answering them. Note the time limit of the exam and plan your answers accordingly. Only answer the question. The questions are *not* sorted by difficulty. Clearly show which answer you are giving your solution to. *Always motivate your answers and show your calculations.*

**Time** 5 hours.

**Exam Aids** Dictionary, Course Litterature [2] or latest edition.

**Maximum points** 30

**Questions** 10

## Preliminary grades

The following grading criteria applies:  $E \geq 30\%$ ,  $D \geq 45\%$ ,  $C \geq 60\%$ ,  $B \geq 75\%$ ,  $A \geq 90\%$ . Scoring will be based on level of depth shown in your answer. To pass this exam you must have shown proficient knowledge in all the intended learning outcomes (ILO) covered in this exam. Each questions ILO affiliation is shown as (ILO: #). The grade limit given is preliminary per ILO. Final grade is set based on your performance on each individual ILO.

## Covered ILO

This exam covers the following Intended Learning Outcomes (ILO)

- ILO: 1 – Administer and modify a UNIX-like system and its services
- ILO: 2 – Identify, implement and motivate choice of services
- ILO: 3 – Describe how the upstart process works in a UNIX-like system

## Questions

The questions below are not given in any particular order.

- (3p) 1. (ILO: 1) What is the user trying to be achieve here, why won't it work and give an example of how to achieve this in a more correct way.

```
exam@DT149G:/usr/local/scripts$ ps ax | head -n 3
  PID TTY          STAT TIME COMMAND
    1 ?           Ss    0:00 /sbin/init
    2 ?           S      0:00 [kthreadd]
exam@DT149G:/usr/local/scripts$ sudo kill 1
[sudo] password for exam:
exam@DT149G:/usr/local/scripts$ ps ax | head -n 3
  PID TTY          STAT TIME COMMAND
    1 ?           Ss    0:00 /sbin/init
    2 ?           S      0:00 [kthreadd]
exam@DT149G:/usr/local/scripts$
```

- (3p) 2. (ILO: 1) I want to run a process every Wednesday at 3 am all year around. Give a UNIX-way solution for this to happen.
- (3p) 3. (ILO: 1) How is a users default group determined? How would you change it?
- (3p) 4. (ILO: 2) In this course, you worked with various FTP-servers, NFS and SAMBA/CIFS. Compare the three different types of file sharing services. Your explanation should also include recommended usage examples.
- (3p) 5. (ILO: 2) Name and explain all the resource records needed for running a mail server in your domain.
- (3p) 6. (ILO: 2) Your syslog file are full of crontab entries and you would like to clean them up by redirecting those entries to the file /var/log/cron.log instead. You decide to do this by reconfiguring syslog. How would your entry in syslog.conf look
- (3p) 7. (ILO: 3) Let's discuss swap.
- What's is the purpose of using a swap?
  - Is it possible to control the use of swapping, such as size and when it is used?
  - Can you give examples of how to manage swap size and usage?
- (3p) 8. (ILO: 3) What information is stored in an inode?
- (3p) 9. (ILO: 3) After a power outage you find that your file server have been rebooted, and that none of the hard drives you recently installed are mounted. What did you forget to do and how can you fix it?
- (3p) 10. (ILO: 3) Explain the process of manually booting up a UNIX-like system through GRUB.

## References

- [1] *DT149G - Administration of UNIX-like systems*. Course version 1.0. 2015.
- [2] Evi Nemeth et al. *UNIX and Linux system administration handbook*. 4th ed. Upper Saddle River, NJ: Prentice Hall, 2011. ISBN: 978-0-13-148005-6 (pbk. : alk. paper).

