Mittuniversitetet
MID SWEDEN UNIVERSITY

Försättsblad Prov Original

Kurskod	Provkod	Tentamensdatum
DT149G	T105	2024-01-08

Kursnamn	Datateknik GR (B), Administration av UNIX-lika system
Provnamn	Skriftlig tentamen
Ort	Östersund
Termin	
Ämne	

6895642268

Utskriven 2024-03-27 kl. 15:28:06

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.

If you want to attach something handwritten as a supplement to your answers, it is possible to write it on a special scanning paper. There is a unique seven-digit code under each question, it should be noted in the upper left corner of the pass-scan paper. Each number must also fill in the corresponding circle below the code. Use blue, black ink pen or pencil. There is scratch paper in the hall if needed.

- **Time** 5 hours.
- **Exam Aids** Dictionary, Pen and Paper
- **Maximum points** 30
- **Questions** 10

Preliminary grades

The following grading criteria applies:

E ≥ 30%, D ≥ 45%, C ≥ 60%, B ≥ 75%, A ≥ 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

Contact Information

For questions regarding the exam
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1 (ILO: 1) Explain what a container is and how it works. Compare this to a virtual machine. In your description, give usage examples of when containers are more suitable to use than virtual machines, and the opposite.

Skriv in ditt svar här

Teckenf...

Ord: 0

Totalpoäng: 3

Bifoga ritning till ditt svar?
Använd följande kod:

XXXXXXX

2 (ILO: 1) Describe the steps involved in building your custom kernel. Explain what is the purpose of each step.

Skriv in ditt svar här

Teckenf...

Ord: 0

Totalpoäng: 3

Bifoga ritning till ditt svar?
Använd följande kod:

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3 (ILO: 1) Describe what the kernel does. Give an example of what can be found in the kernel space. Your answer must include references and experiences you have gotten from performing the laboratory assignments in this course.

Skriv in ditt svar här

Teckenf...

Ord: 0

Totalpoäng: 3

Bifoga ritning till ditt svar?
Använd följande kod:

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4 (ILO: 2) You need to replace your web server since the old one no longer can handle the workload. How would go about to seamlessly transition the users from the old server to the new? No down time for the web service is acceptable.

Skriv in ditt svar här

Teckenf...

Ord: 0

Totalpoäng: 3

Bifoga ritning till ditt svar?
Använd följande kod:

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5 (ILO: 2) Explain the syslog infrastructure. How does it work? What information can be found there? Where can the log files by default be found?

Relate this to what you did in the laboratory assignment 2.

Skriv in ditt svar här

Teckenf...

Ord: 0

Totalpoäng: 3

Bifoga ritning till ditt svar?
Använd följande kod:

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6 (ILO: 2) Explain all the necessary steps you have to take to set up a fully working e-mail server.

Skriv in ditt svar här

Teckenf...

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Totalpoäng: 3

Bifoga ritning till ditt svar?
Använd följande kod:

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7 (ILO: 2) Name and explain all the necessary resource records that must be added for a domain to be properly set up running DNSSEC. Your explanation must also include a discussion regarding the chain of trust that DNSSEC is build upon.

Skriv in ditt svar här

Teckenf...

Ord: 0

Totalpoäng: 3

Bifoga ritning till ditt svar?
Använd följande kod:

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8 (ILO: 3) Explain the process of manually booting up a UNIX-like system through GRUB.

Skriv in ditt svar här

Teckenf...

Ord: 0

Totalpoäng: 3

Bifoga ritning till ditt svar?
Använd följande kod:

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9 (ILO: 3) The company you are working for have just merged with a similar size company, as a result the load on the servers has increased significantly. You run the command shown below on one of your servers.

exam@DT149G:~\$uptime
10:31:57 up 635 days, 23:20, 3 users, load average: 4.35, 4.0, 2.25

Based on the output above, should you replace the hardware? Give a detailed explanation of why you should or shouldn't replace the hardware.

Skriv in ditt svar här

Teckenf...

Ord: 0

Totalpoäng: 3

Bifoga ritning till ditt svar?
Använd följande kod:

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10 (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?

Skriv in ditt svar här

Teckenf...

Ord: 0

Totalpoäng: 3

Bifoga ritning till ditt svar?
Använd följande kod:

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