



Försättsblad Prov Original

Kurskod	Provkod	Tentamensdatum
D T 1 5 4 G	T 2 0 1	2 0 1 8 - 0 4 - 0 5
Kursnamn	Datateknik GR (B), Nätverksteknik B	
Provnamn	Tentamen P4, delkurs 2	
Ort	Sundsvall	
Termin	V18	
Ämne	Datateknik	



Mittuniversitetet
MID SWEDEN UNIVERSITY

Final Exam - CN

DT154G Network Technology B

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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 2.5 hours.

Exam Aids Dictionary.

Maximum points 18

Questions 6

Preliminary grades

The following grading criteria applies: $E \geq 9p$, $D \geq 10p$, $C \geq 12p$, $B \geq 14p$, $A \geq 16p$. 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: 5 – Förklara och använda olika WAN-teknologier
- ILO: 6 – Förklara olika bredbandsteknologier

Questions

The questions below are not given in any particular order.

- (3p) 1. *(ILO: 5)* Flow control in frame relay is based upon two bits in its header. The FECN and BECN. What is the meaning of these bits? And how do they help control the data flow on a connection?
- (3p) 2. *(ILO: 5)* For each layer in PPP's layered architecture, name and explain each layer's main responsibility.
- (3p) 3. *(ILO: 5)* PPPoE is popularly used with xDSL, why is that?
- (3p) 4. *(ILO: 6)* What bandwidth given in kHz, do we need to have on telephone cable to support ADSL-technology up to 2Mb/s downstream and 512 kb/s upstream? Each channel is 4 kHz, and we can get 10 bits per symbol or 0. We also need six channels (one for POTS, five channels to ensure no interference) to ensure regular voice capability as well and one channel for control data in each direction.
- (3p) 5. *(ILO: 6)* What are the different types of VPN infrastructures? Include usage examples.
- (3p) 6. *(ILO: 6)* Name and explain at least one of the multiple access techniques that have been covered in this course.