



Försättsblad Prov Original

Kurskod	Provkod	Tentamensdatum
D T 1 5 4 G	T 2 0 1	2 0 1 8 - 0 8 - 2 9
Kursnamn	Datateknik GR (B), Nätverksteknik B	
Provnamn	Tentamen P4, delkurs 2	
Ort	Sundsvall	
Termin	H18	
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, do not write about subjects remotely related to the question.

Answer the questions in a document using a word processor of your own choosing, as long as it can export your document in PDF-format. 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 covering the second part of the course.

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*) There are two common types of packet switched WAN switching. Describe the two types and give an example of a protocol for each type.
- (3p) 2. (*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) 3. (*ILO: 5*) There are two protocols available for authentication in PPP, with the help of a drawing, explain how they both are working.
- (3p) 4. (*ILO: 6*) Discuss circuit-switched networks from the perspective of delays, compare this to other forms of wan switching concepts.
- (3p) 5. (*ILO: 6*) PPP is a byte-oriented protocol that operates both synchronously and asynchronously. What does this mean? Compare this to another layer 2 protocol of your choosing.
- (3p) 6. (*ILO: 6*) In the local food store waiting in the cashier line you are talking with the person behind you in the queue. The topic of discussion is the internet connection in the neighborhood. Your newly found friend is complaining that she only can get an 8 Mb/s ADSL connection, you on the other hand can get a maximum of 12 Mb/s ADSL connection, even though you are living in roughly the same area.

How much more bandwidth, given in channels, can you use, compared to your food store queue neighbour? Assume that each channel use 4kHz and we can get 10 bits per symbol, or 0 .