Universität des Saarlandes
Fachrichtung 6.2 – Informatik
J. Siekmann, S. Autexier, C. Benzmüller
C.E. Brown, C.Hahn

7th Theoretical Assignment in Artificial Intelligence (SS 2005)

Issued: June, 13 2005 Due: June, 20 2005

Exercise 7.1: **30 P**

Express the following expressions as semantic nets

1. in long form (15 P)
2. and in short form (15 P)

- Axel eats more slowly than Claus.
- For a member of the VSE group, Axel eats slowly, but not for a member of the Omega group.
- It is hardly to be assumed that Claus will ever eat as slowly as Axel.

Exercise 7.2: **50 P**

Express the following information

1. in an appropriate logic, (10 P)
2. as a semantic net (short form), (20 P)
3. and as frames: (20 P)

A is an action of type *give* with agent *Prometheus*, object *fire*, and patient *mankind*. *Prometheus* is a subject of *Zeus*. A' is an action of type *disallow* with agent *Zeus*. The object of A' is any action of giving fire to mankind. If the ruler disallows an action, which will be performed by one of his subjects, another action takes place, in which the ruler punishes the subject.

Exercise 7.3: **20 P**

The following statements are given:

- a house is a (kind of) building
- a house has at least 1 storey (the number of storeys of a house is 1 or more)
- a house is used for living in
- a single-storey dwelling is a (kind of) house
- a single-storey dwelling has 1 storey
- my house is an instance of a single-storey dwelling
- my house has its roof colour red
- my house has its walls made of brick

Express these statements as semantic net in short form.