Checkpoint 1: the Ising model: Marksheet

Name: **Matriculation number:**

1. Basic functionality of the code (7 marks)

The basic update rule is coded up correcly, for both Glauber and Kawasaki dynamics (2 marks)

Low and high temperature behaviour are qualitatively correct (2 marks)

Characteristic properties of Glauber and Kawasaki dynamics are physically correct (1 mark)

System size, temperature and dynamical rule can be changed at run time (1 mark)

The code does not involve any unnecessary computations that slow down the simulation (1 mark)

Comments:

2. Quantitative analysis and plots (7 marks)

The energy and magnetisation curves are correct and plotted appropriately for Glauber dynamics, and the energy curve is correct and plotted appropriately for Kawasaki dynamics. (2 marks)

The critical point can be estimated accurately by both the specific heat and susceptibility curves for Glauber dynamics. (2 marks)

The critical point can be estimated by using an appropriate graph for Kawasaki dynamics. (1 mark)

The computation of statistical errors are coded up correctly, and accounted for appropriately (at least for the specific heat curves) (2 marks)

Comments:

3. Visualisation and animation (1 mark)

Comments: