Specification and Verification II

(a) Given a predicate $\mathcal{B}$ specifying a set of initial states and a transition relation $\mathcal{R}$, define the set of reachable states. [4 marks]

(b) Explain the difference between Linear Temporal Logic and Interval Temporal Logic. [4 marks]

(c) (i) What is model checking? [2 marks]

(ii) Explain the key idea of symbolic model checking. [2 marks]

(d) (i) What is a SERE in PSL? [2 marks]

(ii) Give an example of a PSL formula involving a SERE and explain its meaning. [2 marks]

(e) (i) What is the difference between dynamic verification and static verification? [2 marks]

(ii) What kind of tools are used with each sort of verification? [2 marks]