Consider the following grammar for questions 1 to 20 [4% for each]:

1. ExaminationPreparation → TheoryForScanner scanner contextFreeGrammar
   oneParser MoreParsers $
2. TheoryForScanner → regularExpression
3. TheoryForScanner → λ (學過了)
4. MoreParsers → oneParser MoreParsers
5. MoreParsers → λ

1. Use a regular expression to describe the language defined by the grammar.
2. Create a corresponding nondeterministic finite automaton.
3. Make the NFA deterministic.
4. Minimize the DFA.
5. Find First set for each nonterminal.
6. Find Follow set for each nonterminal.
7. Create characteristic finite state machine.
8. Establish all propagate links.
9. Mark all spontaneous lookaheads.
10. Create LALR(1) machine.
11. Generate LALR(1) parse table.
12. Trace LALR(1) parsing steps for input ‘rscoo$’.
13. Compress LALR(1) parse table.
14. Use compressed table to trace LALR(1) parsing steps for input ‘rscoo$’.
15. Is this grammar LR(0)? Why?
16. Generate SLR(1) parse table.
17. Generate LR(1) parse table.
18. Find LL(1) predict function for each production rule.
19. Generate LL(1) parse table.
20. Trace LL(1) parsing steps for input ‘rscoo$’.
22. Is recursive descent parsing as powerful as LL(1) parsing? Why? [10%]