

UG Exam Performance Feedback

Second Year

2019/2020 Semester 1

COMP21111 Logic and Modelling

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Comments Overall performance was very good.

Q 1.a) Mostly answered correctly. Some students made mistakes during formula simplifications.

1.b) Many students answered correctly. Common mistakes: errors in transforming the definitions into clauses, failing to add "n1" into the clause set, introducing spurious definitions for literals and variables.

1.c) Many answered correctly. Some just restated the definitions rather than explain how to use a satisfiability procedure to check validity and equivalence.

1.d) Generally answered well. Some answers and explanations were confusing.

1.e) Mostly answered correctly

Q 2. a) Many students assumed that there were only 3 variables (the variables in the clause) but the random process was over "n" variables as stated in the problem.

2.b) The general idea behind the algorithm was described by most of the students correctly but some missed MAX-TRIES/MAX-FLIPS parts.

2.c) First part was mostly answered correctly, in the second part some students did not remove redundant tests from the resulting OBDD.

2.d) Mostly answered correctly.

2.e) Some did not include the domain axioms or made mistakes in the axioms.

Q 3. a) Many answered correctly. Common mistake: using splitting in place of the unit propagation in the final parts of the DPLL tree. Some made mistakes in unit propagation of the universally quantified variable.

3. b) c) Most answered correctly. In 3.c.3 mistakes in explanations of why the equivalence does not hold.

3.d) Many struggled with the symbolic representation of sets of states and transitions. Many did not include the initial state into the set of reachable states.
