

MSCS (2 nd) – Fall 2018-20	Subject: Software Engineering and Formal Specification
CSIT-31012	Time: 120 mins.
Final-term	Total Marks: 50

<p>Q. no. 1. Define each of the following terms with examples: (5 x 8 = 40)</p> <div><div>(1) Theorem Proving</div><div>(2) Simulation</div><div>(3) Testing</div><div>(4) Formal verification</div><div>(5) Reactive Systems</div><div>(6) Function Expression in Predicate Calculus</div><div>(7) Propositional Calculus. Using a truth table demonstrate the equivalence of the following expressions:<div><div>(a) $\neg(P \vee Q) \equiv (\neg P \wedge \neg Q)$</div><div>(b) $\neg(P \wedge Q) \equiv (\neg P \vee \neg Q)$</div></div><div>(8) Propositional Calculus. Using a truth table demonstrate the equivalence of the following expressions:<div><div>(a) $(P \vee Q) \equiv (\neg P \rightarrow Q)$</div><div>(b) $(\neg P \vee Q) \equiv (P \rightarrow Q)$</div></div></div></div><tr><td><p>Q. no. 2. Describe Model Checking. Describe the Benefits and Limitations of Model Checking. (10)</p></td></tr></div>	<p>Q. no. 2. Describe Model Checking. Describe the Benefits and Limitations of Model Checking. (10)</p>
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