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| **King Saud University** | KSU logo tiff.tif | **Math 151** |
| **Science and Medical Studies Section for girls** | **first Term 1431-32H** |
| **College of Science** | **first midterm Exam** |
| **Department of Mathematics** | **90 minuets** |

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| **Name:** | **Student No.:** |
| **Section No.:** | **Sequence No.:** |

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| **Question No.** | **I** | **II** | **III** | **IV** | **Total** |
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| **Question I**  **Choose the correct answers and write them in the following table:**   |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **Question** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | | **Answer** |  |  |  |  |  |  |  |  |   **1) The compound proposition is**  **a) a tautology b) a contradiction c) a contingency**  **2) The two compound propositions and are**  **a) logical equivalent b) not logical equivalent**  **3) The argument  is**  **a) valid b) invalid**  **4) The statement where is**  **a) trueb) false**  **5) The statement )( is**  **a) true b) false**  **6)**  where A, B are subsets of X  **a) true b) false**  **7) The statement is**  **a) true b) false**  **8)** *The statement p*  *q* and its converse are not logically equivalent  **a) true b) false** |

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| **Question II**   1. **Without using the truth table prove the two compound propositions and are logically equivalent.** 2. A set of propositions is *consistent* if there is an assignment of truth values to each of the variables in the propositions that makes each proposition true. Is the following set of propositions consistent?{ *p*  *q*, *p*  *q*, *q}* |

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| **Question III**   1. **Prove that “for all positive integer** 2. **Define and give an example :** 3. **A statement** 4. **A tautology** 5. **A contradiction**   **Question IV**  a)Write the contrapositive of the following: You sleep late if it is Saturday.  **b)** Find *P*(*a**b**c**d*), where *P* denotes the power set. |