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| **King Saud University** | KSU logo tiff.tif | **Math 151** |
| **Science and Medical Studies Section for girls** | **second Term 1432-33H** |
| **College of Science** | **First midterm Exam** |
| **Department of Mathematics** |  | **60 minuets** |

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

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| **Question No.** | **I** | **II** | **III** | **Total** |
| **Mark** |  |  |  |  |

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| **Question I**  **Choose the correct answers and write them in the following table:**   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **Question** | **1** | **2** | **3** | **4** | **5** | | **Answer** |  |  |  |  |  |   **1) The compound proposition is**  **a) a tautology b) a contradiction c) a contingency**  **2) The two statements “If today is Monday, then we have an exam” and “We have an exam whenever today is Monday” are**  **a) logically equivalent b) not logically equivalent**  **3) The statement “” is**  **a) true b) false**  **4) Let be the statement** , , **,  then**  **a*)*  is true b) is true c) is true**  **5 ) The following argument** , , **, .**  **a) valid b) invalid** |
| **Question II**   1. **Let and be the propositions**   **: You have the flu.**  **: You miss the final examination.**  **: You pass the course.**  **Express the following propositions as an English language sentence**  **ii) Prove that if is irrational, then is irrational.** |

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| **Question III**    **i) Using the first principle of mathematical induction to prove:**  **Let**  **Show that for all**    **ii) Let . Find the power set of , .** |

Good Luck