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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** | **Second 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**  **Define and give an example for each of the following:**   1. **A Binary Relation,** 2. **An equivalent class,** 3. **A partition of a set.** |
| **Question II**  **Let, and let and be relations on given by and .**   1. **Find and.** 2. **=**   **Prove or disprove the following:**   1. **is transitive.** 2. **is antisymmetric >**   **Question III**  **Let be nonempty set, and let be a relation defined by:**   1. **Prove that is partially order relation on.** 2. **Is totally order relation on.** |
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| **Question IV**  **Let, and let be a partially order relation on. If the following is the Hasse diagram of , then Find the following:**   1. **The relation .** 2. **The symmetric closure of.**   **Question V**  **Let be a relation defined on by**   1. **Prove that is an equivalent relation on.** 2. **Find the partition of induced by.** |