|  |  |  |
| --- | --- | --- |
| **King Saud University** | KSU logo tiff.tif | **Math 151** |
| **Science and Medical Studies Section for girls** | **Second Term 1432-33H** |
| **College of Science** | **First Exam** |
| **Department of Mathematics** | **1.30 Hours** |

|  |  |
| --- | --- |
| **Name:** | **Student No.:** |
| **Section No.:** | **Staff member name:** |

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

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Question I**  **Choose the correct answer and write it in the following table:**   |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | **Question** | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | | **Answer** |  |  |  |  |  |  |  |  |  |  |   **1) The two compound propositions and  arelogically equivalent**  **a) true b) false**  **2) The compound proposition** ((*p**q*) *p*) *q***is**  **a) a tautology b) a contradiction c) a contingency**  **3) The proposition ‘ If or , then and ” is always**  **a) true b) false**  **4) Let be the statement “”, where is real number. The truth value of is**  **a) true b) false**  **5)Let . The truth value ofis**  **a) true b) false**  **6) If nonempty set then**  **a) true b) false**  **7) If a statement is not a tautology then it is a contradiction.**  🞎 True 🞎 False  **8) There exists a proposition whichis not a statement .**  🞎 True 🞎 False  **9)** *p**q* and its converse are not logically equivalent  🞎 True 🞎 False  10) 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. the following set of propositions is consistent **{,***p***,***p**q*, *p**q*}  🞎 True 🞎 False |

|  |
| --- |
| **Question II**  **1) If a real number different from 0 and arational numbers, Prove that**  **isa rational number.**  *2) P*(*x**y*) means “*x* 2*y**xy*”, where *x* and *y* are integers. Determine the truth value of the statement. |

|  |
| --- |
| **Question III**  **Let be a sequence defined by**  **and**  **Prove that .** |

Good Luck