**TEST**

..............ZIQI HONG..............  
First & Family Name

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phone number (optional)

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| Number of Points | Grade |
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**„EINIS--Intelligent Information Systems”**

**Lecture by Prof M. Muraszkiewicz**

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|  |  |  | Max Points |
|  | Could a natural language be a tool for implementing an intelligent information system?  Please, justify the answer.  **Yes, because while implementing an intelligent information system, we need to use the way of thinking in natural language to implement it. Certain features of natural language can be used in intelligent information.** |  | 1 |
|  | Please, mention the most important functionalities of intelligent information systems.   1. **Storing information and knowledge.** 2. **Answering questions** 3. **Knowledge discovery** |  | 1 |
|  | Please, give a definition of a knowledge representation methodology. Mention at least four (4) types of languages that could be used for representing knowledge on computers.  **Knowledge Representation is a methodology of presenting the knowledge about the world along with the procedures for processing this representation, especially by means of reasoning(inference).**  **XML, JSON, Markdown, and Neural nets** |  | 2 |
|  | Would you agree that a Bayes classifier is an intelligent information system?  Please, justify the answer.  **Yes, a Bayes classifier is an intelligent information system.**  **Because it satisfies the functionalities of an intelligent information system. It stores data in a database, then generates a classifier based on existing data. Then when it receives a query object to be classified, the classifier returns which class the query object should belong to. Hence, it’s an intelligent information system.** |  | 2 |
|  | Can the denominator P(B) in the conditional probability formula  be neglected by the Bayesian classifier? Please, justify the answer.   |  | | --- | | Opis: Untitled.tiff |   **Yes, it can be neglected by the Bayesian classifier. Because P(B) here is the evidence of B. In practice, we are interested in the numerator of the fraction, because the denominator P(B) doesn’t depend on A and it’s a constant. Hence, it can be safely neglected by the Bayesian classifier.** |  | 2 |
|  | How are queries answered in information systems based on semantic networks?  **The query is first translated into a semantic network with the notation used in the system. Then the translated query will be matched with the system.**  **Example:**  **IS**  **John isa parrot isa bird**  **Has**  **nest**  **Query**  **John isa parrot**  **Has**  **?**  **? is the result that should be returned. Query should be what does john have? Then it’s translated into the form shown above.** |  | 2 |

points.  **10**

**Having finished the test please email this file back to the address:** [**mrm@ii.pw.edu.pl**](mailto:mrm@ii.pw.edu.pl) **and/or**

[**Mieczyslaw.muraszkiewicz@pw.edu.pl**](mailto:Mieczyslaw.muraszkiewicz@pw.edu.pl) **within five (5) minutes after the test end.**

**Please, before sending the file replace the prefix *ZZ* in the file name by your name,   
e.g. Kowalski\_Exam.docx (please do not convert the file to the \*.pdf format).**