DIPLOMA EXAM TOPICS

Programm	**Business Informatics**			**Academic year 2020/2021**
Degree	**licencjat (BA equivalent)**	Type	**Full-time studies/part-time studies**	
Comments				

1. Process-based management.
2. Organizational Environment: types, components and relevance to organization strategy.
3. The relevance of functions of management.
4. The functioning of the market mechanism and reasons for its failure.
5. Types of demand elasticity and their applications.
6. National accounts basic indicators.
7. Definition and types of unemployment.
8. Money- types, functions, features, variable time value of money.
9. Interest rate - definition, functions, types.
10. The accounting policies.
11. Asset and income classification.
12. Conclusion of contracts in Poland - mode and form.
13. Ownership and other property rights - definition elements.
14. Analysis of phenomena over time (indexes, trends).
15. Correlation and regression analysis.
16. Describe the John von Neumann's computer architecture. List the elements of this architecture and briefly describe their role and general principles of operation.
17. Explain how numbers are stored in a computer. How does the computer store:
    - whole numbers without a sign (e.g. 27)
    - whole numbers with a sign (e.g. -3)
    - numbers with a fractional part (e.g. 3.5)
18. Fundamentals of Information Systems.
19. Models of Cloud Computing and their advantages and limitations.
20. The Traditional Information Systems Development Lifecycle.
21. Types of computer networks .
22. Explain, what is type I error and type II error, discuss their relationship and quantities that are related to probabilities of making these types of errors.
23. Discuss the measures of central tendencies of frequency distributions. Discuss their advantages and shortcomings, and in which situations which one are the most proper.
24. Discuss the idea of confidence intervals. What is the difference between "confidence" and "probability"?
25. Fundamentals of Object-Oriented Analysis and Design .
26. Fundamentals of Object Technology .
27. Requirements Gathering .
28. Behavioral, structural and dynamic modeling.
29. Basic assumptions of a relational database - Codd's postulates.
30. DBS architecture - levels of abstraction.
31. DBMS - functions, examples.
32. The essence of IT Project management.
33. IT Project quality.
34. IT Project life cycle.
35. Describe how, typically, a program is stored in a computer and how is executed.

36. What is recursion in programming? Give an example of a task that can be done using this programming technique.
37. Give at least three examples of programming language statements that alter the control flow in a program (cause the program to change the, typically linear, order of execution). Explain how they work.
38. Briefly discuss simple abstract data structures: a stack, a queue and a tree. For each of them give examples of at least two typical operations that can be performed.
39. The importance of knowledge management.
40. ICT tools supporting knowledge management.
41. The importance of creating process models and using graphic notation in business process management
42. Main categories of elements offered by the BPMN language.
43. Describe the BPMN AND-JOIN gateway and provide an example of its application in modeling the synchronization of parallel flows.
44. Definition of data warehouse, characteristics, basic warehouse models, structure of the warehouse, division of data into layers, software tools for creating and operating the warehouse.
45. Data warehouse architectures.
46. Data processing models, data warehouse types, OLAP model - measures and dimensions, data logic schemas, operations on data.
47. Information systems security in the era of ubiquitous computing – basic threats of IT systems
48. Documentation of the information and communication system security – security policy.
49. Describe the steps involved in running an OLS regression from the initial point of deciding the theoretical model to stating the conclusions on the results.
50. What are the Gauss-Markov Assumptions? Shortly describe each of the assumptions.