DIPLOMA EXAM TOPICS

Programm	**Business Informatics**		
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. System requirements' gathering. Methods, technics, and classification
26. UML language used in modeling the behavior, structure and dynamics of the IT system
27. Human-computer interaction (principles of graphic interface design)
28. Basic assumptions of a relational database
29. DBS architecture - levels of abstraction
30. DBMS - functions, examples.
31. The essence of IT Project management
32. IT Project quality
33. IT Project life cycle
34. Describe how, typically, a program is stored in a computer and how is executed

35. What is recursion in programming? Give an example of a task that can be done using this programming technique

36. 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

37. 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

38. ICT tools supporting knowledge management

39. Methods and techniques of artificial intelligence

40. Fundamentals of machine learning and generative artificial intelligence

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 normalization – principles and goals

46. Data warehouse architectures and models

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