

# **Undergraduate diploma exam topics for students of Faculty of Information**

## **Management [ac. y. 2019/20 to 2022/23]**

1. Discuss three selected schools of management thought.
2. Discuss three selected theories of leadership.
3. Present the concept of organization.
4. What is organizational culture and what factors influence it?
5. Characterize elements of the organizational environment.
6. Discuss the basic management functions.
7. Present selected strategic analysis methods (SWOT, analysis of Porter's five competition forces, BCG matrix).
8. Present the main differences between the functional and process approaches.
9. Present the elements of the marketing information system.
10. Discuss the concept of marketing mix.
11. Discuss the following market structures: monopoly, oligopoly, perfect competition, monopolistic competition.
12. Discuss the laws of elasticity of demand and supply.
13. Discuss the concepts of positive and normative economics.
14. Present two approaches to change management - kaizen and reengineering.
15. What is an algorithm? What requirements apply to algorithms? Give examples of a sequential algorithm and one that is not a sequential algorithm.
16. List and discuss the types of data found in structural and object-oriented programming. Include simple and complex types and their limitations.
17. Discuss basic differences between structured programming and object-oriented programming.
18. Information versus data types. Present suggestions for encoding quantitative and qualitative information.
19. Discuss what kind of impact cloud solutions have on group work.
20. Discuss basic elements and meaning of entity relationship diagrams in designing a database schema.
21. Present the requirements for a database application.
22. Types of SQL queries - discuss types, syntax, and sample applications.
23. Describe the basic constructs of SQL language - DDL, DML, DCL and DQL.
24. Discuss the concept and application of the data warehouse.
25. IT systems used in management - discuss them on a selected example.
26. Discuss current trends in information systems used in management (SOA, mashup, cloud computing).
27. Discuss graphical ways of presenting qualitative and quantitative data.
28. Present statistical measures (position, dispersion, asymmetry and positional).
29. Discuss the measures of the dynamics of the time series (increments and indices).

30. Present a brief description of the plenipotentiary power.
31. What methods of concluding contracts do you know? Characterize one of them.
32. Discuss the concept of representation of a natural person, an entrepreneur and a commercial company.
33. Characterize commercial companies in terms of the liability borne by partners to third parties.
34. Indicate similarities and differences between a sole proprietorship, a civil law partnership and particular commercial companies.
35. Discuss the procedure for setting up a selected company.
36. Discuss the basic elements of the decision-making process and the general characteristics of individual types of decision support methods.
37. Discuss the concept of dynamical system stability and give its interpretation on the example of a selected physical system.
38. Discuss the concept of a mathematical model and the use of mathematical models in the decision-making process.
39. Present the concept of forecasting and its role in making decisions. Discuss the basic forecasting methods.
40. Characterize the concept of optimization and present types of optimization models.
41. Discuss the task of linear programming: its elements, the general idea of the solution algorithm.
42. Discuss what human resources management is about.
43. Discuss the employee selection process.
44. List the basic sources of information used in marketing research. Give examples of these sources.
45. Introduce types of marketing research and discuss selection criteria.
46. Discuss methods and techniques for collecting primary information.
47. Discuss the study of demand and supply.
48. Present a study on market capacity and absorption.
49. List and characterize the functions of cost accounting.
50. Characterize the working capital cycle in the enterprise.
51. Discuss the Activity-Based Costing (ABC) as a management instrument.
52. Explain the concept of conceptual modeling.
53. Present the concept of the UML language and its application in creating information systems.
54. List and briefly discuss those of the UML diagrams that you think are most useful when developing information systems.
55. Explain why the use case model is considered crucial when developing an IT system.
56. Present segments of the country's financial system.
57. Present the basic institutions of the capital market in Poland.
58. Describe the functions of financial management of enterprises.
59. Characterize the main areas of enterprise finance.
60. Discuss the concept, goals and forms of financial analysis.
61. Explain the concept of the Business Process and its importance in software development.
62. Discuss a selected notation used in business process modeling.

63. Integrated management information system - present the concept and properties.
64. An IT system supporting the primary activity in a trading enterprise. Describe the IT subsystems supporting trade in this type of enterprise.
65. An IT system supporting the primary activity in a production company. Discuss the IT subsystems supporting the basic activity in this type of enterprise.
66. Information systems supporting production management MRP and MRP II - discuss their operation and functionality.
67. Present the functionality of IT management systems of ERP / ERP II class.
68. Discuss the basic functions of the IT system supporting customer relationship management on the example of MS Dynamics 365 or SAP IDES CRM 5.0.
69. Discuss elements affecting the behavior of individual people in the organization.
70. Discuss factors affecting people's behavior in groups.
71. Discuss the concept of critical path and critical chain in project planning and implementation.
72. Present the goals and characteristics of the earned value method in the context of a project.
73. Present the role and content of the project charter and its role in the life cycle of the project undertaking.
74. Indicate the main features of the so-called "lightweight" (or agile) methodologies used to implement IT projects.
75. Describe the theoretical and practical aspects of total quality management TQM.
76. Define and characterize the costs of quality in the enterprise.
77. Describe the concept of the quality management system and discuss the types of documentation that is necessary for its implementation in the company.
78. Describe what methods and tools are used to evaluate and assess quality in the enterprise.
79. Discuss the kinds of attributes used in the class diagram.
80. Discuss the types of inheritance in UML.
81. Discuss the principles of a well-designed user interface.
82. Characterize markup languages and their uses.
83. CSS language - discuss the concept and application possibilities.
84. Discuss the basic principles of user interface design.
85. Discuss the chosen methodology for conducting IT projects.
86. Characterize typical applications of business plans in practice.
87. Discuss the inheritance of copyright broken down into personal and property rights.
88. Discuss the types of loops available in the selected programming language.
89. Discuss the types of conditional statements available in the selected programming language.
90. Explain the concept of encapsulation in programming languages.
91. Explain the operation and use of the exception mechanism in programming languages.
92. Search engine optimization - meaning, basic elements affecting page position.
93. Discuss the RC low-pass filter.
94. Discuss Public key infrastructure (PKI).
95. What is the schedule, what is its importance in project management.

96. What is risk? Discuss the basic stages of risk management in the project.
97. Discuss the use of Business Intelligence systems in the enterprise.
98. Explain the concept of Data Mining.
99. Explain the concept of method overloading.
100. Collections - discuss the concept of collection, discuss the selected type of collection.