VŠB – Technical University of Ostrava, Faculty of Mechanical Engineering

Study programme N0715A270009 – Industrial Engineering

List of questions for the state final exam

OPERATIONS MANAGEMENT AND DESIGN

Study:	Form of study:	Academic year:
Master	**Full-time**	**2021/2022**

1. Logistics, the beginnings of logistics, goals, strategies, basic concepts - flows, chains, the subjects of logistics.
2. Material flow, transportability unit, expression of a handling problem, paletograph, the design of the means of technical handling.
3. Logistics technology.
4. The stages of technological design, the flow chart of systematic design.
5. The issue of the economical use of production system elements – capacity calculations.
6. The methodology of designing production systems (eg foundries, forges, welding shops, etc.)
7. The procedures and methods of the placement of objects, machines, and workplaces.
8. Fire protection principles in design, workplace lighting, noise.
9. Heat and energy management.
10. Water management systems and sanitary protection zones.
11. Project management, concepts, basic principles, project life cycle, the organizational structures of projects, project manager, team.
12. Project risks.
13. Network analysis methods.
14. The definition of the concept of production and production management, production management goals, production management hierarchy, the position of production in the company management system.
15. Information and the normative base of a company, standardization.
16. Operational production management; areas and activities included in the system of operational production management, their characteristics.
17. The design of optimal design and technological alternatives – a comprehensive assessment of rationalization projects.
18. System – properties and definitions. System modeling, the properties of elements.
19. The methods of the software modeling of the structure of production processes, the optimization of production systems and processes.
20. Simulation techniques – basic concepts, the application of simulation methods, software support for modeling, visualization, and interpretation.