

MASTER'S DIPLOMA EXAM

Field of study: Architecture

Thematic issues__2: ARCHITECTURAL DESIGN

1. Enumerate and briefly characterize basic legal provisions (laws, regulations) that architects must follow.
2. What are the basic requirements - in the architectural design - in the field of fire safety (awareness of the role of a fire protection appraiser).
3. What are the basic requirements - in the architectural design - in terms of convenience and safety of use (awareness of the role of OHS appraisers or ergonomics appraisers)
4. What are the basic requirements - in the architectural design - in the field of hygiene and health solutions (awareness of the role of appraisers on sanitary and hygiene matters).
5. What are the limitations of architectural design involving the location of objects in areas subjected to the impact of mining influence?
6. Enumerate the categories of mining exploitation impacts on buildings and specify the maximum dimensions of the section for particular categories.
7. Present the ways of solving vertical and horizontal transport in multi-storey car parks.
8. Present the definition of a multi-family house and single-family house.
9. List the main types of multi-family buildings and describe their special features.
10. Describe general communication systems in a multi-family building (access typology).
11. Draw the basic structural systems used in multi-family housing and describe their special features.
12. Discuss the basic directions of restructuring and modernization of housing estates.
13. Specify the basic functional zones and functional connections between rooms in a single-family house.
14. List at least three types of kitchens in an apartment, provide their area and the most favorable location.
15. Draw the main technological layouts of the kitchen. Provide the dimensions and minimum length of a kitchen line.
16. Specify the basic requirements for the organization of sanitary rooms in the apartment.
17. Characterize the functional elements of the entrance space in public buildings (pre-entrance area, entrance and hall).

18. Explain the idea of the "third place" given by Ray Oldenburg and its application in shaping of public utility buildings (libraries, media libraries, art galleries, museums, community centers, youth clubs).
19. Discuss exit routes in public buildings.
20. Discuss sanitary rooms in public buildings (indicators, dimensions, location, availability, etc.).
21. List functional zones in a school and provide their best location in the building and in relation to the world sides.
22. Discuss basic principles of the design process of the auditorium in public utility buildings (e.g. in a cinema, theater, sports halls).
23. Describe the idea behind the plan of the Park De La Villette in Paris.
24. List the phases of industry development and conditions affecting the development of spatial solutions of the industry.
25. Present the division of the industry in terms of the potential and limitations of location.
26. Discuss general principles of spatial management of an industrial plant.
27. List types of industrial halls in terms of technological requirements and draw diagrams of their cross-sections.
28. Draft and discuss the elements of the building skin structure of a large capacity object.
29. Characterize the issue of solar collectors and photovoltaic cells - their principle of operation and impact on the aesthetics of the building.
30. Discuss strategies for heat storage in energy-efficient buildings. Specify the types of thermal batteries and their location in buildings.
31. What methods of recovering domestic heat in energy-efficient buildings do you know? Introduce the principle of "energy cascade".
32. What are the characteristic features of corridor (cellular) offices? What are their pros and cons?
33. What is the principle of organization of large capacity offices, group offices. What are the advantages and disadvantages of the organization of such offices.
34. What are the characteristics of combi-type offices? What are their pros and cons?
35. The latest organizational systems of office work places are so-called: shared offices, hoteling offices, hot desks, satellites. Explain their characteristics features.
36. Discuss what elements an ergonomic office workstation should consist of and what conditions it should meet (e.g. in an architectural studio).
37. What is Post Occupancy Evaluation (POE). What is the purpose of conducting qualitative assessments in buildings?

38. List and discuss the phases of "building life cycle".

39. Discuss the principles of shaping hanging structures

40. Describe the fields of possible applications of digital tools in architectural design, used for parametric design.