

Geography final exam general topics for undergraduates (BSc)

1. Discuss the factors determining global climate, analyse the magnitude of climate change. Analyse the effects of climate change on ecosystems and the society through the example of a specific geographical macroregion.
2. Describe the movements of the Earth as a celestial body and its consequences on our everyday life (diurnal changes, seasons, tides, eclipses, climate variability), including changes in orbital elements.
3. Introduce the basic concepts of cartographical representation and the types and methods of thematic maps in physical and human geography.
4. Discuss the relations between geological structures and the spatial distribution of mineral resources. List the geological conditions necessary for the formation and occurrence of natural resources.
5. Describe the most important data collection tools and devices used in geographical analysis, discuss their advantages and disadvantages. Discuss the role of GIS tools and methods in geographical studies. Outline the possible methods to be used for a spatial problem through an example of your choice.
6. Describe the major climatic, pedological and biogeographical zones of the Earth, analyse the specific geomorphological and transport processes and morphological forms associated with each zone.
7. Define the most significant periods and events of Earth history. Select a geotectonic unit and discuss its geologic and tectonic evolution.
8. Discuss why soils and water are essential for the existence of terrestrial life. Describe the basic concepts of soil geography, present the global diversity of soils and describe the importance of domestication and agriculture on human development and the rise and fall of human civilizations.
9. Define globalization, present various interpretations of the concept from political, cultural, economic and ecological viewpoints. Describe the complex effects of globalization on the example of a country or region of your choice.
10. Discuss the most important trends of the world's population through the model of demographic transition, describe the most important features of the territorial distribution of the population.
11. Discuss the concept and process of urbanization, analyse the different stages of urbanization and its appearance in different regions of the Earth.
12. Compare the structure of urban and rural spaces, analyse their specific problems, describe their global diversity.
13. Discuss the natural (location, geological, morphological, climatic, hydrographic, biogeographical and soil conditions) and social (labour, market, capital supply, accessibility, technology, concentrations, etc.) factors that determine the spatial patterns of economy. Describe through a specific country of your choice the extent to which geographical features determine the major characteristics and structure of the national and local economy.
14. Describe the global structure of world economy, analyse the specific groups of countries in respect of their economic and social characteristics, compare the most important features of the different core regions of the globe. Select a peripheral area and present the key components responsible for its underdevelopment.

15. Describe a freely chosen European physical region according to a geographical algorithm. Characterize the relationship between physical and human structures in a selected area.
16. Describe the political and socio-economic integration processes in Europe. Analyse the role that integration has played in the development of the European core area. Select a European country or group of countries and present its role in the European spatial structure and integration.
17. Analyse the hydrogeographic characteristics of the Carpathian Basin, discuss its most important hydromorphological features and evaluate the influence of hydrogeography and hydromorphology on social structures and spatial patterns.
18. Describe a Hungarian spatial unit of your choice (region) according to a geographical algorithm. Analyse the nature of the relationship between physical and human structures in the chosen area.

Applied geography specialization

1. The definition of map. Major types of projections. Measurements and calculations on topographic maps. Groups of thematic maps. Types of planimetric elements of the maps and the rules for their placement. The definition of map. List the major map projection types. Measurements, calculations on topographic maps. Grouping of thematic maps.
2. Cartographic relief representation. Map lettering and rules for labelling. The role of colors in analogue and digital mapping. The layout of cartographical elements. Types of cartographical generalization. Topographic plan elements of maps and their types. The map lettering and the rules for labelling. The role of colours in analogue and digital maps. Layout of cartographical elements. Types of cartographic generalization.
3. Characterization of vector data types. Operations with vector data. Vector to raster conversion. Distance calculation methods in GIS. Buffer functions, interpolation methods, upscaling of point data. Describe two examples of the use of vector data from everyday life.
4. Characterization of raster data types. Operations with raster data. Raster to vector conversion. Simple spatial operations on rasters (reclassification, filters, etc.). Provide two examples of the use of raster spatial data from everyday life.
5. Physical basis, segments and application of global navigation satellite system (GNSS). Comparison of ground-based survey tools, methods and GNSS-aided survey. Provide two examples of the use of global satellite positioning.
6. Theoretical basis and practical applications of remote sensing. Physical basis of remote sensing. Processing of remotely sensed data and imagery. Discuss of the practical use of remote sensing through two examples.
7. Describe the role of the European Union in regional development. Review the institutions and tools involved in the creation of cohesion policy and evaluate the practical application of these tools through a specific case study.
8. Describe the most important models and goals of urban development. Demonstrate through a selected case study what urban renewal means in terms of problems, tasks, methods and possible outcomes.

9. Describe the most important tools of project planning methodology (problem tree, target tree, Gantt chart, SWOT, logframe matrix). Demonstrate the importance of stakeholder analysis through a selected specific case study.
10. Describe the relationship between transport systems and regional development. Select and analyse a specific problem of transport development (for example, but not exclusively: urban–suburban transport, transport problems in rural areas, financing of public transport, smart mobility, specific problems of each sector).
11. Describe the types and nature of conflicts between different social groups living together in urban spaces. What processes determine the social division of urban spaces today? Demonstrate through a selected case study a social conflict related to urban spaces and efforts to manage it.
12. Describe the current trends in global tourism. Present the interconnected system of tourist attractions, tourism products and tourism infrastructure through an example of a chosen tourist destination, and analyse the effects of tourism on local society.