

სამაგისტრო საკვალიფიკაციო ტესტების პროგრამისათვის „წყლის ინჟინერია“
Qualification tests for Master's program "Water Engineering"

1		What is the primary function of a water supply system?
	A	Transportation of electricity
	B	Distribution of water
	C	Collection of sewage
	D	Generation of heat

2		What is one of the primary considerations in designing a water supply system?
	A	Maximizing air pollution
	B	Minimizing water quality
	C	Ensuring water availability
	D	Ignoring population growth

3		What problems are addressed using physical-chemical treatment of water and wastewater?
	A	Removal of mechanical impurities
	B	Improvement of water taste
	C	Removal of organic and inorganic pollutants
	D	Increase in microelement content

4		Which methods of physical-chemical treatment are used for heavy metal removal?
	A	Flotation
	B	Oxidation
	C	Ion exchange

	D	Biological treatment
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5		What does the environment encompass?
	A	The combination of all conditions and influences affecting the development and life of all organisms on Earth
	B	The sphere where metabolic exchange occurs among organisms
	C	A group of organisms inhabiting a specific location
	D	The system regulating climate

6		What does ecology study?
	A	The interaction of organisms with each other
	B	The impact of the physical environment on living organisms
	C	Metabolic processes within organisms
	D	All of the above

7		What factors influence the solubility of substances in water?
	A	Temperature
	B	Pressure
	C	Molecular size
	D	All of the above

8		What properties of water contribute to its role in living organisms?
	A	Ability to dissolve many substances
	B	Ice density being less than liquid water density
	C	Capacity for photosynthesis

	D	All of the above
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9		Which microorganisms play a key role in the biological treatment of wastewater?
	A	Bacteria
	B	Viruses
	C	Fungi
	D	All of the above

10		What is aerobic wastewater treatment?
	A	Wastewater treatment without using oxygen
	B	Wastewater treatment using oxygen
	C	Wastewater treatment through ultrafiltration
	D	Wastewater treatment using chemical reagents

11		What is the Bernoulli equation?
	A	An equation for calculating pressure in a fluid
	B	An equation for calculating the flow of viscous fluid
	C	An equation for calculating atmospheric pressure
	D	All of the above

12		What does the Reynolds number determine in fluid flow?
	A	Flow velocity
	B	Fluid density
	C	Fluid viscosity

	D	All of the above
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13		What is hydrology?
	A	The study of water properties and its movement on Earth
	B	The study of air properties and its impact on climate
	C	The study of soil properties and its fertility
	D	All of the above

14		What determines hydraulic resistance in pipelines?
	A	Pressure in the system
	B	Pipe diameter
	C	Friction between pipe walls and the flowing liquid
	D	All of the above

15		What is a flood?
	A	A constant rise in water level in a river
	B	A temporary increase in water level in a river due to rain or snowmelt
	C	A decrease in water level in a river due to drought
	D	All of the above

16		What methods are used to measure water flow in rivers?
	A	Hydrostatic method
	B	Measurement of flow velocity
	C	Ultrasonic techniques

	D	All of the above
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17		What is the factor of safety in geotechnical engineering?
	A	The ratio of maximum load to allowable load on soil
	B	A coefficient that accounts for the influence of water on soil strength
	C	A measure of soil stability against collapse
	D	The ratio of void volume to total soil volume

18		What methods are used for landslide susceptibility modeling?
	A	Machine learning methods based on geospatial data
	B	Analysis of geomorphological characteristics
	C	Utilization of geological maps
	D	All of the above are correct

19		What types of data are typically used in GIS?
	A	Vector and raster data
	B	Text and numerical data
	C	Graphic and audio files
	D	Weather and climate data

20		What is "spatial analysis" in GIS?
	A	The study of geological processes
	B	Analyzing spatial data using geometric operations
	C	Studying atmospheric phenomena

	D	Analyzing social data
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Literature

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