

**NCEES Principles and Practice of Engineering Examination
 ENVIRONMENTAL Exam Specifications**

Effective Beginning with the April 2011 Examinations

- The exam is an 8-hour open-book exam. It contains 50 multiple-choice questions in the 4-hour morning session, and 50 multiple-choice questions in the 4-hour afternoon session. Examinee works all questions.
- The exam uses both the International System of units (SI) and the US Customary System (USCS).
- The exam is developed with questions that will require a variety of approaches and methodologies, including design, analysis, and application.
- The knowledge areas specified as examples of kinds of knowledge are not exclusive or exhaustive categories.

		Approximate Number of Questions
I.	Water	32
	A. Basic Principles	4
	1. Hydraulics/fluid mechanics	
	2. Chemistry	
	3. Biology/microbiology	
	4. Fate and transport	
	5. Sampling and measurement methods	
	6. Hydrology/hydrogeology	
	B. Wastewater	10
	1. Sources of pollution and minimization/prevention	
	2. Treatment technologies and management	
	3. Collection systems	
	4. Residuals management (solid, liquid, and gas)	
	5. Codes, standards, regulations, and guidelines	
	C. Stormwater	4
	1. Sources of pollution	
	2. Treatment technologies and management	
	3. Collection systems	
	4. Codes, standards, regulations, and guidelines	
	D. Potable Water	10
	1. Treatment technologies and management	
	2. Distribution systems	
	3. Residuals management (solid, liquid, and gas)	
	4. Codes, standards, regulations, and guidelines	
	E. Water Resources	4
	1. Sources of pollution	
	2. Codes, standards, regulations, and guidelines	
	3. Watershed management and planning	
	4. Source supply and protection	
II.	Solid Waste	18
	A. Basic Principles	3
	1. Chemistry	
	2. Fate and transport	
	3. Codes, standards, regulations, and guidelines	
	4. Risk assessment	

5. Sampling and measurement methods	
6. Minimization, reduction, and recycling	
7. Thermodynamics	
8. Hydrology/hydrogeology	
9. Geology	
B. Municipal and Industrial Solid Waste	6
1. Storage, collection, and transportation systems	
2. Treatment and disposal technologies and management	
C. Hazardous Waste	6
1. Storage, collection, and transportation systems	
2. Treatment and disposal technologies and management	
D. Medical, Radioactive, and Other Waste	3
1. Storage, collection, and transportation systems	
2. Treatment and disposal technologies and management	
III. Air	23
A. Basic Principles	7
1. Sampling and measurement methods	
2. Codes, standards, regulations, and guidelines	
3. Chemistry	
4. Thermodynamics	
5. Fate and transport	
6. Atmospheric science and meteorology	
B. Pollution Control	16
1. Source categories	
2. Emissions inventory	
3. Treatment technologies	
4. Pollution minimization and prevention	
IV. Site Assessment and Remediation	12
A. Basic Principles	5
1. Codes, standards, regulations, and guidelines	
2. Chemistry and microbiology	
3. Hydrology/hydrogeology	
4. Sampling and measurement methods	
5. Risk assessment	
6. Fate and transport	
7. Pollution characterization	
B. Site Assessment	3
1. Site characterization	
2. Historical considerations and land-use practices	
3. Remediation alternative identification	
C. Remediation	4
1. Minimization/prevention	
2. Remediation technologies and management	
3. Remediation alternative identification	
V. Environmental Health and Safety	8
A. Industrial Hygiene, Health, and Safety	
B. Security, Emergency Preparedness, and Incident Response Procedures	
C. Exposure Assessments	
D. Radiation Protection/Health Physics	
E. Vector Control, Sanitation, and Biohazards	
F. Noise Pollution	
G. Indoor Air Quality	
H. Codes, Standards, Regulations, and Guidelines	

- VI. Associated Engineering Principles**
- A. Mathematics and Statistics
 - B. Economics and Project Management
 - C. Sustainable Design
 - D. Mass and Energy Balance

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