

ARE 309
EXAM II
MARCH 30, 1999

Instructions: This exam consists of eighty multiple-choice questions and one twenty-point essay question. You may use 1 3x5 card of notes (front and back); no other notes, materials or other assistance may be used on the exam. Remember that more than one answer may be correct; you must pick the best answer. Mark only one answer.

1. A landowner whose excavation causes his neighbor's property to subside is:
 - Strictly liable if the property was improved.
 - Liable in negligence if the property was improved.
 - Strictly liable if the property was developed.
 - No liability.

2. Laws of eastern states treat nonnavigable surface water in accord with:
 - The doctrine of riparian rights.
 - The doctrine of appropriate rights.
 - The common law.
 - None of the above.

3. In western states, who owns nonnavigable surface water?
 - The landowner.
 - The state.
 - The federal government.
 - The owner of the appropriative right to the water.

4. Who owns the land under nonnavigable waters?
 - The state.
 - The federal government
 - The landowners bordering the water.
 - The purchaser of the water.

5. Who owns the land under navigable waters in North Carolina?
 - The federal government.
 - The State of North Carolina under the public trust doctrine.
 - The landowners bordering the water.
 - The purchaser of the water.

6. Public trust land in North Carolina may:
 - Be sold.
 - Transferred to a nonprofit.
 - Be acquired by adverse possessions.

- None of the above.
7. Name the common law doctrine that governs landowners' use of ground water in North Carolina:
- Appropriative rights.
 - Riparian rights.
 - Reasonable use.
 - None of the above.
8. Which category of tort is a nuisance?
- Intentional.
 - Strict.
 - Negligent.
 - All of the above.
9. Which category of tort is a trespass?
- Intentional.
 - Strict.
 - Negligent.
 - All of the above.
10. A public nuisance may be:
- A tort.
 - A contract.
 - A crime.
 - None of the above.
11. A private nuisance:
- Affects many people.
 - Cannot be a public nuisance.
 - Involves particularized injury to one or more individuals.
 - None of the above.
12. Which is not an element of a tort in negligence?
- Duty.
 - Intent.
 - Proximate cause.
 - Actual damages.
13. A court may grant a plaintiff in a nuisance suit the following relief:
- Abatement only.
 - Damages only.
 - Both abatement and damages.
 - All of the above.

14. A nuisance is a (n):
- Unreasonable interference with a landowner's right to use and quiet enjoyment.
 - Invasion of a landowner's land, interfering with the right of the possession.
 - Neither of the first two answers.
 - Both of the first two answers.
15. A trespass is a(n):
- Unreasonable interference with a landowner's right to use and quiet enjoyment.
 - Invasion of a landowner's land, interfering with the right of the possession.
 - Neither of the first two answers.
 - Both of the first two answers.
16. By the point that a nuisance case goes to trial, most nuisances are:
- Intentional torts.
 - Negligent torts.
 - Strict liability torts.
 - All of the above
17. The majority of underground tanks that have caused environmental problems were used to store:
- dry cleaning fluid
 - embalming fluid
 - petroleum products
 - none of the above
18. Hazardous waste is defined by:
- Ignitability
 - Corrosivity
 - Toxicity
 - All of the above
19. The philosophy behind hazardous waste regulation under RCRA is one of
- Remediation
 - Prevention
 - Management
 - Storage

20. The philosophy behind the regulation of underground storage tanks is one of
- Remediation
 - Prevention
 - Management
 - Storage
21. In order to bring a citizen suit under RCRA, a potential plaintiff must
- Give notice to the Administrator of EPA
 - Give notice to the alleged violator
 - Give notice to the state where the violation occurred
 - All of the above
22. Under which circumstance might a citizen suit be brought under RCRA?
- EPA is suing the alleged violator
 - Proper notice has been given to the alleged violator
 - The state has assessed a civil penalty against the violator
 - The alleged violator is subject to a proceeding under CERCLA
23. The most commonly used method of solid waste disposal in the United States is
- The midden heap
 - Open burning
 - Lined & capped sanitary landfills
 - Incineration in a modern incinerator
24. The most commonly used method of solid waste disposal in Western Europe is
- The midden heap
 - Open burning
 - Lined & capped sanitary landfills
 - Incineration in a modern incinerator
25. Mistakes made in dealing with regulatory agencies at the outset of an investigation are
- easily corrected
 - difficult to correct
 - no big deal
 - impossible to correct
26. Open dumping is
- Beneficial to the public health
 - Beneficial to groundwater quality
 - A source of disease and vermin
 - An acceptable method of solid waste disposal

27. Ash from incineration of solid waste
- Can be used for fertilizer
 - Can be spread on playgrounds
 - Is often used in organic food production
 - Must generally be disposed of as hazardous waste under RCRA
28. Under the "Tulloch rule," Corps jurisdiction over ditching of wetlands was based upon:
- general agreement
 - incidental fallback
 - impact on our balance of trade
 - U.S. Department of Agriculture regulations
29. The Tulloch rule was reversed in
- the 5th Circuit
 - nationwide
 - the 9th Circuit
 - None of the above
30. Wetlands are important because they
- trap nutrients
 - are habitat for unique or endangered species
 - are important for flood control
 - all of the above
31. Section 401 of the Clean Water Act permits
- state veto of Corps individual permits
 - state programs
 - state veto of Corps general permits
 - all of the above
32. EPA may assert jurisdiction over wetlands based upon:
- Migratory birds
 - Impact on ground water
 - Impact on surface water
 - All of the above
33. The Corps' jurisdiction includes:
- isolated surface waters, not used by migratory birds
 - a 200 year old canal
 - a farm pond constructed in 1990

- a wetland created to treat hog waste
34. State regulation of wetlands is based upon:
- the Commerce Clause
 - EPA regulations
 - sections 404 and 401 of the Clean Water Act
 - the state constitution
35. An animal operation that meets the definition of a confined animal feeding operation:
- may operate under a nondischarge permit
 - needs no permit
 - needs only a business license
 - must obtain a discharge permit
36. A discharge permit is also known as:
- a section 404 permit
 - a NPDES permit
 - a general permit
 - deemed permitted
37. Municipalities engage in flow control to:
- protect the public health
 - protect their revenues
 - protect local businesses
 - none of the above
38. Flow control is prohibited by
- the Federal Food, Drug, and Cosmetic Act
 - the Federal Insecticide, Fungicide, and Rodenticide Act
 - the Clean Water Act
 - the Commerce Clause
39. Flow control is difficult to police because
- local regulations are not published
 - regulated businesses don't complain
 - flow control regulations are often disguised as legitimate health regulations
 - all of the above
40. An advantage of providing more information to public water supply system users is:
- higher water bills
 - users can make better decisions about the need for additional filtering

- users can switch supplies
 - none of the above
41. A disadvantage of providing more information to public water supply system users is:
- higher water bills
 - users can make better decisions about the need for additional filtering
 - users can switch supplies
 - none of the above
42. Watershed water supply regulations may:
- require supervision of a certified operator
 - restrict housing density
 - be applied at night
 - none of the above
43. Wellhead protection programs:
- protect surface waters
 - compensate landowners
 - may restrict certain land uses
 - all of the above
44. Factors that EPA may consider when evaluating a section 404 permit application include
- impact on groundwater
 - impact on the watershed
 - mitigation proposed
 - all of the above
45. Mitigation banking may be conducted by:
- a nonprofit organization
 - a for-profit enterprise
 - a government
 - all of the above
46. A judgment as a matter of law is:
- a pretrial motion
 - a post trial motion
 - a motion made during trial
 - all of the above
47. Chlorination of drinking water is designed to kill:
- pathogens
 - rats and mice

- voles
 - cockroaches
48. Disinfection byproducts in drinking water are:
- not a problem
 - regulated through strict limits
 - imaginary
 - none of the above
49. Mediation involves a neutral third party who:
- decides the issues
 - serves as a judge
 - serves as a jury
 - none of the above
50. A point source of water pollution is
- concentrated
 - diffuse
 - harmless
 - all of the above
51. A nonpoint source of water pollution is
- concentrated
 - diffuse
 - harmless
 - all of the above
52. A point source of water pollution is
- generally easy to identify
 - generally hard to identify
 - harmless
 - all of the above
53. A nonpoint source of water pollution is
- generally easy to identify
 - generally hard to identify
 - harmless
 - all of the above
54. Measured by volume which is the biggest surface water pollutant
- pathogens
 - nutrients

- sediment
 - heavy metals
55. Water law in most eastern states is governed by the doctrine of
- riparian rights
 - appropriative rights
 - reasonable rights
 - domestic rights
56. Water law in most western states is governed by the doctrine of
- riparian rights
 - appropriative rights
 - reasonable rights
 - domestic rights
57. In which type of state would a lender prefer to lend money for building an irrigation system?
- riparian rights state
 - domestic rights state
 - appropriative rights state
 - none of the above
58. If you were a fish (assuming that you are a fish capable of reasoning) in which state would you prefer to swim?
- riparian rights state
 - domestic rights state
 - appropriative rights state
 - none of the above
59. NPDES stands for
- Natural Pollutant Discharge Elimination System
 - Natural Pollutant Disposal Elimination System
 - National Pollutant Discharge Elimination System
 - None of the above
60. An NPDES permit is
- a nondischarge permit
 - an expensive permit
 - a discharge permit
 - all of the above
61. Which is not a surface water monitoring method?
- benthic macroinvertebrates
 - fish community structure assessment

- ambient monitoring
 - MRI
62. Arbitration is
- a type of cost-share program
 - an interest in real property
 - an interest in personal property
 - none of the above
63. North Carolina's surface water classification system is based upon
- water characteristics
 - EPA mandate
 - uses the water is expected to support
 - current uses of the water
64. TMDL stands for
- total microbial development level
 - tentative maximum daily load
 - total maximum daily limit
 - total maximum daily load
65. A TMDL is
- the total daily permissible pollutant loading from all sources
 - the total daily permissible pollutant loading from point sources
 - the total daily permissible pollutant loading from nonpoint sources
 - the total daily permissible pollutant loading from land-based sources
66. EPA now emphasizes a basinwide management approach to protecting surface waters because
- it is cheaper
 - watersheds are indivisible
 - it is easier to monitor
 - discharge permitting has not worked
67. Point and nonpoint source programs are tied together through
- state law
 - international treaty
 - the basinwide management approach and TMDLs
 - none of the above
68. A public water supply system supplies drinking water and may be
- owned by a municipality
 - owned by a private landlord

- owned by a state
 - all of the above
69. The Safe Drinking Water Act defines a public water supply system as one that has
- 25 service connections or regularly serves 15 people
 - 25 service connections or regularly serves 25 people
 - 15 service connections or regularly serves 15 people
 - 15 service connections or regularly serves 25 people
70. Coliform bacteria in water indicate the presence of
- human or animal waste
 - heavy metals
 - sediment
 - nutrients
71. Where a public water supply system relies on surface waters it must
- adopt a well head protection program
 - adopt a public information program
 - adopt a water supply watershed protection program
 - none of the above
72. Where a public water supply system relies on ground water it must
- adopt a well head protection program
 - adopt a public information program
 - adopt a water supply watershed protection program
 - none of the above
73. Land may be defined as wetland based upon
- hydric soils
 - hydrophilic vegetation
 - hydrology
 - all of the above
74. Wetlands are regulated under
- the Federal Wetlands Protection Act
 - section 404 of the Clean Water Act
 - section 401 of the Clean Water Act
 - all of the above
75. State wetland protection programs are authorized under
- the Federal Wetlands protection Act
 - section 404 of the Clean Water Act

- section 401 of the Clean Water Act
 - all of the above
76. Placing a navigation aid (buoy, etc.) requires a section 404
- general permit
 - individual permit
 - no permit
 - none of the above
77. Which section 404 permit application is least likely to be granted?
- a golf course
 - a marina
 - a temporary waterslide
 - a navigation aid
78. If mitigation is required as the condition of a section 404 permit which is the least likely mitigation ratio?
- 1:2
 - 1:1.5
 - 1:3
 - 1:1
79. Which is the lead agency for delineating agricultural wetlands?
- NRCS
 - EPA
 - FWS
 - Corps
80. Juries decide:
- legal issues
 - substantive issues
 - factual issues
 - emotional issues

Essay Question

20 points

Ace Arthur operates a temporary labor business and courier service, Ace's Best, out of a modern office building just outside of the City of Raleigh, along a tributary of Crabtree Creek. Water for the building is obtained from a single well located next to the fueling station for Ace's fleet of trucks and cars used in his courier business. Ace employs five full time staff members plus ten full time courier drivers. The building is also used by the workers that Ace assigns to other businesses while they wait for assignments, and by temporary couriers that Ace hires during periods of peak demand. The building is modern in all respects and is lighted with the latest full-spectrum fluorescent lights. All trash is placed in a dumpster behind the building that is emptied once a week by a waste hauler with whom Ace has an annual contract. When Ace inquired of the waste hauler about licenses and where the trash is taken, the hauler answered, "What you don't know won't hurt you."

The courier business, Ace has told you, is an interesting business. You never know what you may be hauling. Ace just entered a lucrative contract to carry used medical supplies, syringes, bandages, etc., to a central location.

One of Ace's golfing buddies recently told Ace about the problems that he was having with EPA and DENR. Ace decided it might not be a bad idea to get an environmental audit of his business to avoid the problems that his friend is having. He has hired you to conduct an environmental audit. Based upon the material that we have studied to date, identify and explain the issues about which Ace should be concerned. What additional information might you need?