

DEPARTMENT OF GEOGRAPHY  
RYERSON UNIVERSITY  
**CGEO 702: TECHNOLOGY & CONTEMPORARY ENVIRONMENT**  
**WINTER, 2012 FINAL EXAM**  
INSTRUCTOR: DR ABEDNEGO A. ARYEE

NAME: .....

STUDENT NUMBER:.....

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- \* Duration: 2 hours                      \* Read all the questions carefully.  
\* Multiple Choice (25 marks).       \* The exam is 10-pages long.
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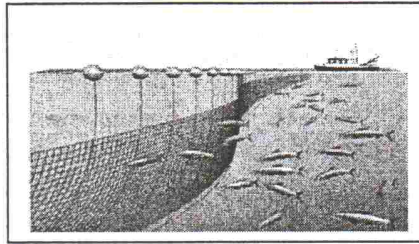
**MULTIPLE CHOICE QUESTIONS**

Answer **ALL** of the questions in this section. (Each question is worth 0.5 marks- 25 marks in total). *Instructions: Shade the letter of the correct answer on the computer card provided.*

1. The practice of cutting down all trees and leaving those with higher genetic capabilities is called:
  - a. Shelterwood-cutting
  - b. Seed-tree cutting
  - c. Strip-cutting ✓
  - d. Clear-cutting
  - e. Silviculture
  
2. Which of the following best describes **Oligotrophic** lakes?
  - a. Lakes and ponds which have low nutrient and high oxygen conditions.
  - b. Lakes and ponds which have high nutrient and low oxygen conditions.
  - c. Water that completely fills and saturates spaces in rocks.
  - d. Inland seas which hold so much water and their biota is adapted to open water.
  - e. Porous sponge-like formations of rock, sand, or gravel that hold groundwater.
  
3. The \_\_\_\_\_ account for 30% of tropical rainforest and it is extremely diverse in flora, fauna and micro-organisms.
  - a. Temperate forest
  - b. Boreal forest
  - c. Amazon forest
  - d. Congo forest
  - e. Monsoon rainforest

4. The \_\_\_\_\_ fishing technology is a string of nets which are arrayed strategically to flow with the currents so as to capture passing fish such as herrings, sardines and mackerel.

- a. Driftnets ✓
- b. Long line
- c. Bottom-trawling
- d. Seine purse
- e. Explosives



5. Which of the following is an 'output' approach for proper water management?

- a. desalinization of sea water
- b. towing icebergs from Antarctica
- c. cloud seeding (condensation nuclei)
- d. increasing efficiency of water usage through metering
- e. tapping new water resources and water diversions

6. The traditional technique of seasonal fishing used to catch blue fin tuna in the Mediterranean coast of Sicily is called:

- a. Tonnara
- b. Matanza
- c. Cyanide use
- d. Rock hopper ✓
- e. Fish trapping

7. Which of the following trees is commonly found in the Boreal forest of Canada?

- a. Beech
- b. Pine
- c. Maple ✓
- d. Oak
- e. Eucalyptus

8. All of the following are the world's most productive fishing grounds **except**:

- a. Georges Bank
- b. Gulf of Alaska
- c. Aral Sea ✓
- d. Canaries, North Atlantic
- e. Mediterranean, Coast of Sicily

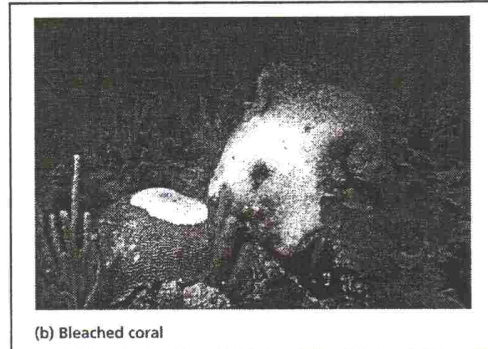
9. Identify the forest which is located in the sub-Arctic regions of Eurasia and North America and dominated by conifers?

- a. Boreal forest
- b. Temperate forest
- c. Tropical rainforest
- d. Semi-deciduous forest
- e. Carolina forest

10. Which of the following best describes the abyssal plain?
- the measurement of ocean depths.
  - the physical geography or the shape and arrangement of landforms.
  - the gently sloping areas that underlie the shallow waters bordering continents.
  - the connection between the continental shelf and the ocean floor.
  - flat bottom of the deep ocean.
11. The term \_\_\_\_\_ means the biological ageing of surface water by reducing dissolved oxygen levels and degrading habitat quality for fish and other aquatic organisms.
- Bioaccumulation
  - Cryptosporidium
  - Eutrophication
  - Assimilation
  - Synergism
12. Which of the following rivers has been diverted so much for agricultural irrigation, dam reservoir and domestic activities in the United States to the extent that by the time it reaches Mexico, there is virtually little water left?
- Columbia River
  - Milk River
  - Mississippi River
  - Colorado River
  - La Grande River
13. The \_\_\_\_\_ defines “a park as a protected area managed mainly for ecosystem protection and recreation”.
- International Union for Conservation of Nature
  - World Commission on Protected Areas
  - United Nations Education Scientific and Cultural Organization
  - United Nations Environment Programme
  - Parks Canada
14. The biggest civil disobedience (protest against logging) in the history of the forest sector in Canada occurred in the \_\_\_\_\_ \_\_\_\_\_ British Columbia in 1993.
- Clayoquot Sound
  - Prince William Sound
  - George Bush Sound
  - Prince Edward Island
  - Fort Nelson
15. Tree harvesting by clear-cutting has all of the following problems **except**:
- It reduces the structural complexity forests.
  - It changes the composition and abundance of trees.
  - It cut all trees in the area regardless of age, size or type.
  - It changes chemical recycling in forests and causes soil erosion.
  - It is cost effective and profitable to the logging company.

16. The Norwegian Prime Minister (Gro Harlem) chaired the World Commission on Environment and Development (WCED 1987) and they recommended that \_\_\_\_\_ of lands in each country should be set aside as protected area.
- a. 2 percent
  - b. 12 percent
  - c. 30 percent
  - d. 35 percent
  - e. 45 percent

17. Coral bleaching occurs when ....
- a. algae colonizes the coral reef
  - b. fish move into coral reefs
  - c. *zooxanthellae* leave the coral
  - d. coral reefs expand their range
  - e. viruses, bacteria and fungi attack the coral reef



18. Which of the following aquifers is the major source of water supply to the central United States (cutting across 8 states)?
- a. Gurani Aquifer
  - b. Edwards Aquifer
  - c. Ogallala Aquifer
  - d. Mahomet Aquifer
  - e. A and C only
19. The most popular method of underground wastewater disposal in rural areas which is used to separate solids and oil from wastewater and then microbes decompose the water is called:
- a. Septic tanks systems
  - b. Land fill
  - c. Primary treatment
  - d. Secondary treatment
  - e. Chlorinization
20. Which of the following diseases is not associated with biological contamination of drinking water?
- a. dysentery
  - b. typhoid fever
  - c. cholera
  - d. bilharzia
  - e. asbestosis

21. Which of the following is **not** a viable solution to the problem of overfishing?
- Efficient fishing techniques that reduce the amount of by-catch.
  - Re-introduction of hook and line fishing.
  - Establishment of a quota system that limits outsiders from fishing in local waters.
  - Introduction of bottom trawling nets that sweep the ocean floor.
  - Establishment of Marine Protected Areas.
22. The concept of Safe Aquifer Yield means:
- Regulating the percolation of water through pores of soils into aquifers.
  - Setting pumping rates at levels that will not cause significant decline in aquifers.
  - Balancing the exchange of water between atmosphere, oceans, wetlands and aquifers.
  - Protecting aquifers from contamination from non-point sources.
  - Providing enough water supplies for current generation
23. Which of the following is not a conflict in park management?
- Concerns over motor vehicle use.
  - Interaction between people and wildlife.
  - Controversy over the percentage of land should be set aside for park.
  - Unprecedented commercial developments.
  - Providing outdoor laboratory where people can learn.
24. A confined aquifer is defined as...?
- an aquifer that traps porous rocks between layers of less permeable substrate.
  - an aquifer that traps porous rocks under one layer of less permeable substrate.
  - an aquifer with porous rocks resting on bedrock.
  - an aquifer with no upper layer.
  - marine well which abundant oil reserves.
25. Identify an initiative that consumers of forest products can use to reduce deforestation.
- embark on sustainable forest harvesting practices such as selective cutting.
  - set up a quota system for logging and place a cap on timber export.
  - adapt modern technical innovations in tree planting to speed up forest regeneration.
  - market-oriented approach where individuals can boycott environmentally unsustainable forest products.
  - Regulation of logging companies and hefty fines can be established for companies that do not comply with forest regulations.

26. Which of the following is a problem of national parks in Canada?
- a. Islands of nature
  - b. Manipulating nature
  - c. Losing park values
  - d. Under-funding & neglect
  - e. All of the above
27. The process of hazardous waste disposal into natural topographic depressions and human made exactions as aeration pits is called:
- a. Surface impoundments
  - b. Microbial breakdown
  - c. Sanitary landfills
  - d. Deep well disposal
  - e. Incineration
28. Which of the following is a nonpoint source of water pollution?
- a. A factory
  - b. Sewer pipes
  - c. Agricultural fields
  - d. Oil tank spill
  - e. Sewerage treatment plant
29. Primary treatment of wastewater includes...?
- a. Treating water with chemicals
  - b. Stirring and aerating water
  - c. Degradation of wastes by bacteria
  - d. Physical removal of contaminants
  - e. Treatment with carbon and sand filters
30. The process by which contaminants build up in the tissues of a single organism is called:
- a. Bioaccumulation
  - b. Biomagnification
  - c. Cultural eutrophication
  - d. Cosmopolitan
  - e. None of the above
31. The practice of cutting dead and less desirable trees first and later cutting mature trees is called:
- a. Shelterwood-cutting
  - b. Seed-tree cutting
  - c. Strip-cutting
  - d. Clear-cutting
  - e. Silviculture

32. Which of the following was a major finding of the Bow Valley Study in Banff National Park?
- a. Park boundaries do not conform to ecosystem boundaries.
  - b. Elephants are often prevented from reaching their food and water sources.
  - c. Air strip has a huge impact on wildlife.
  - d. There was excessive noise from snow mobiles.
  - e. Declining animal population in the park.
33. Identify the most common characteristic of suppressed trees.
- a. They form a layer of growth below dominants.
  - b. They are the tallest, most common and most vigorous trees.
  - c. They shed all their leaves during certain times of the year.
  - d. They grow in the understory.
  - e. None of the above.
34. It is reported in Withgott et al. 2010, that the Ocean Conservancy picked a total of \_\_\_\_\_ of trash from 55 600 km of shoreline in 2006.
- a. 150,000 kilograms
  - b. 1.2 million kilograms
  - c. 3.2 million kilograms
  - d. 850 kilograms
  - e. 200 million kilograms
35. Which of these anthropogenic factors is responsible for disrupting migrating path and spawning routes of salmon?
- a. Dams
  - b. Fishing
  - c. Surfing
  - d. Fertilizer use
  - e. Bridges
36. Marine reserves have all of the following benefits **except**:
- a. Fishing increases in the reserve
  - b. The size of fish increases
  - c. Larvae can "seed" areas outside the reserve
  - d. Decreased mortality and habitat destruction
  - e. Preserves biological diversity
37. Which of the following does not mark decline of fisheries?
- a. Fishing fleets travel longer distances
  - b. Fishing fleets spend more time fishing
  - c. Fishing fleets use traditional methods of fishing
  - d. Data supplied to monitoring agencies may be false
  - e. Fishing fleets have sonar for finding schools of fish

2006 2010

38. Which of the following statements regarding forest management is false?
- a. Deforestation in Canada has occurred for centuries
  - b. Timber companies move on after an area is deforested
  - c. Tropical countries have lost the majority of forests so timber companies will not be going there
  - d. Governments in developing countries help logging companies at the expense of native people
  - e. None of the above
39. The National Forest Strategies for 2003-2008 included all of the following, **except**:
- a. Ecosystem-based management
  - b. Diversification of markets for forest products
  - c. Increased harvesting under times of economic stress
  - d. Recognizing legal rights of Aboriginal peoples
  - e. Tree plantations in areas that have been logged
40. Which of the following is not true of Adaptive Management approach?
- a. Systematically testing different management approaches and aiming to improve methods
  - b. Monitoring results and adjusting methods as needed
  - c. A fusion of science and management
  - d. Time-consuming and complicated
  - e. It is not a guiding principle for forest management in British Columbia
41. The idea of debt-for-nature swap means...
- a. Developed countries will grant loans to developing countries so that they can start reforestation programs.
  - b. Advanced countries will forgive debt owed by developing countries so that they can export more timber to core countries for foreign exchange earnings.
  - c. Developed countries will forgive the debt that developing countries owe so that they can reduce cutting down of timber for export earnings to pay their debt.
  - d. Developed countries should forgive debt owed by developing countries so that poorer countries can improve their terms of trade.
  - e. None of the above.
42. Which of the following is not a benefit of the hydrological cycle?
- a. Redistribution of water to the landmasses.
  - b. Nutrient recycling.
  - c. Exchange salt water for fresh water.
  - d. Purification of water.
  - e. Stabilization of landmasses.

43. Outdoor natural attractions are described as **merit good** because they are goods that are \_\_\_\_\_.
- a. deemed to have a low price elasticity.
  - b. deemed to have lesser value to society.
  - c. deemed to have high price elasticity.
  - d. deemed to be all inclusive regardless of background, gender, race etc.
  - e. socially needed and have value to society
44. The most famous geyser in the United States (Old Faithful) is located in the \_\_\_\_\_.
- a. New York Central Park
  - b. Yosemite National Park
  - c. Banff National Park
  - d. Wood Buffalo Park
  - e. Greater Yellowstone National Park
45. Which of the following national parks was originally established with boundaries that were poorly matched with the habitat requirements of resident elephant population causing elephants to crash through farm fences?
- a. Algonquin National Park
  - b. Banff National Park
  - c. Lake Manyara National Park
  - d. Greater Yellowstone National Park
  - e. Bay of Fundy National Park
46. The Bay of Fundy National Park has established four zones under a new legislation. Zone III means:
- a. Outdoor recreation (both day use and overnight camping opportunities which require extensive infrastructure such as roads and permanent structures such as washrooms and golf courses).
  - b. Special preservation (offers the highest level of protection in the park system and is intended to conserve unique, rare, sensitive or otherwise special natural features. Motorized vehicles are prohibited and visitor traffic is discouraged).
  - c. Wilderness (intended to capture extensive areas representing the best natural features of the region. Visitors are allowed but motorized traffic is prohibited).
  - d. Natural environment (areas intended for moderate level of visitor use, including swimming, hiking, and non-motorized boating).
  - e. None of the above.
47. Which of the following is not a service provided by mangrove swamps?
- a. wood for construction
  - b. filter pollutants
  - c. nesting grounds for birds
  - d. nurseries for fish
  - e. exposes coastal areas to storms

48. Identify a drawback of aquaculture.
- a. damaging landscape changes in some coastal ecosystems.
  - b. Inefficiency of food production since corn is grown to feed fish.
  - c. farmed aquatic organisms can escape into ecosystems.
  - d. dense concentrations of farmed animals increase the incidence of diseases.
  - e. All of the above
49. Which of the following regions is noted for the British Petroleum Macondo Oil Rig explosion in 2010?
- a. Prince William Sound
  - b. Galapagos Island
  - c. Gulf of Guinea
  - d. Hudson Bay
  - e. Gulf of Mexico
50. According to Withgott et al. (2010), which country is the fourth largest producer of farmed salmon in the world?
- a. Canada
  - b. Nigeria
  - c. Brazil
  - d. Germany
  - e. Russia