GEOGRAPHY 327 ESTURINE FINAL EAM

DR. JOHN F. LOONEY, JR.

NAME: _____

1. High density human estuarine habitat in the Persian Gulf area is:
   a. Hwang Ho
   b. Hwong Siking
   c. Nile River
   d. Tigirs-Euphrates River
   e. none of these

2. All of the following are primate port cities except for:
   a. New York
   b. London
   c. Cairo
   d. Chicago
   e. Plymouth

3. Colonial American Estuarine areas are:
   a. New York
   b. Boston
   c. Pittsburgh
   d. Worcester
   e. both a & b

4. Submerged Aquatic Vegetation is dependent upon:
   a, light availability
   b. suspended sediment
   c. phytoplankton
   d. epiphytes
   e. all of these

5. A appropriate example of an estuarine organism begin at the thermal maximum is: _____
   a. spartina
   b. zostera
   c. thalassia
   d. spartina altemiflora
   e. none of these

6. Physical alteration: bulk heading as toxic materials:_____
   a. Minimata Bay
   b. Ichi-ichi
   c. Mercury
   d. DDT
   e. All of these

7. Physical alteration: Polders: Netherlands as Physical alteration: _____
   a. Aswan Dam and Nile
   b. Minimata Bay and Japan
   c. Dikes and San Francisco Bay
   d. Botha&c

8. Mississippi River Delta changes are caused by:
   a. subsidence
   b. soil oxidation
   c. high rainfall
   d. diking
   e. all of these

9. Riverine sediments infill and enrich wetlands and cause wetlands to disappear

   a. TRUE b. FALSE

10. canals and deep v/ater channelization allow for consistency of water mix and constant oxygen in the water column.

   a. TRUE b. FALSE

11. Otic sensitivity: migratory as _____:j physical aids
   a. bioaccumulation
   b. biomagnification
   c. fish ladder
   d. damming
   e. none of these

12. A major problem associated with introduced species is that they are primarily unitary feeders.

   a. TRUE b. FALSE

13. Fouling organisms: barnacle as biological introductions: _____:
   a. flounder
   b. nutria
   c. water hyacinth
   d. striped bass
   e. all but a.

MATCH (14-25)

14. Thermal pollution
15. Eutrophication
16. Enrichment
17. Hydrogeological
18. Reclaimation
19. Fossil Flue Plants
20. Toxic Materials
21. Sewerage
22. Great South Bay
23. Filling and Draining
24. Pacific Salmon
25. Striped Bass

a.physical alteration
b.pesticides
c.organic materials
d.introdued species
e.calefaction

26. The basis for understanding estuarine economic changes is to be knowledgeable of estuarine functions.

a **TRUE** b. **FALSE**

27. The presence of E. coli in water is pathogenic

a. **TRUE** b. **FALSE**

28. Big: little as macro: _____

a. micro
b. phytoplankton
c. zooplankton
d. ultraplankton
e. bothe&d

29. The primary catalysts in the estuary are temperature and salinity.

a. **TRUE** b. **FALSE**

30. A primary constraint of estuarine organisms is geographical range.

a. **TRUE** b. **FALSE**

31. February algal planktonic blooms are examples of temporal, spatial, and seasonal variations.

32. Organisms that are photic dependent probably have higher metabolic rates if the angle of insulation is greater and it is:

a. Northern Hemisphere Winter
b. Northern Hemisphere Summer
c. Southern Hemisphere Winter
d. Southern Hemisphere Summer
e. both a & c

33. The presence ofe. coli in estuarine environments is an indication of pollution.

a. **TRUE** b. **FALSE**

34. There is usually slight variation in tropical populations because of geographical or sparial location.

a. **TRUE** b. **FALSE**

35. Large populations ofdinoflagellates are usually found in estuarine areas.

a. **TRUE** b. **FALSE**

36. Diatoms may cause colder arctic water to be dark blue just as in the tropics.

a. **TRUE** b. **FALSE**

MATCH (37-43)

37. Carbon	a. critical to plants
38. Nickel	b. critical to zooplankton
39. Nitrogen	c. limiting factors for diatoms
40. Silicon	d. critical for shell development
41. PAR	e. fresh vs. salt water
42. Phosphorous	
43. River Flow Effect	

44. It is usually easier for organisms to come from fresh to salt water than from salt to fresh water.

a. TRUE b. FALSE

45. The thermocline in the estuary may be both seasonal and diurnal.

46. Deep: shallow as altemiflora: _____

a. Black grass
b. Thalassia
c. Ruppia
d. Patens
e. none of these

47. High: low as _____: mangrove _: mangrove

a. boreal
b. altemiflora
c. zostera
d. patens
e. both a & d

48. The temperate marsh is a product of Cs and Cf climates.

a. TRUE b. FALSE

49. Shallow slope and mud are possible reasons for salt marsh location.

a. **TRUE** b. **FALSE**

50. Periodic flooding of mangrove swamps by hurricanes may have strong positive influence.

a.**TRUE** b.**FALSE**

MATCH(51-60)

51. World wide Salt Marsh
52. Patens, altemiflora, glass wort
53. Red, Black and White Mangrove
54. Spatial Zonation
55. latitude and rainfall
56. temperature and solar insulation
57. similar species world wide
58. tides and salinity
59. seaweed, wrack
60. plastic, fish nets, beer cans

a. Local Spatial Zonation
b. Geographical factors
c. Law of Climatic Regimen
d. flotsam
e. jetsam

61. Mangrove swamps grow best in forest systems in brackish water with a PH 1-2.

a.**TRUE** b.**FALSE**

62. Most estuarine organisms exist in a salinity range of 10 to 40 ppt.

a. TRUE **b. FALSE**

MATCHING(63-68)

63. salicomia
64. thalassia
65. spartina
66. zostera
67. crabs
68. lobster

a.marsh grass
b.turtle grass
c.eel grass
d.glasswort
e.crustaceans

69. An example of a sessile organism is:
    a. barnacle
    b. horse mussel
    c. horseshoe crab
    d. lobster
    e. both a & b

70. An example of an infaunal organism is:
    a. soft shelled clam
    b. soft shelled crab
    c. eels grass
    d. spartina
    e. none of these

71. The processes that impact upon benthic organisms are:
    a. geological
    b. geographical
    c. physical
    d, chemical
    e. all of these

72. Benthic dwellers live near the bottom in less thanlOO fathoms or 600 feet.

    a. **TRUE** b. **FALSE**

73. Verticle zonation can explain the brown, black, white and green zones.

    a. **TRUE** b. **FALSE**

MATCH (74-85)

74. Salt spray rose	a. supra littoral
75. salt marsh	b. sub littoral
76. back beach	c. littoral
77. fore beach	
78. oysters	
79. horse mussel	
80. rock weed	
81. carragean	
82. eel grass	
83. turtle grass	
84. sumac	
85. barnacles	

86. Organisms of the littoral zone are constrained primarily by:
    a. wave action
    b. temperature
    c. salinity
    d. sediment migration
    e. dessication

87. Filter feeders depend upon:
    a. cold water
    b. turbidity
    c. warm water
    d. dissolved oxygen
    e. salinity

88. Greater amounts of dissolved oxygen are primarily related to:
a. salinity
b. turbidity
c. cold water
d. warm water

89. Ruppia distribution is dependent upon:
a. albedo
b. angle of isolation
c. duration of sunlight
d. tides
e. all of these

90. Turbidity and saltmarsh distribution is a function of:
a. waves
b. river flow
c. fresh water run off
d. only a & b
e. none of these

91. Common sediment type of marsh is:
a. mud
b. sand
c. pebbles
d. botha&b
e. none of these

92. Almost 100 of migratory water fowl are dependent upon the marsh for their existence.

a. **TRUE** b. **FALSE**

93. Less than 50 of the nekton are estuarine dependent.

a. **TRUE** b. **FALSE**

94. The primary nutrients of the estuary result from decomposing widgeon, eel or turtle grass.

a. **TRUE** b. **FALSE**

MATCHING(95-105)

95. sunlight
96. visibility
97. availability of nutrients
98. non-parasitic
99. spatial competitor
100.nitrogen
101. phosphates
102. organisms' place in food wed
103. filter feeders
104. razor and jackknife
105. Ipswich and little neck

a. edstuarine stressors
b. epiphyte
c. chemical inhibitors
d. niche
e. soft shell clams

106. Meiofaunal organisms are a temporary feature of the estuary.

a. **TRUE** b. **FALSE**

107. Meiofaunal constraint could be

a. temperature
b. seasonal
c. geographical location
d. angle of isolation
e. all of these

108. Most burrowers live in course grained sandy bottoms.

a.**TRUE** b.**FALSE**

MATCH(109-116)

109. anabolism and katabollism
110. depends upon nutrient recycling
111. verticle energy levels
112. thermal or physical
113. high level organic materials
114. Rate of food energy use
115. Motile organisms
116. excretes mercury and magnesium .

a. BBL
b. BMR
c. ciliated/flagellation
d. calefaction
e. detrital

117. The major aspect of toxicity to organisms is the amount applied.

a. **TRUE** b. **FALSE**

118. Necrotizing chemical to marine algae is:

a. DDT
b. POC
c. TOC
d. CuSo4
e. none of these

119. Seston: Tripton as upper level:_____
a. swimmers
b. plankton
c. non living
d. neutron
e. none of these

120. Water temperature may be a catalyst. The eutrophic relationship relationship is higher temperatures allow for oxygen.

a. **TRUE** b. **FALSE**

121. Few: Species as many: Individual as few: Individual as _____ meroplankton

a. nanoplankton
b. phytoplankton
c. zooplankton
d. ultraplantkton
e. haloplankton

122. Basic to estuarine food webs

a. meroplanton
b. organism
c. zooplankton
d. neuston
e. seston

123. Organisms that are primarily vertically distributed in the estuary are:

a. meroplankton
b. organic
c. haloplankton
d. zooplanton
e. phytoplankton

124. All of the following except:
a. anadromous
b. catadromos
c. amphidromous
d. oceanodromus

MATCH (125-130)

125.Estuarine dependent
126.pelagic fishes
127.narrow range of sal tolerance
128.tolerates borad temperature
129.can damage gills
130.potential harmful marsh organism

a. mosquito
b. turbidity
c. stenohaline
d. eurythermal
e. diadromous

Respond to the numbered items in the following paragraph. Use the appropriate Letters and phrases at the end of the paragraph.

The Columbia River Dam System (131) impacts the migration ofsalmon(132). The deep waters(133) are warmed by the summer sun(134) which allows for the riverine planktonic blooms(135) and the SAV(136). This may help to establish a preditor/prey relationship^ 3 7) similar to the seals and sea urchins in Boston Harbor(138). One might question whether calefaction(139) might play an important role in the process(HO). We are aware of the role ofeutrophication(141) and enrichment(142) upon estuarme life forms. We must also consider phosphorus(142) and silicon(143) as well as the river flow effect(144) in determing the distribution of zostera(145) ruppia(146), flotsam(147) and jetsam(148). Regardless, we study the estuarine waters(149) and life forms because of the impacts upon the plankton and nekton(150).

a. Abiotic factor
b. Biotic factoir
c. both A & B
d. neither A nor B
e. BBL