

MARINE BIOLOGY 2000
Examination #2

NAME _____

Part I. Multiple Choice (3 pts each)

1. Salt marshes are found in _____ regions.
 - a. polar
 - b. temperate
 - c. tropical
 - d. a, b, and c
 - e. None of above
2. The type of coral reef that is located near land masses is called
 - a. a barrier reef
 - b. an atoll
 - c. a fringing reef
 - d. a fore reef
 - e. a reef flat
3. An example of a particle consumer in an estuary is:
 - a. bivalve
 - b. zooplankton
 - c. worm
 - d. All of the above
4. The type of estuary formed by glacial activity is called a
 - a. tectonic estuary
 - b. delta estuary
 - c. drown river valley estuary
 - d. fjord
 - e. coastal plain estuary
5. Maximum species diversity in an estuary is found:
 - a. near the headwater
 - b. In the watershed
 - c. In the shallowest regions
 - d. near the ocean
 - c. In brackish waters

6. Osmoconformers cope with changing salinities by:
 - a. allowing their body fluids to change with the salinity of the water.
 - b. pumping out water and absorbing solutes from the surrounding water
 - c. keeping their body fluids constant despite changing salinities
 - d. developing a high salt tolerance
 - e. All of the above
7. Smooth, dark shells of organisms living in the rocky intertidal zone is an adaptation to
 - a. reduce desiccation
 - b. reduce the effects of wave shock
 - c. reduce heat loss
 - d. a and b
 - e. None of the above
1. What organism is most commonly associated with the New England high intertidal zone:
 - a. littorine snails
 - b. mussels
 - c. barnacles
 - d. furoid algae
 - e. All of the above
9. Which group of marine mammals does not have four appendages comparable to human arms and legs?
 - a. Seals
 - b. Walruses
 - c. Sea Otters
 - d. Whales
 - e. None of the above.
10. Which of the following is the least important in affecting coral reef distribution in the ocean?
 - a. seastar predators
 - b. temperature
 - c. immersion
 - d. light
 - e. carbon dioxide concentration

11. While of the following statements is FALSE concerning manatees?
 - a. They have no rear limbs
 - b. They are marine mammals
 - c. They are in the order Sirenia
 - d. They are carnivorous
 - e. All the statements are true
12. Tidal subsidy refers to how
 - a. the salt marsh rids itself of dead organic matter buildup
 - b. the salt marsh maintains high concentrations of nutrients in estuaries
 - c. salt marsh productivity is affected by tidal action
 - d. high primary productivity in estuaries is maintained
 - e. None of the above
13. Trophic group amensalism refers to interactions where
 - a. trophic group A negatively affects trophic group B , but trophic group B has no influence on A .
 - b. two trophic groups negatively affect each other
 - c. two trophic groups positively affect each other
 - d. mussels always outcompete barnacles
 - e. None of the above.
14. Which of the following is FALSE concerning an atoll?
 - a. They are associated with a well-formed lagoon
 - b. They are younger, on average, than a fringing reef
 - c. They are the result of a submerged volcanic island
 - d. They are common in the South Pacific
 - e. All these statements are true
15. Which feeding type is abundant for intertidal animals?
 - a. Predators
 - b. Scavengers
 - c. Suspension feeders
 - d. Deposit feeders
 - e. All of the above

Part II. Short Answer (6 pts each). Be brief.

1. How may corals protect themselves against incursions by other corals into their space
2. What factors contribute to determining zonation on a rocky shore?
3. Why are so few species able to live in the transition between estuarine and fresh-water habitats?
4. Why are benthic epifauna and attached plants seldom found on exposed sandy beaches?

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5. Discuss and compare the biological significance of the body surface area: volume ratio of a whale and a copepod.

Part III. Long Answer (12 pts each)

1. Beginning with the reasonable assumption that cetaceans have evolved from herbivorous terrestrial ancestors, discuss the major structural adaptations that are evident in present-day killer whales which are not present in terrestrial ancestors.

2. Why are clams typically most abundant in fine-grained sandy sediments while worms tend to dominate muddy habitats?