PRACTICE QUESTIONS FOR ECOLOGY MID-TERM   More Tutorial at

There is a single correct answer for each question - chose the **MOST** appropriate answer. All questions carry equal marks. Read the questions carefully.

1   All of the following statements about the logistic model of population growth are true **EXCEPT**

   a)   It fits an 's' shaped curve
   b)   It incorporates the concept of a carrying capacity
   c)   It describes changes in population density over time
   d)   It predicts an equilibrium where birth rates will equal death rates
   e)   The carrying capacity is determined by the action of predators

2   A biologist reports that at Mount Meru he observed 21 Wildebeest per square kilometer. What is the biologist measuring?

   a)   Dispersion
   b)   Carrying capacity
   c)   Range
   d)   Density
   e)   Competition

3   Species extinction rates are higher on small islands because:

   a)   Small islands are usually further from the mainland
   b)   Small islands are harder for dispersers to find
   c)   Average population sizes are smaller on small islands
   d)   Small islands are more polluted
   e)   Evolution occurs faster on small islands

4   Fergus and Mel go to a restaurant and don't like the food they are served. They formulate the hypothesis that 'The chef sucks - we won't like any of the food in this restaurant'. If they continue to follow scientific method to investigate their hypothesis their next step should be:

   a)   to become vegetarian
   b)   to try some alternative restaurants
   c)   to return to the restaurant and order some alternative items from: the menu
   d)   to call the city health inspectors
   e)   to get some friends to go to the restaurant

5   Which of the following would be most likely to affect population growth of a species in a density dependent manner?

   a)   Drought
   b)   Floods
   c)   Disease
   d)   Frost
   e)   Earthquakes

6   An introduced species is found to have a fundamental niche identical to that of a native species. A possible outcome is:

a)   one of the species will be driven to extinction as they compete
b)   evolutionary change will cause their niches to diverge
c)   they will exhibit distinct, and different, realized niches and coexist
d)   the introduced species may become extinct for reasons unrelated to competition.
e)   all of the above

7   Which of the following is **NOT** an assumption of the logistic equation:

a)   The relationship between density and the per capita rate of increase is linear.
b)   All individuals reproduce equally
c)   There is no immigration or emigration
d)   The carrying capacity is proportional to the population density
e)   The effect of density on the rate increase is instantaneous

8   All of the following statements about communities are correct **EXCEPT:**

a)   Closely related species may be able to coexist if there is at least one significant difference in their niches.
b)   Keystone predators reduce diversity in a community by holding down or wiping out prey populations.
c)   Mutualism is an important biotic interaction that occurs in communities.
d)   Disturbances may increase the diversity in a community.
e)   Disturbances may decrease the diversity in a community

9   Highway 1 runs through the middle of Fanner Bob's Philosophical Chicken Farm. The chickens' roost on one side of the highway and their feeding trough is on the other side. Once per day each chicken crosses the road to feed and then returns back across the road to the roost. Chickens are occasionally struck by cars and killed and this is the main form of chicken mortality on the farm. Bob has just bought a new stock of 1000 chickens. What sort of survivorship curve would we expect to see?

a)   A type I curve
b)   A type II curve
c)   A type III curve
d)   A combination of type I and type III with high juvenile mortality (like type III) followed by low mortality rates until almost all adults die in a short time period (like type III)

10   As a habitat patch gets smaller which of the following statements is **INCORRECT**?

a)   The patch can support fewer species.
b)   The patch is influenced to an increasing degree by edge effects.
c)   Extinction rates increase.
d)   Immigration rates increase.