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CSIR Life Science Sample Questions (Part 10 of 10)

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1. Suppose you discovered a new species about which you know only two facts: It is small-sized (< 10 cm) and short-lived (< 20 d). Which of the following reproductive strategies is most likely to be true for this species?
 - a. Breeds early and more than once in life and produces large number of small-sized offspring
 - b. Breeds late and only once in life and produces large number of small-sized offspring.
 - c. Breeds early and only once in life and produces large number of small-sized offspring
 - d. Breeds early and only once in life and produces a small number of large-sized offspring
2. Autotrophs in the aquatic ecosystem, unlike their counterparts in the terrestrial ecosystem, are mostly microscopic and very low in indigestible (to the herbivores) matter. This explains the fact that compared to the terrestrial ecosystem, in the aquatic ecosystem
 - a. Productivity/Biomass ratios are higher and energy transfer rates to higher trophic levels are faster
 - b. Productivity/Biomass ratios are lower and the energy transfer rates to higher trophic levels are slower
 - c. Productivity/Biomass ratio are lower and the energy transfer rate to higher trophic levels are faster
 - d. Productivity/Biomass ratios are higher and the energy transfer rate to higher trophic levels are slower
3. In order to prevent tetanus in neonates, one of the following treatments can be adopted. Treatment of the infant with anti-toxin and the toxoid. Immunize the mother with the toxoid. In case of A, the treatment can be given, find correct combination
 - a. immediately after birth
 - b. after the onset of the condition. In case of B, the immunization has to be done
 - c. before pregnancy.
 - d. late in the pregnancy.

4. Ecological compression differs from character displacement in that it operates on a
- a. shorter timescale and does not involve heritable change
 - b. longer timescale and does not involve heritable change
 - c. shorter timescale and involves heritable change.
 - d. longer timescale and involves heritable change.
5. Following are some statements regarding plant growth hormones.
- a. Ethylene regulates abscission.
 - b. Gibberlins do not play any role in flowering.
 - c. Auxin and cytokinin promote cell division.
 - d. Over expression of cytokinin oxidase would promote root growth. ABA inhibits roots growth and promotes shoot growth at low water potential. ABA promotes leaf senescence independent of ethylene.
- Which one of the following combination of above statements is correct?
- a. 1 3
 - b. 2 3 4
 - c. 3 4 5
 - d. 2 3 4