Ecology Test Answer Key

Section 1 (1 pt each)

1. C
2. B
3. H
4. F
5. G
6. A
7. D
8. E
9. L
10. M
11. P
12. K
13. O
14. I
15. N
16. J
17. R
18. T
19. Q
20. S

Section 2 Multiple Choice (2 pts each)

21. C
22. D
23. A
24. C
25. D
26. D
27. C
28. C
29. A
30. B
31. D
32. A
33. C
34. C
35. B
36. A

37. D
38. D
39. B
40. B
41. D
42. B
43. A
44. B
45. Any 2 of the following (2 pts for each, max of 4)
    - Provide homes/shelter (students may say “habitat”) for organisms
    - Provide food for organisms
    - Maintain biodiversity
    - Moderate/regulate (local) climate
    - Produce oxygen
    - Purify water
    - Purify air
    - Reduce soil erosion
    - Absorb/store/regulate water
    - Moderate stream temperature
    - Moderate stream flow
    - Aid in nutrient cycling
    - Aid in soil formation

46. a) (2 pts for each, up to 8)
    - Detritivores
    - Producers/Autotrophs
    - Primary or First Order Consumers
    - Secondary or Second Order Consumers
    - Tertiary or Third Order Consumers

    b) (1 pt for each, up to 4)
    - Detritivores: Snails, Larvae of Chironomids, Larvae of Caddis Flies
    - Producers/Autotrophs: Phytoplankton, Aquatic Plants, Algae, Dead Terrestrial Plant
    - Primary or First Order Consumers: Zooplankton, Snails, Larvae of Chironomids, Larvae of Caddis Flies
    - Secondary or Second Order Consumers: Grayling, Sculpin, Lake Trout
    - Tertiary or Third Order Consumers: Lake Trout

    c) (5 points for each explanation, 20 total; give points accordingly)
    - Producers obtain energy by photosynthesis
    - Consumers obtain energy by digestion or assimilation (must link to specific consumer or level)

    d) (10 points: 3 points for effects; 7 points for explanations)
    Direct Effects: Death of Snails/Larvae; Magnification/accumulation; Sub-lethal effect

Secondary Effects: Death of trout leads to increase of sculpin and grayling; Death of Snails/Larvae leading to death of upper levels;

47. r=**1.4 or 1.44** Rule of 70: Doubling Time = 70/Growth Rate (n = 70/R). N=50, R=??. 50=(70/R) → R = (70/50) → R = 1.4. OR Rule of 72: Doubling Time = 72/Growth Rate (n = 72/R). N=50, R=??. 50=(72/R) → R = (72/50) → R = 1.44

48. n=**43.75 or 45 years** Rule of 70: Doubling Time = 70/Growth Rate. (R=1.6; N=70/R=70/1.6=43.75 years) OR Rule of 72: Doubling Time = 72/Growth Rate. (R=1.6; N=72/R=72/1.6=45

49.

1. Decomposition
2. Consumption
3. Assimilation
4. Denitrifying Bacteria
5. Nitrifying Bacteria
6. Nitrification
7. Ammonification
8. Decomposers
9. Nitrogen Fixing Bacteria