2020 USGC Map Examination - Key and Marking Scheme (Middle School)

Section 1 [20 points]

1. Define the term invasive species. (3 points)

2. Identify all of the following that are considered invasive species in the United States – kudzu, cane toads, domestic pigeons, Burmese pythons, soybeans, zebra mussels, razor clams, brown tree snake (5 points)

3. This map shows the spread of wild pigs in the United States. In a paragraph, describe the spread of wild pigs in the United States. Where did they start? Where have they spread since? Where are they likely to go in the future? (6 points)

4. Name three reasons why wild pigs are such a dangerous and destructive invasive species. (3 points)

5. What is one important way that species like wild hogs, lionfish, Asian carp, rusty crayfish and nutria might be used in a beneficial way in the United States that would also control their populations? (3 points)

Grading notes: Questions 1, 3, 4 and 5 are level marked, question 2 is point marked.

Expected answers:
1. [3 points] invasive species - a non-native species that spreads from a point of introduction to become naturalized and negatively alters its new environment [reasonable equivalents accepted]

2. [1 point per answer] kudzu, cane toads, Burmese pythons, zebra mussels, brown tree snakes

3. [6 points] Answers should include information about areas in the South where wild pigs were first reported according to the map, and then explain the generally northward progression of the spread of wild pigs in the country. Paragraph should be well written and organized.

4. [3 points] Reasons include ecosystem damage, crop damage, hunting of birds and amphibians, property damage, attacks on people, difficulty in hunting or capture or employing other methods of control [other reasonable answers accepted]

5. [3 points] All of the species mentioned are edible and efforts to introduce consumption of these species along with commercial hunting / harvesting would be a beneficial method of control [reasonable equivalents accepted]

Section 2 [15 points]

6. Define the term contour line. (3 points)

Using the map provided answer the following questions.

7. What is the contour interval of this map in feet? (answer using a number only) (1 point)

8. Which of these points on the map is the highest? (1 point)

9. Which side of Basket Dome is the steepest? (1 point)

10. Explain how you know based on the map which side of Basket Dome is the steepest. (2 points)

11. Rounding to the nearest 100 feet, what is the elevation change between X and Y? (2 points)

12. Rounding to the nearest 100 feet, what is the elevation change between X and A? (2 points)

13. In what direction does Tenaya Stream flow? (1 point)

14. Explain how you know based on the map that Tenaya Stream flows in the direction you chose. (2 points)

Grading notes: Questions 6, 10 and 14 are level marked. All others are point marked.

Expected answers:
6. [3 points] contour line – a line that joins points of equal elevation above a given level, such as mean sea level [accept reasonable equivalents]
7. [1 point] 100
8. [1 point] X
9. [1 point] East
10. [2 points] because the contour lines on the north and east sides are closer together than the ones on the south and west sides [accept reasonable equivalents]
11. [1 point] 100 (0 was also accepted)
12. [1 point] 3400 (3500 was also accepted)
13. [1 point] Southwest
14. [2 points] because water flows from higher to lower elevation, and based on the map the stream flows into the lake [accept reasonable equivalents]

Section 3 - [15 points]

15. In a paragraph, describe three reasons why some countries have a population growth rate above 2%. (6 points)

16. Which area of South America has the highest population growth rate on the continent? (2 points)

Answer the following T/F statements. (1 point each)
17. The United States has a shrinking population.
18. Several countries in the Americas have growth rates over 4%.
19. Portugal, Spain and Italy have shrinking populations.
20. Many of the world's fastest growing countries are in sub-Saharan Africa.
21. No Asian countries have shrinking populations.
22. Ireland has a higher population growth rate than the UK.
23. Australia's population is growing at a rate above 2%.

Grading notes: Question 15 is level marked. All others are point marked.

Expected answers:
15. [6 points] Acceptable answers include advancements in medical technology and improved public health; improved living conditions and a higher standard of living; increased availability of food and through better agricultural technology and production methods; increases in birth rates in many countries following global conflicts. Paragraph should be well written and organized. [other reasonable answers accepted]
16. [2 points] French Guiana
17. [1 point] F
18. [1 point] F
19. [1 point] F
20. [1 point] T
21. [1 point] F
22. [1 point] T
23. [1 point] F

Section 4 - [10 points]

24. Which biome is marked by number 1 on the map? (1 point)

25. Which biome is marked by number 2 on the map? (1 point)

26. Describe two characteristics of the biome located at number 2. (2 points)

27. Which biome is marked by number 3 on the map? (1 point)

28. Which biome is marked by number 4 on the map? (1 point)

29. Describe two characteristics of the biome located at number 4. (2 points)

30. Which of these biomes is currently the most drastically effected by climate change? (2 points)

Grading notes: Questions 26 and 29 are level marked. All others are point marked.

Expected answers:
24. [1 point] - tundra
25. [1 point] – taiga (boreal forest)
26. [2 points] – large biome, low average temperatures, subarctic climate, large temperature range, low precipitation, coniferous forests [other reasonable answers accepted]
27. [1 point] – temperate broadleaf / mixed forests
28. [1 point] – Mediterranean
29. [2 points] – dry summers, mild and wet winters, influenced by the subtropical ridge, some forests and scrubland [other reasonable answers accepted]
30. [2 points] tundra