2020 United States Geography Championships - Map Examination
Question Packet

General instructions -
<mark>Respond to each of the following questions on the answer document provided. Only answers written in the appropriate space on the answer document will be marked. Where appropriate, you should write sentences or phrases instead of single words. If a question or section asks for a specific number of reasons or answers, give only the required number of answers specified. The examination consists of eight sections, and each section will be worth the specified number of marks. You have one hour to complete this section of the examination and the accompanying multiple choice questions.</mark>

Section 1 [25 marks]
Please refer to the map in Section 1 of the Resource Booklet. This map represents the popular vote of a certain presidential election using circles of varying sizes to represent vote margins.

1. Identify a major strength of a map like this over traditional election maps that color entire states red or blue to indicate the winner. [2 marks]

2. What is a notable weakness of a map like this in showing election results at the national level? What is a weakness of this map in showing state-level results in a populous state like Pennsylvania or Ohio? What is a weakness in a less populous state like Alaska or South Dakota? [3 marks]

3. In a well-developed paragraph, explain how the concept of 'clustering' explains the appearance of this map and the results of recent presidential elections? [6 marks]

4. Given the information in this map, what party won each of the following states – Florida, Montana, North Carolina, Tennessee, Indiana [6 marks]

5. In a well-developed paragraph, describe how the Electoral College system and representation in each house of the United States Congress disadvantages states like Texas and California. Be as specific as possible and use demographic data to support your argument. [8 marks]

Section 2 [25 marks]
Please refer to the map in Section 2 of the Resource Booklet.

6. Identify the impact of climate change on the hydrologic cycle and explain how this change will affect agricultural production. Provide at least one concrete example based on the information on the map. [3 marks]

7. Identify the impact of climate change on temperature and explain how this change will affect agricultural production. Provide at least one concrete example based on the information on the map. [3 marks]

8. Identify the impact of climate change on carbon dioxide concentration and explain how this change will affect agricultural production. Provide at least one concrete example based on the information on the map. [3 marks]

9. Identify the impact of climate change on crop biodiversity and explain how this change will affect agricultural production. Provide at least one concrete example based on the information on the map. [3 marks]

Section 2 (continued)

10. Identify the impact of climate change on crop prices and explain how this change will affect agricultural production. Provide at least one concrete example based on the information on the map. [3 marks]

11. Given the information in the map, what will be the economic effect of climate change on meat production in the United States? How will these changes likely effect meat consumption in the US? [5 marks]

12. Define the term climate-smart agriculture. What are the three main goals of climate-smart agriculture? [5 marks]

Section 3 [25 marks]
Please refer to the map in Section 3 of the Resource Booklet.

13. What criteria must a tropical cyclone meet to be considered a 'major hurricane' by the National Weather Service and NOAA? According to this map, what are the two most populous metropolitan areas that are at the greatest risk from a major hurricane? [3 marks]

14. Since the data for this map was compiled in 2010, identify whether the hurricane return frequency of major storms has increased or decreased for each of the following areas – southeast Texas, southeastern Louisiana, south Florida, coastal South Carolina [4 marks]

15. Describe the general track of a tropical cyclone that forms between 5 and 30 degrees north latitude. Does this general track change once the tropical cyclone reaches 30 degrees north latitude, and if so how? [4 marks]

16. Given the data on this map and the geography of this region of the United States, identify three specific areas on the Gulf or Atlantic coasts (e.g. the Florida Panhandle, the southern coast of Georgia, etc.) that would be MOST prone to severe flooding as a result of hurricanes, and provide reasons why you chose each area. [6 marks]

17. In a paragraph, describe the current state of the 2020 Atlantic hurricane season. Account for the number, frequency and strength of storms as the season draws to a close, and where major storms, if any, have made landfall. [8 marks]

Section 4 [40 marks]

Please refer to the map in Section 4 of the Resource Booklet.

Consider the following scenario –

A certain city in the Midwest of the United States (located above 44° north latitude) is considering building a new sports stadium for its local professional sports franchises, one of which plays a fall-winter season and one a spring-summer season. The city has three potential sites in mind for the construction of this new stadium (indicated by A, B and C on the map). Information about each site is below –

A - Site A is located in the heart of downtown. This site is close to a major bus terminal but no other existing public transportation. There is a major highway running through downtown (shown on the map) but the stadium itself would have to be accessed via surface streets. Developing this site would involve the highest cost for the city given the need to acquire prime pieces of downtown real estate.

B – Site B is located near a popular waterfront recreation and shopping area on the outskirts of town. The site is located on a navigable waterway and near a loop highway. Developing this site would be less expensive than site A but would require the city to build over a popular park used by thousands of residents.

C – Site C is also located on the outskirts of town in a former industrial and manufacturing area that has fallen into disuse. The site is near a highway but not on any public transportation route, however there is a rail spur connecting to the site that could be redeveloped for light rail service. Developing this site is the least expensive of the three sites and has the most available land for future development, however the nearest store or restaurant is over two miles away.

Section 4 (continued)

Given this information, answer the following questions. Be as realistic and practical in your answers as you are able and base your answers on both the map and the information above.

18. [14 marks] Which of the sites described do you think is best for building the new stadium? Why did you choose the site you did above the other two sites? Be as specific as possible in the space provided and identify both the advantages of your choice and disadvantages of the other options, and compose your answer in thoughtful and well-organized paragraphs.

19. [6 marks] Given the location of this hypothetical city, how might the local climate effect the construction of this stadium? What might be done in construction to mitigate the effects of the local climate and to make the stadium appropriate for year-round use?

20. [12 marks] Identify three new infrastructure or amenity projects that would need to be built, either by the city or by private companies, to make the stadium project viable in the area you chose. Why do you believe these three things are significant to making the stadium useful and enjoyable to the residents in this particular location?

21. [8 marks] What do you think are the biggest problems with constructing the stadium in the area of town you chose and why? Consider at least one short-term and one long-term issue in your response.