

**2023 United States Geography Championships - Written Examination
Question Document**

General instructions -

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 four 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.

Section 1 – Desert Landforms [25 marks] (Refer to the image in Section 1 of the resource document.)

1. Briefly define the term hoodoo and explain its formation. [5 marks]
2. Briefly define the term mesa and explain its formation. [5 marks]
3. Briefly define the term butte and explain its formation. [5 marks]
4. Indicate by number each of the following on the diagram – hoodoo, mesa, butte. [3 marks]
5. What geological process is indicated by number 4 on the diagram? [2 marks]
6. Briefly define the term wadi as it relates to desert topography. [2 marks]
7. Briefly explain why wadis usually exhibit braided stream patterns. [3 marks]

Section 2 – Historical Geography [25 marks]

1. In a short essay (2-3 well-developed paragraphs), discuss the reasons for demographic changes experienced by each of the following U.S. cities since 1960 – Detroit, Houston, and New Orleans. In your answer you should provide specific examples of changes for each city and also account for population growth or loss.

Section 3 – Hawaiian Landforms [25 marks] (Refer to the images in Section 3 of the resource document.)

1. In a well-developed paragraph, briefly explain the geographic, climatological, and geologic forces that resulted in the landscape pictured in image 1. [10 marks]
2. In a well-developed paragraph, briefly explain the geographic, climatological, and geologic forces that resulted in the landscape pictured in image 2. [10 marks]
3. Briefly identify and explain the causes of coral bleaching, and why coral bleaching is so devastating to coral reef systems. [5 marks]

Section 4 – Development and Population [25 marks] (Refer to the images in Section 4 of the resource document.)

1. What country is represented by the population pyramids in Section 4? [3 marks]
2. Given the information in these population pyramids, do you expect that the total population of this country will grow, shrink, or remain roughly unchanged by 2050 if nothing is done to change current trends? Briefly explain your answer using the data presented. [5 marks]
3. What number of children per woman is considered to be a replacement-level birth rate? Given the data, is this country currently at, below, or above a replacement-level birth rate? Briefly explain your answer. [5 marks]
4. Briefly explain three economic problems associated with a population pyramid like the one seen here in a highly developed nation. [6 marks]
5. Briefly identify and explain three reasonable public policies that the government of this nation might undertake to change the trends shown in these population pyramids. [6 marks]