

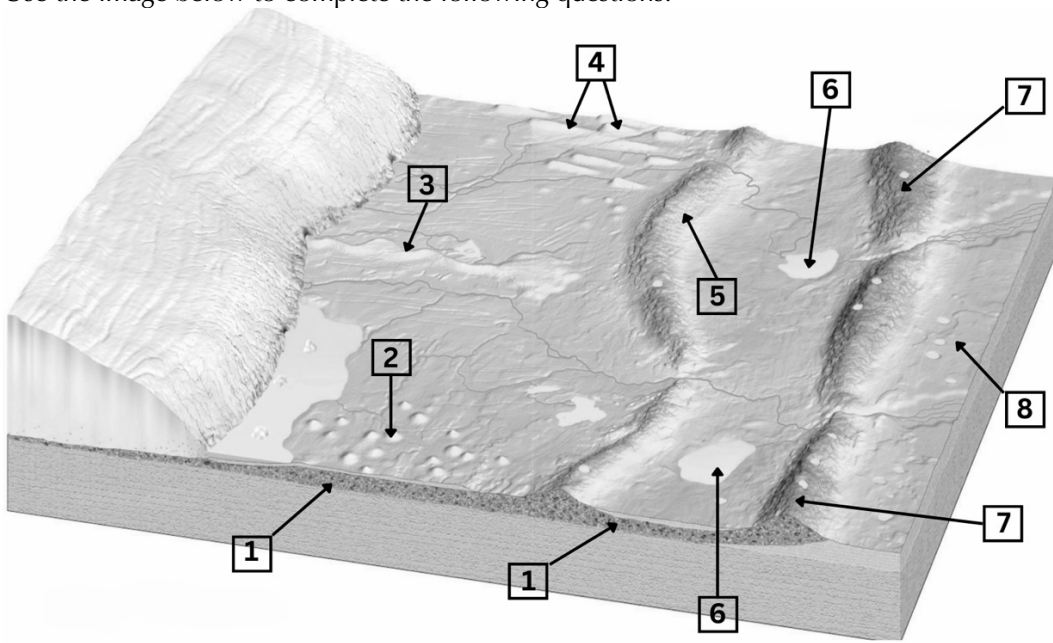


General instructions –

Respond to each of examination questions in the space provided on the Answer Document. **Only answers written in the appropriate space on the Answer Document will be marked.** Images for the exam are on the Resource Document – refer to them when necessary to respond to questions. 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 number of answers specified. Please write clearly and legibly.

Section 1 – Glacial Landforms [27 points]

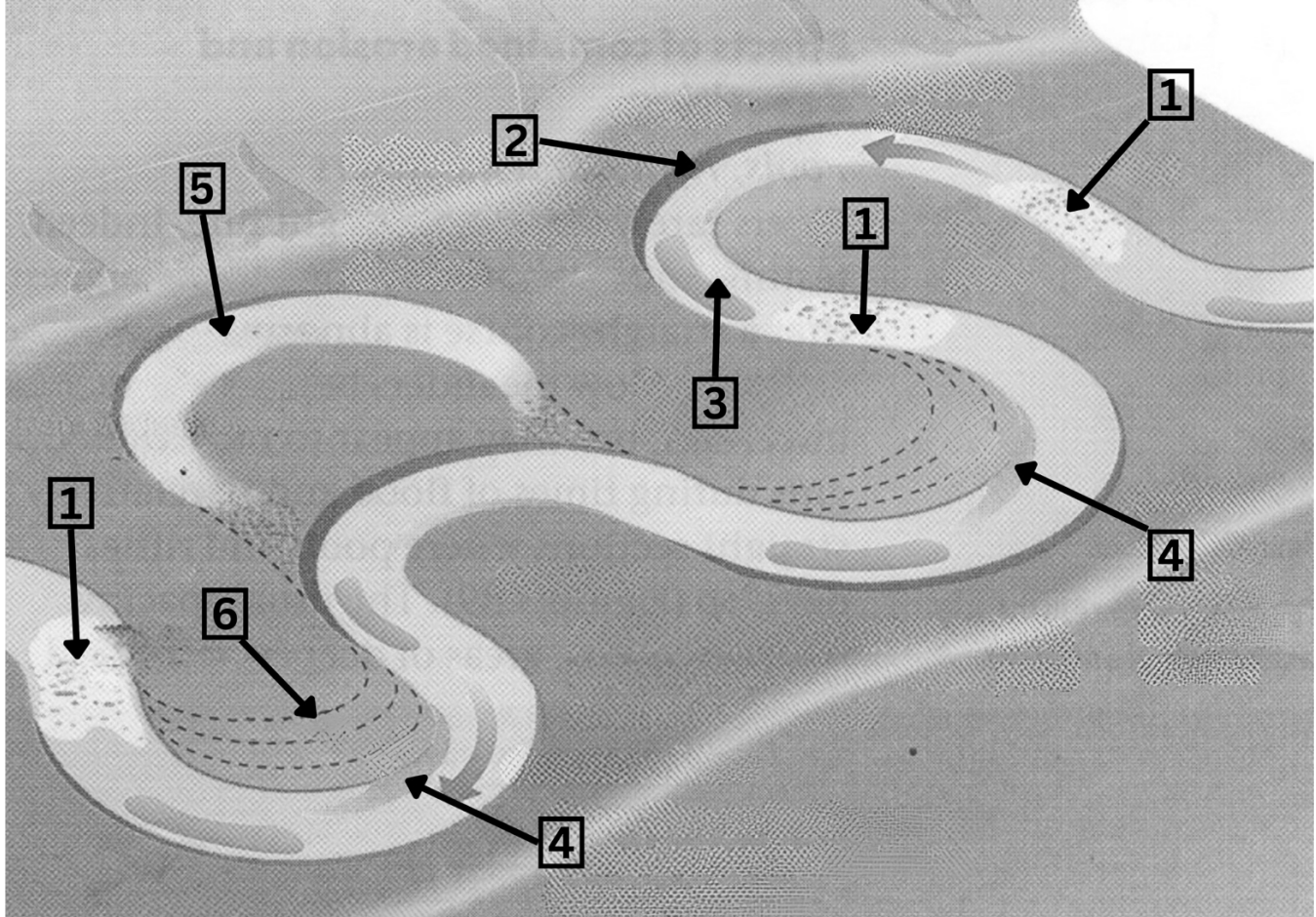
Use the image below to complete the following questions.



1. Identify by number each of the following – esker, terminal moraine, kettle lake, outwash plain, ground moraine, kame, drumlin, recessional moraine [8 points]
2. Identify whether each of the following landforms is created by deposition or erosion – drumlin, cirque, arete, outwash fan, esker, striations [6 points]
3. Given the information in this image, is this glacier retreating or advancing? Explain your answer as thoroughly as possible in the space provided. [3 points]
4. Define the term drumlin. Explain in the space provided how a drumlin would be formed by a glacier. [3 points]
5. Define the term paternoster lake. Explain how paternoster lakes form from glacial action. [3 points]
6. The Matterhorn in Switzerland is one of the most famous examples of a pyramidal peak. Explain in the space provided how a pyramidal peak or glacial horn would be formed by the action of a glacier. [2 points]
7. Define the term crevasse. Where in this image would a crevasse be located? [2 points]

Section 2 – Rivers and Fluvial Landforms [24 points]

Use the image below to complete the following questions.



1. Identify by number each of the following – cut bank, oxbow lake, meander, riffle [4 points]
2. Given the direction of the river flow, explain in the space provided what direction the meanders in this river would be expected to move and why that would be expected to happen. [3 points]
3. Given the direction of the river flow, explain in the space provided what direction the cut banks in this river would be expected to move and why that would be expected to happen. [3 points]
4. Was the area at number 6 on the image formed before or after the point bar near it at number 4? Given the direction of the river flow, is the point bar expected to move towards or away from the area at number 6? [2 points]
5. In the space provided, explain the formation of an oxbow lake as seen in this image. Over time, what would be expected to happen to this oxbow lake if the river continues to develop and move as indicated by the image. [3 points]
6. Define the term riffle. In the space provided, compare each of the following in riffles to the main channel of the river or stream – depth, discharge rate, sediment size. [5 points]
7. Define the term thalweg. In the space provided, briefly explain why a thalweg is important in international or national law, and why it is significant that thalwegs sometimes move or shift over time. [4 points]

Section 3 – Population [36 points]

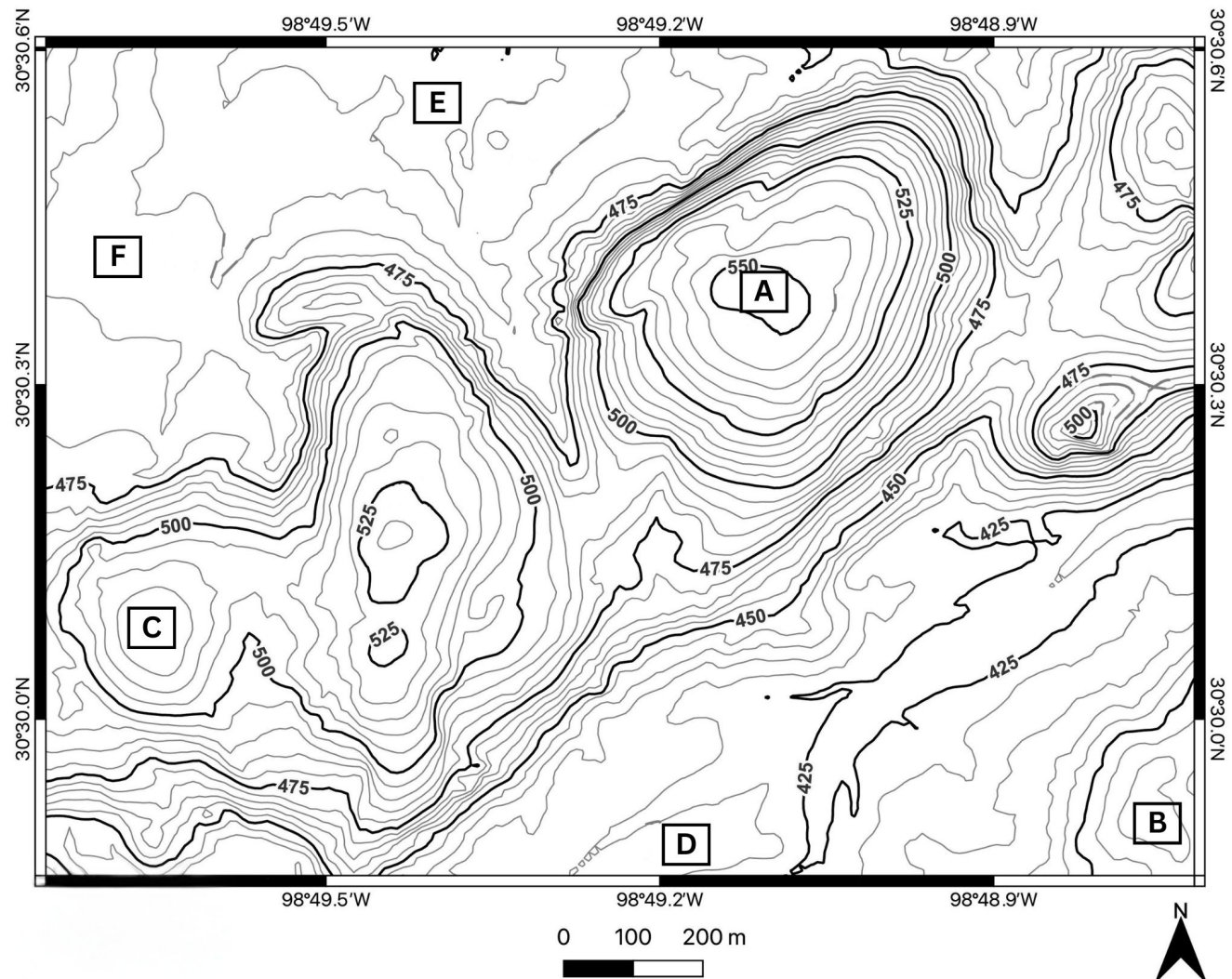
Use the data below to complete the following questions.

Country A			Country B		
Age	Male	Female	Age	Male	Female
0-4	2,001,358	1,944,486	0-4	123,771	117,364
5-9	1,628,248	1,587,671	5-9	116,284	112,255
10-14	1,397,007	1,362,153	10-14	114,848	109,338
15-19	1,175,920	1,145,637	15-19	143,619	130,695
20-24	964,557	948,715	20-24	261,600	220,745
25-29	828,039	823,975	25-29	329,987	266,482
30-34	680,765	680,382	30-34	324,766	271,400
35-39	534,665	539,181	35-39	282,409	250,031
40-44	417,907	426,296	40-44	230,688	214,724
45-49	342,430	353,930	45-49	201,871	193,530
50-54	281,099	294,801	50-54	186,711	180,290
55-59	206,935	222,931	55-59	165,964	162,810
60-64	147,314	164,297	60-64	163,093	158,884
65-69	97,773	112,722	65-69	145,804	146,550
70-74	59,958	72,010	70-74	112,323	123,696
75-79	31,526	39,600	75-79	78,323	92,935
80-84	13,488	17,960	80-84	36,077	48,372
85-89	4,563	6,710	85-89	21,246	34,008
90-94	1,004	1,689	90-94	7,824	15,747
95-99	211	317	95-99	1,994	5,386
100+	69	71	100+	261	1,032

1. In the space provided on the answer document construct a population pyramid for BOTH Country A and Country B. Label each pyramid clearly and present the data as accurately as possible for both countries. [10 points]
2. Given the information in the data, answer each of the following about both Country A and Country B: [6 points]
 - Is its population growing or shrinking?
 - Is its median age above or below the world average median of 31 years old?
 - Is its total fertility rate above or below the world average of 2.39?
3. Define the term dependency ratio. Given the information in the data, would Country A or Country B have a higher dependency ratio and why? [4 points]
4. Given the information in the data, identify and explain THREE economic or social problems that Country A might experience because of its demographics and population growth or decline. [6 points]
5. How might the government of Country A respond to ONE of the economic or social problems you identified in the previous question with a reasonable public policy or law? Be as specific as possible in the space provided. [2 points]
6. Given the information in the data, identify and explain THREE economic or social problems that Country B might experience because of its demographics and population growth or decline. [6 points]
7. How might the government of Country B respond to ONE of the economic or social problems you identified in the previous question with a reasonable public policy or law? Be as specific as possible in the space provided. [2 points]

Section 4 – Topography [27 points]

Use the image below to complete the following questions. This image shows a topographic map of part of Enchanted Rock State Part outside of Fredericksburg, Texas.



1. Define the term isoline. What do the isolines on this map represent? [3 points]
2. Give TWO reasons why hikers in the park might find this specific type of map useful. [2 points]
3. Give the coordinates of each of the following points on this map (be as precise as possible) – A, B, C, D, E, and F [6 points]
4. For each of the following pairs, identify which point is at a HIGHER elevation – A and B, B and D, B and E, A and C, E and F [5 points]
5. What is the distance in meters of a hike from the parking area at D to the top Enchanted Rock at A on the most direct route? How many meters of elevation gain would a person experience on this hike? [4 points]
6. The summit of Little Rock is located at roughly 98° 49.6'W, 30° 30.2'N. What is the elevation in meters of the summit of Little Rock? What is the difference in elevation between the summit of Enchanted Rock and the summit of Little Rock? [3 points]
7. What is the distance in meters of a hike from the summit of Little Rock to the entrance to Walnut Springs Camping Area at F? How many meters of elevation gain or loss would a person experience on this hike? [4 points]

Section 5 – Urban Heat Islands [26 points]

1. Define the term urban heat island. [2 points]
2. Identify and explain FOUR characteristics of cities that are major causes of the urban heat island effect. Be as detailed as possible in the space provided. [8 points]
3. Identify and explain TWO specific effects of urban heat islands on public health. [4 points]
4. Identify and explain ONE impact of urban heat islands on power consumption in cities. [2 points]
5. Identify and explain FOUR specific, reasonable strategies cities might use to help control or eliminate the urban heat island effect. [8 points]
6. Why does the built environment of a large city make it more susceptible to damage and flooding during an extreme rain event? Be as specific as possible in the space provided. [2 points]

Section 6 – Developmental Economics [20 points]

1. In the space provided, compare and contrast the import substitution industrialization policies favored by many Latin American countries during the 20th century with the export-oriented industrialization policies used by many Asian nations, including the Four Asian Tigers in the post-World War II period. In your answer make sure to explain the trade and domestic economic policies involved in each and evaluate their relative success or failure. Use specific countries as examples where possible. Credit will be given for a clearly stated thesis or argument, clear and correct definitions of each economic policy, relevant pieces of evidence, and a clear and cogent evaluation of each policy's successes or failures for the countries or regions mentioned.

This is the end of the exam.