Michigan

TEST FOR TEACHER CERTIFICATION

STUDY GUIDE

008 Geography

Effective after October 1, 2013

MI-SG-FLD008-03

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PART 1: General Information About the MTTC Program and Test Preparation

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General Information About the MTTC Program and Test Preparation

PART 2: Test Objectives and Sample Test Questions

INTRODUCTION

This section includes a list of the test objectives, immediately followed by sample test questions and an answer key for the field covered by this study guide.

Test Objectives

As noted, the test objectives are broad, conceptual statements that reflect the knowledge, skills, and understanding an entry-level teacher needs in order to teach effectively in a Michigan classroom. Each field's list of test objectives represents the **only** source of information about what a specific test will cover and, therefore, should be studied carefully.

The test objectives are organized into groups known as "subareas." These subareas define the major content areas of the test. You will find a list of subareas at the beginning of the test objective list. The percentages shown in the list of subareas indicate the approximate weighting of the subareas on the test.

Sample Multiple-Choice Test Questions

The sample multiple-choice test questions included in this section are designed to give the test-taker an introduction to the nature of the test questions included on the MTTC test for each field. The sample test questions represent the various types of test questions you may expect to see on an actual test; however, they are **not** designed to provide diagnostic information to help you identify specific areas of individual strengths and weaknesses or predict your performance on the test as a whole. Use the answer key that follows the sample test questions to check your answers.

To help you identify which test objective is being assessed, the objective statement to which the question corresponds is listed in the answer key. When you are finished with the sample test questions, you may wish to go back and review the entire list of test objectives and descriptive statements once again.

TEST OBJECTIVES

Subarea	Approximate Percentage of Questions on Test
Geographic Concepts and Skills	15%
Physical Systems, Natural Resources, and Land Use	15%
Human Systems and Human–Environment Interaction	15%
World Regions and Global Issues	15%
History and Geography	20%
Other Interdisciplinary Perspectives	20%

I. GEOGRAPHIC CONCEPTS AND SKILLS

001 Understand geographic terms, concepts, and resources.

Includes:

- basic geographic terms and concepts (e.g., interdependence, assimilation, site and situation diffusion)
- the five fundamental themes of geography (i.e., location, place, human–environment interaction, movement, and region)
- the six essential elements of geography (i.e., the world in spatial terms, places and regions, physical systems, human systems, environment and society, and the uses of geography)
- ways in which regions are defined by people
- basic properties (e.g., grid systems, symbol systems, scale, direction and orientation) and uses of maps, globes, and projections
- use of geographic information systems (GIS), remote sensing, global positioning systems (GPS), and other geographic tools to acquire, process, and communicate information from a spatial perspective
- resources used in geographic research (e.g., atlases, almanacs, aerial surveys, satellite imagery, meteorological tables)

002 Apply methods for conducting geographic investigations and analyzing and interpreting geographic information.

Includes:

- steps in the research process (e.g., formulating a clear statement of questions, choosing a research design, collecting data, organizing and communicating results)
- acquisition and organization of geographic data (e.g., gathering sources, note taking, file maintenance, preparation of bibliographies) and the use of electronic technologies to assist in assessing and managing information
- analysis of geographic documents, maps, and information (e.g., recognizing purpose, point of view, and central questions; distinguishing between fact and opinion; making inferences and drawing conclusions)
- evaluation of geographic analyses and interpretations (e.g., assessing evidence, identifying underlying assumptions, recognizing bias)
- interpretation of geographic issues represented in graphic formats (e.g., maps, charts, diagrams, graphs) and selection of alternative graphic formats for conveying geographic information

II. PHYSICAL SYSTEMS, NATURAL RESOURCES, AND LAND USE

003 Understand physical features of the earth and the natural processes that shape the earth's surface.

Includes:

- major landmasses and bodies of water, including their shapes, locations, and significant physical features
- the four basic components of Earth's primary physical systems: the atmosphere, biosphere, lithosphere, and hydrosphere
- physical processes that shape the earth's surface (e.g., glaciation, plate tectonics, volcanic activity, erosion, deposition, hydrologic cycle)
- the principal elements of climate (e.g., temperature, atmospheric pressure, winds, condensation, precipitation, air masses)
- global and regional climate types and climatic patterns, and factors that influence climate (e.g., latitude, altitude, oceanic circulation, the earth–sun relationship)
- ways in which physical features and processes of the earth affect plant and animal life and human societies
- instructional strategies and resources for promoting the acquisition of geographic knowledge, applying techniques for assessing student understanding of geography, and utilizing knowledge of professional standards and technology in geography instruction

004 Understand global ecosystems, natural resources, and patterns of land use.

Includes:

- location and characteristics of major global ecosystems (e.g., rain forests, deserts, deciduous forests, tundra, grasslands)
- concentrations, characteristics, and uses of important natural resources, and changes in the use and importance of various resources over time
- geologic, biologic, and climatic factors that determine the location of water, soil, mineral, fossil fuel, and living resources
- basic forms of land use (e.g., agriculture, forestry, mining, manufacturing, residential) and factors that influence patterns of land use and development
- environmental, cultural, political, and economic consequences of land-use and development patterns
- instructional strategies and resources for promoting the acquisition of geographic knowledge, applying techniques for assessing student understanding of geography, and utilizing knowledge of professional standards and technology in geography instruction

III. HUMAN SYSTEMS AND HUMAN–ENVIRONMENT INTERACTION

005 Understand human culture, human settlement, and global and regional patterns of population growth, distribution, and migration.

Includes:

- cultural concepts (e.g., assimilation, adaptation, diffusion)
- cultural characteristics (e.g., language, habitations, customs and traditions; belief systems; ethnicity, patterns of livelihood)
- purposes, organization, and functions of diverse human settlements, factors that influence their characteristics and locations, and how human settlements have changed over time
- causes and consequences of urbanization and the functions and internal structure of cities in various places and regions
- basic demographic concepts (e.g., birth rate, death rate, migration, doubling time, population density) and their application to historical and contemporary populations
- interpretation of population pyramids (e.g., age structure and sex ratios, dependency ratio)
- causes and consequences of population increase and decline
- types, causes, and consequences of human migration (e.g., push and pull factors, diffusion of ideas and cultural traits, economic development, conflicts over territory and natural resources)
- instructional strategies and resources for promoting the acquisition of geographic knowledge, applying techniques for assessing student understanding of geography, and utilizing knowledge of professional standards and technology in geography instruction

006 Understand the nature and effects of human interactions with the environment.

Includes:

- ways in which human societies modify the physical environment and adapt to environmental change
- effects of environmental factors such as climate, topography, ecology, and location on population, agriculture, industrial development, and commerce
- causes and effects of current environmental problems (e.g., climate change, tropical deforestation, decline of fish stocks, acid rain)
- conservation initiatives and programs for resource use and management and the relationship between property ownership and the management of natural resources
- role of technological innovation and economic development in the creation and solution of environmental problems
- ways in which diverse perspectives and points of view affect decisions on environmental issues (e.g., land use, natural resources, wildlife habitat, climate change)
- ways in which environmental changes have reduced the environment's capacity to support human activity and strategies developed in response to such changes
- perception, impact, and response to natural catastrophes
- instructional strategies and resources for promoting the acquisition of geographic knowledge, applying techniques for assessing student understanding of geography, and utilizing knowledge of professional standards and technology in geography instruction

IV. WORLD REGIONS AND GLOBAL ISSUES

007 Understand characteristics, processes, and issues of major regions of the Eastern Hemisphere.

Includes:

- comparison of the physical and human characteristics of major regions of the Eastern Hemisphere
- location of major places (e.g., cultural centers, cities, physical features)
- cultural characteristics of regions of the Eastern Hemisphere (e.g., languages, religions, political systems, race and ethnicity)
- types of economic activities within the Eastern Hemisphere (e.g., mining, agriculture, forestry, manufacturing, services)
- major connections within regions of the Eastern Hemisphere (e.g., trade, migration, flow of goods and services)
- significance of political agreements, treaties, and international organizations (e.g., IGOs, NGOs, European Union, NATO, OPEC)
- global issues associated with population growth, resources, patterns of global interaction, and conflict and cooperation
- instructional strategies and resources for promoting the acquisition of geographic knowledge, applying techniques for assessing student understanding of geography, and utilizing knowledge of professional standards and technology in geography instruction

008 Understand characteristics, processes, and issues of major regions of the Western Hemisphere.

Includes:

- comparison of the physical and human characteristics of major regions of the Western Hemisphere
- location of major places (e.g., cultural centers, cities, physical features)
- cultural characteristics of regions of the Western Hemisphere (e.g., languages, religions, political systems, race and ethnicity)
- types of economic activities within the Western Hemisphere (e.g., mining, agriculture, forestry, manufacturing, services)
- major connections within regions of the Western Hemisphere (e.g., trade, migration, flow of goods and services)
- significance of political agreements, treaties, and international organizations (e.g., IGOs, NGOs, OPEC, NAFTA, Organization of American States [OAS])
- global issues associated with population growth, resources, patterns of global interaction, and conflict and cooperation
- instructional strategies and resources for promoting the acquisition of geographic knowledge, applying techniques for assessing student understanding of geography, and utilizing knowledge of professional standards and technology in geography instruction

V. HISTORY AND GEOGRAPHY

009 Understand basic historical concepts.

Includes:

- basic historical terms and concepts (e.g., nation-state, feudalism, hegemony, revolution, empire)
- construction of timelines and the identification of chronological relationships between major events in U.S. and world history
- differences between primary and secondary sources of historical information
- reference sources used in historical research (e.g., almanacs, encyclopedias, the Internet, bibliographies, periodical guides)
- uses and limitations of various historical source materials (e.g., oral histories, newspapers, diaries, artifacts, census data, personal correspondence, materials accessed through information technology)
- multiple interpretations of events and developments in Michigan, U.S., and world history, the impact of major theories and interpretive frameworks that shape history, and the biases that these theories and frameworks might present
- evaluation of major issues and events in Michigan, U.S., and world history from diverse perspectives (e.g., regional, interregional, racial, ethnic, social class, gender)

010 Understand history and the relationship with geography within major eras of U.S. history.

Includes:

- how physical factors such as climate, topography, and natural resources have influenced historical events and developments
- how historical events and developments (e.g., territorial conquest, imperialism and colonization, technological innovation) have shaped the human and political geography of the United States
- how processes such as population growth, economic development, resource use, international trade, and communication have affected the development of the United States
- major events and developments in U.S. history during Era 1, beginnings to 1620 CE; Era 2, colonization and settlement, 1585–1763 CE; and Era 3, revolution and the new nation, 1754–1800 CE (e.g., Native American nations, colonization, triangular trade and slavery, causes and consequences of the Revolutionary War)
- major events and developments in U.S. history during Era 4, expansion and reform, 1792–1861 CE; and Era 5, the Civil War and Reconstruction, 1850–1877 CE (e.g., westward expansion, Civil War, Reconstruction)
- major events and developments in U.S. history during Era 6, the development of an industrial, urban, and global United States, 1870–1930 CE; and Era 7, the Great Depression and World War II, 1920–1945 CE (e.g., imperialism, industrialization, World War I, World War II)
- major events and developments in U.S. history during Era 8, the post–World War II United States, 1945–1989 CE (e.g., civil rights movement, baby boom, collapse of the Soviet Union, the Cold War)
- major events and developments in U.S. history during Era 9, America in a new global age, 1990 CE to the present (e.g., the global economy, post–Cold War world, 9/11 and terrorism, energy policies)

0011 Understand history and the relationship with geography within major eras of world history.

Includes:

- how physical factors such as climate, topography, and natural resources have influenced historical events and developments
- how historical events and developments (e.g., territorial conquest, imperialism and colonization, technological innovation) have shaped the human and political geography of the world
- how processes such as population growth, economic development, resource use, international trade, and communication have affected different world regions
- important hemispheric interactions and cross-regional development throughout world history
- major events and developments in world history Era 1, the beginnings of human society to 4000 BCE; Era 2, early civilizations and cultures and the emergence of pastoral peoples, 4000–1000 BCE; Era 3, classical traditions, world religions, and major empires, 1000 BCE–300 CE; and Era 4, expanding and intensified hemispheric interactions, 300–1500 CE (e.g., early human migration, classical civilizations, spread of major religions)
- major events and developments in world history during Era 5, the emergence of the first global age, fifteenth to eighteenth centuries CE; and Era 6, an age of global revolutions, eighteenth century to 1914 (e.g., European Renaissance and expansion; the Columbian exchange; colonization; major world empires; scientific, political, and industrial revolutions)
- major events and developments in world history during Era 7, global crisis and achievement, 1900–1945 CE; and Era 8, the Cold War and its aftermath, twentieth century since 1945 CE (e.g., World War I, World War II, technological innovations, the Cold War and the collapse of the Soviet Union)
- major events and developments in world history during Era 9, the United States in a new global age (e.g., independence movements, economic development and globalization, environmental degradation, terrorism, food and water scarcity)

VI. OTHER INTERDISCIPLINARY PERSPECTIVES

012 Understand basic economic concepts and the relationship between economics and geography.

Includes:

- basic economic terms, concepts, and economic indicators (e.g., scarcity, opportunity cost, economic incentives, competition, specialization, forms of unemployment, circular flow and the national economy, gross domestic product, consumer price index)
- basic characteristics of a free market economic system and similarities and differences between major economic systems
- basic principles and components of international economics (e.g., the concept of comparative advantage, the principles of free trade and protectionism, exchange rates), and the changing relationship between the U.S. economy and the global economy
- distribution of world economic activity and historical and contemporary patterns of economic interdependence
- how historical and contemporary human interactions with the environment have influenced economic growth and decline in diverse world regions

013 Understand basic political science concepts and the relationship between political science and geography.

Includes:

- basic political science terms and concepts (e.g., sovereignty, authority, balance of power, judicial review, reserved and concurrent powers, social contract theory)
- documents related to the origins of American constitutional government and the development of democratic values and ideals (e.g., Magna Carta, the English Bill of Rights, the Mayflower Compact, Thomas Paine's *Common Sense*, the Declaration of Independence, the Articles of Confederation, the Federalist Papers, the Gettysburg Address, Martin Luther King Jr.'s "I Have a Dream" speech, the proposed Equal Rights Amendment)
- basic principles (e.g., federalism, rule of law, limited government, checks and balances) and major components of the U.S. Constitution
- purposes, organization, and functions of government in the United States at the federal, state, and local levels and relationships between different levels of government
- political parties and the U.S. political process (e.g., the origin and evolution of political parties and their influence; how interest groups, the media, individuals, and public opinion shape the public agenda)
- location of political boundaries and ways in which the forces of cooperation and conflict (e.g., gerrymandering, cultural and political divisions within and between places, major international organizations) influence the division and control of the earth and its resources
- the geographic context of global issues involving political stability and change

014 Understand core democratic values, recognize the rights and responsibilities of citizenship in a democratic society, and apply methods for analyzing public policy questions.

Includes:

- core democratic values of America's constitutional republic (e.g., individual rights, justice for all, equal opportunity, respect and appreciation for diversity, patriotism) and ways in which pivotal decisions and major debates in U.S. history reflect those values
- behaviors expected of members of a democratic society (e.g., how an individual's actions affect other people, how one acts in accordance with the rule of law, how one acts in an ethical and responsible way as a member of society, how individuals in history demonstrated democratic values and ethics)
- steps in the decision-making and problem-solving processes (e.g., identifying decisions to be made or problems to be solved, gathering information, identifying alternative courses of action)
- ways of engaging in constructive conversation about matters of public concern (e.g., clarifying issues, considering opposing views, applying core democratic values, anticipating consequences, working toward making decisions)
- reasoned and informed decision making on public issues (e.g., stating issues clearly, tracing the origins of issues, analyzing various perspectives people bring to public policy debates, recognizing factors to be considered when formulating resolutions to public issues, evaluating possible solutions)
- criteria used to analyze evidence and position statements (e.g., logical validity, factual accuracy and/or omission, emotional appeal, credibility, unstated assumptions, logical fallacies, distortions, appeals to bias or prejudice)
- ways of composing coherent essays that express positions on public issues supported by reasoned arguments and pertinent evidence

SAMPLE MULTIPLE-CHOICE TEST QUESTIONS

1. The concept of demographic transition provides a model for:

   A. analyzing government responses to changing patterns of total population growth.

   B. examining the relationship between economic development and natural population change.

   C. explaining major patterns of global population movement throughout history.

   D. analyzing spatial variations in the distribution, growth, and movement of population over time.

2. Use the passage below to answer the question that follows.

   Synthetic pesticides and herbicides are not the only products used in modern industrial agriculture that can damage the environment. Significant amounts of fertilizers also enter rivers and lakes. When this occurs, fertilizers increase nutrient levels in the water, which can trigger rapid growth of aquatic plants that use up oxygen supplies, causing significant reductions in fish populations.

   Which of the following responses best describes the writer's main purpose in the passage?

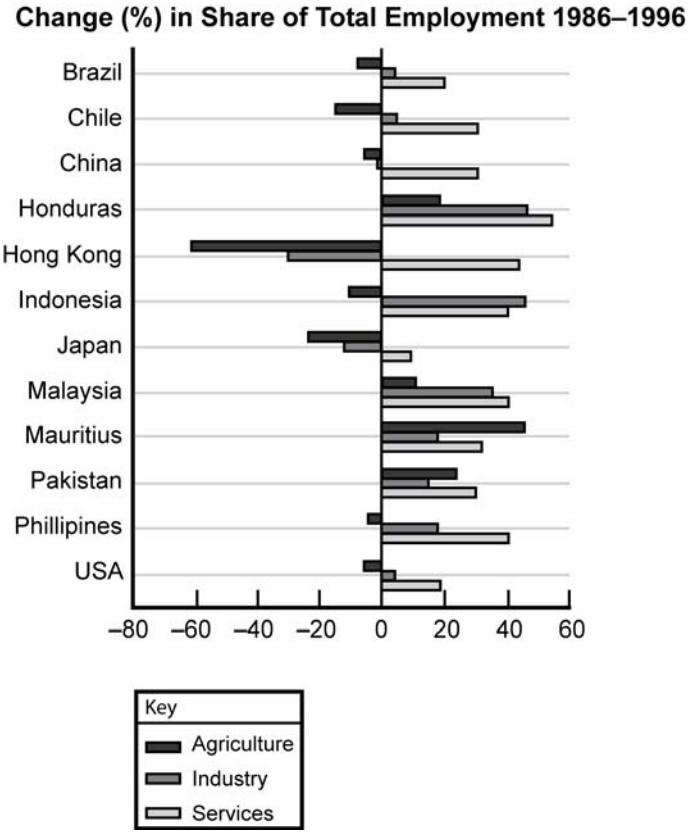
   A. to raise questions about products used in modern industrial agriculture

   B. to compare the effects of different types of toxins on aquatic environments

   C. to analyze the relationship between agriculture and fish mortality

   D. to describe the potential environmental impact of inorganic chemical fertilizers

3. Use the graph below to answer the question that follows.



According to the graph, in which country between 1986 and 1996 did agriculture, industry, and services contribute most equally to economic development?

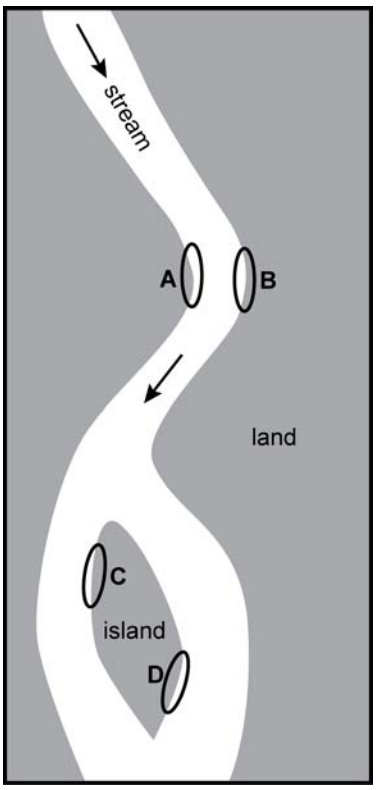
A. Pakistan

B. Honduras

C. Hong Kong

D. Malaysia

4. Use the diagram below to answer the question that follows.



In which of the lettered areas of the diagram would erosion most likely change the shape of the streambed?

A. letter A

B. letter B

C. letter C

D. letter D

5. Which of the following forces play the most significant role in producing climate variations in different parts of the world?

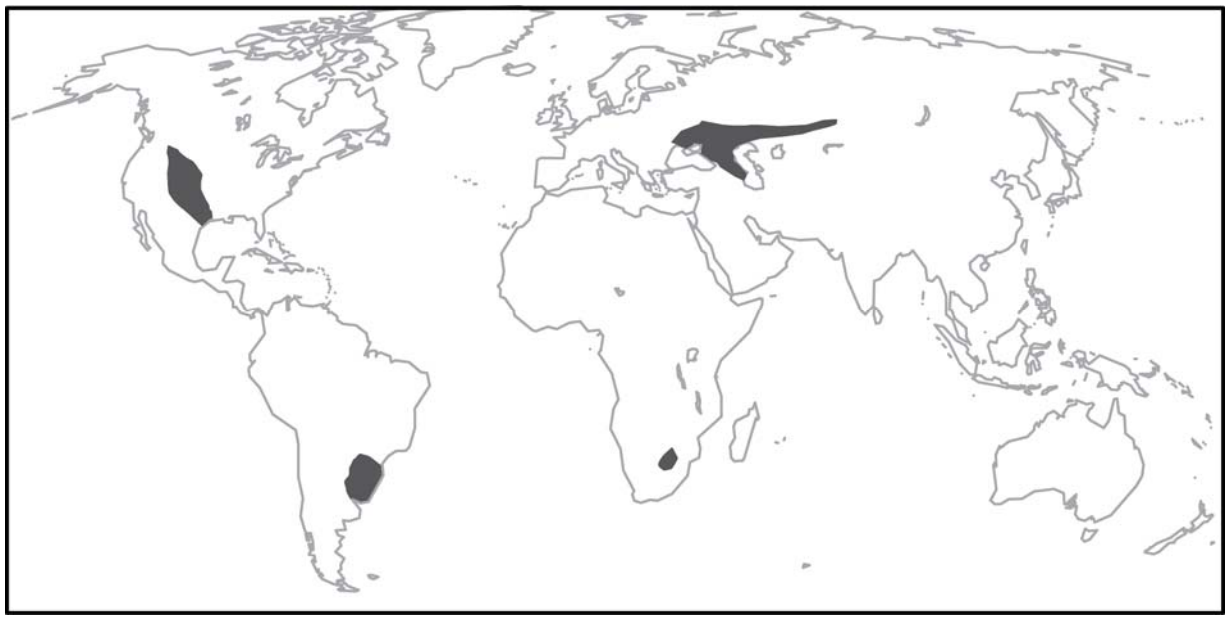
A. air movement and the evaporation of moisture

B. global ice pack density and oceanic circulation patterns

C. wind speeds and locational elevations

D. levels of incoming solar radiation and atmospheric circulation patterns

6. Use the map below to answer the question that follows.



The shaded areas on the map indicate the location of which of the following types of biomes?

A. grassland

B. desert

C. taiga

D. savanna

7. Extensive deforestation of tropical rain forests affects geosystems by:

   A. altering wind patterns in the atmosphere.

   B. increasing rates of atmospheric moisture accumulation.

   C. reducing water retention in the lithosphere.

   D. modifying the absorptive properties of the earth's surface.

8. Which of the following Eastern Hemispheric areas have a similar climate?

   A. eastern Europe and Manchuria

   B. Scandinavia and Japan

   C. northern India and central Australia

   D. North Africa and Indonesia

9. Which of the following is a major goal of political leaders responsible for administering the European Union?

   A. establishing the political and economic foundations for a gradual evolution from individual sovereign nations to a single unified state

   B. resolving territorial conflicts and economic disputes between member nations

   C. creating a common geographical space in which goods, people, and information can move freely between member nations

   D. developing a mutual defense alliance to protect the national sovereignty of member nations

10. Which of the following cultural characteristics most distinguishes societies in the Caribbean islands from the rest of Latin America?

    A. the influence of Catholicism on cultural development

    B. the persistence of significant communities of indigenous peoples

    C. the African ancestry of the majority of the population

    D. the blend of European and indigenous social structures

11. A historian would most likely employ the concept of feudalism when examining the relationship between:

    A. kinship networks and the distribution of wealth in a tribal society.

    B. political authority and land distribution in a preindustrial society.

    C. farmers and merchants in an agricultural society.

    D. family organization and the division of labor in a pastoral society.

12. A knowledge of which of the following geographic factors would likely prove most useful to a researcher seeking to explain the emergence of the U.S. "manufacturing belt" during the late nineteenth century?

    A. the rate of national population growth and major patterns of national population movement

    B. the drainage pattern of the Mississippi River and the topography of the region

    C. the power-generating capacity of regional rivers and the rise of a national transportation network

    D. the location of mineral resources and the proximity of places to navigable waterways

13. Which of the following historical developments caused the greatest degree of interaction between European, Muslim, and Asian societies during the period from 600 CE to 1200 CE?

    A. the conquests of major European states

    B. the proselytizing activities of Christian missionaries

    C. the expansion of Islam

    D. the commercial activities of Chinese merchants

14. Which of the following elements of culture have been most resistant to the forces of cultural globalization in the modern world?

    A. religious beliefs and practices

    B. literature and the arts

    C. patterns of work and leisure

    D. culinary traditions

15. Use the passage below to answer the question that follows.

Advocates of protectionism fail to recognize that trade is the result of national differences. Because these differences are unlikely to disappear, efforts to limit global commerce are futile. This is certainly a good thing for countries able to expand their production possibilities by specializing in what they do best.

The writer's argument in the passage is based primarily on which of the following economic concepts?

A. economic efficiency

B. marginal utility

C. comparative advantage

D. economies of scale

16. Which of the following statements best describes a major international economic trend of the late twentieth and early twenty-first centuries?

A. North-South trade exceeded East-West commercial exchanges.

B. Former command economies reduced their level of involvement in the global marketplace.

C. Levels of international investment increased markedly.

D. Eastern Hemisphere producers lost global market share in a broad range of industries.

17. The main purpose of the ten constitutional amendments contained in the Bill of Rights is to:

A. prevent political corruption.

B. limit the powers of government.

C. maintain social order.

D. ensure equality of opportunity.

18. The causes of the various ethnic conflicts that occurred in Sub-Saharan Africa during the mid- to late-twentieth century can best be understood by examining:

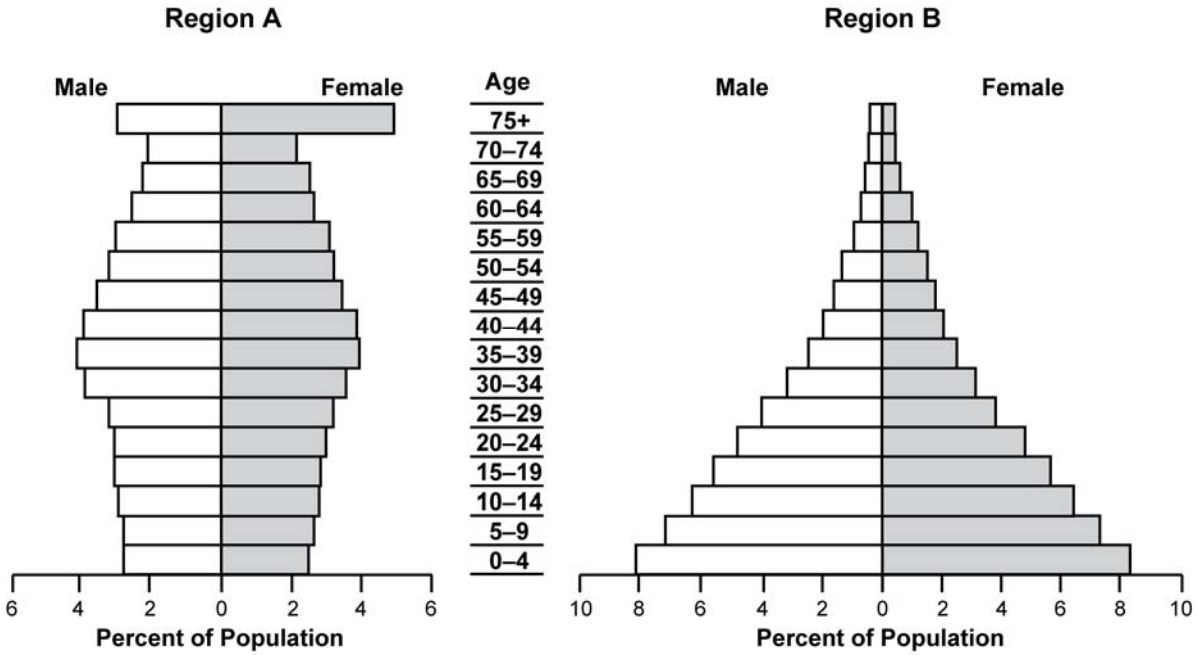
A. population movement within the region.

B. the political boundaries established by European imperialists in the region.

C. resource scarcity within the region.

D. the divergent political and economic systems in the region.

Use the population pyramids below to answer the two questions that follow.



19. Which of the following is the most likely explanation for the differences in the population pyramids?

    A. Region A has a higher dependency ratio than Region B.

    B. Region B has a higher population density than Region A.

    C. Region A has a higher childhood mortality rate than Region B.

    D. Region B has a higher total fertility rate than Region A.

20. Based on information presented in the population pyramids, it is reasonable to infer that, compared with governments in Region A, governments in Region B will be devoting a greater proportion of state spending over the next decade to which of the following needs?

    A. school construction

    B. communication infrastructure

    C. health care

    D. highway development

ANSWER KEY FOR THE SAMPLE MULTIPLE-CHOICE TEST QUESTIONS

Item Number	Correct Response	Objective
1.	**B**	Understand geographic terms, concepts, and resources.
2.	**D**	Apply methods for conducting geographic investigations and analyzing and interpreting geographic information.
3.	**A**	Apply methods for conducting geographic investigations and analyzing and interpreting geographic information.
4.	**B**	Understand physical features of the earth and the natural processes that shape the earth's surface.
5.	**D**	Understand physical features of the earth and the natural processes that shape the earth's surface.
6.	**A**	Understand global ecosystems, natural resources, and patterns of land use.
7.	**D**	Understand the nature and effects of human interactions with the environment.
8.	**A**	Understand characteristics, processes, and issues of major regions of the Eastern Hemisphere.
9.	**C**	Understand characteristics, processes, and issues of major regions of the Eastern Hemisphere.
10.	**C**	Understand characteristics, processes, and issues of major regions of the Western Hemisphere.
11.	**B**	Understand basic historical concepts.
12.	**D**	Understand history and the relationship with geography within major eras of U.S. history.
13.	**C**	Understand history and the relationship with geography within major eras of world history.
14.	**C**	Understand history and the relationship with geography within major eras of world history.
15.	**C**	Understand basic economic concepts and the relationship between economics and geography.
16.	**C**	Understand basic economic concepts and the relationship between economics and geography.
17.	**B**	Understand basic political science concepts and the relationship between political science and geography.
18.	**B**	Understand basic political science concepts and the relationship between political science and geography.
19.	**D**	Understand human culture, human settlement, and global and regional patterns of population growth, distribution, and migration.
20.	**A**	Understand human culture, human settlement, and global and regional patterns of population growth, distribution, and migration.