

2018 US Geography Olympiad Multiple Choice Examination - Part 2

Instructions – This portion of the multiple choice examination consists of 40 questions. You will receive two points for a correct answer. You will lose one point for an incorrect answer. Blank responses lose no points. Please fill in the bubbles completely on the answer sheet. You may write on the examination, but all responses must be bubbled on the answer sheet. All images are contained in the resource booklet. Diacritic marks such as accents have been omitted from place names and other proper nouns. You have one hour to complete both the written portion of the examination and this set of multiple choice questions.

Questions 1-5 refer to the images in section 1 of the resource booklet.

These images are population pyramids from four different countries.

- All of these population pyramids show populations that are growing except which of the following?
 - image 1
 - image 2
 - image 3
 - image 4
- The country in image 3 is best characterized by which of the following?
 - a severe gender imbalance due to past government policies
 - an ageing population and a fairly low birth rate
 - a high birth rate with high infant mortality
 - severe economic problems, possibly a famine
- Based on the information in the images, which of these countries has the highest life expectancy?
 - it is impossible to tell given the information in the images
 - country 1
 - country 3
 - country 4
- Which of the following countries is most likely depicted in image 1?
 - China
 - Japan
 - Iceland
 - Brazil
- Which of the following countries is most likely depicted in image 2?
 - Norway
 - Mexico
 - Haiti
 - Australia

Questions 6-11 refer to the images in section 2 of the resource booklet.

Image 1 is an aerial photograph of a certain type of sand dune. Image 2 is a diagram showing the formation of a second type of dune.

- The type of sand dune shown in image 1 is which of the following?
 - barchan
 - transverse
 - lunette
 - star
- The type of dune depicted in image 1 is formed by which of the following processes?
 - the erosion of vegetated sand
 - strong bidirectional wind
 - strong unimodal wind from a perpendicular direction
 - multidirectional winds
- The type of sand dune shown in image 2 is which of the following?
 - parabolic
 - transverse
 - reversing
 - crescentic
- The direction of the wind that forms these dunes comes from which of the following directions?
 - roughly in the direction of arrow 1
 - roughly in the direction of arrow 2
 - roughly in the direction of arrow 3
 - at roughly a 45-degree angle to the shoreline
- Arrow 1 indicates which of the following features of this dune?
 - slip face
 - seif
 - horn
 - blowout
- What is the role of vegetation in the formation of this type of dune?
 - vegetation plays no role in the formation of these dunes
 - vegetation tends to make these dunes much taller than other types
 - vegetation causes these types of dunes to collapse frequently
 - vegetation holds the elongated arms of these dunes in place

Questions 12-15 refer to the image in section 3 of the resource booklet.

The image in section 3 is a time-lapse photograph of a certain natural phenomenon.

12. At which of the following latitudes was this photograph most likely taken?

- A. 20°
- B. 40°
- C. 50°
- D. 70°

13. On which of the following dates would this phenomenon be most likely to occur?

- A. January 15
- B. March 15
- C. June 15
- D. October 15

14. Which of the following places would experience this natural phenomenon for the most days in a given year?

- A. Anchorage, Alaska
- B. St. Petersburg, Russia
- C. Svalbard, Norway
- D. Reykjavik, Iceland

15. Which of the following characteristics of the earth is a main cause of this phenomenon?

- A. the earth's speed of rotation
- B. the relative positions of the earth and the moon during this season
- C. the earth's axial tilt
- D. the earth's magnetic field

Questions 16-21 refer to the image in section 4 of the resource booklet.

16. This image shows a model of land use proposed by which of the following?

- A. David Ricardo
- B. Johann von Thunen
- C. Homer Hoyt
- D. Chauncy Harris and Edward Ullman

17. This model is predicated on all of these conditions except which of the following?

- A. a robust trade with other areas
- B. tenants always seek to maximize their profits
- C. tenants seek to minimize cost of transportation
- D. landlords try to use all land in an optimal way

18. Which of the following would be located in the area marked 7 in this model?

- A. industry
- B. the city and market
- C. intensive farming
- D. farming with crop rotation

19. Why would dairy farming be located in the area marked 6 in this model?

- A. to allow easy access to the pastures in area 4
- B. to make easier use of the river for transportation
- C. to minimize transportation costs due to the perishable nature of dairy products
- D. dairy farming would not be located in area 6

20. In this model, forests would be located in area 5 for all of these reasons except which of the following?

- A. their importance for fuel
- B. the need for building materials
- C. for ease of transportation
- D. for environmental reasons

21. In which of the following areas would crops like peas and beans be located in this model?

- A. Crops like peas and beans would not be accounted for in this model
- B. area 1
- C. area 2
- D. area 3

Questions 22-25 refer to the images in section 5 of the resource booklet.

These maps show coral bleaching events during the specified years.

22. Which of the following colors likely represents the most severe bleaching events?

- A. yellow
- B. red
- C. green
- D. light blue

23. Since 2006, which of the following best describes the trend in coral bleaching events worldwide?

- A. they have stayed roughly the same
- B. they have increased in frequency and remained roughly the same in intensity
- C. they have occurred with roughly the same frequency but greatly increased in intensity
- D. they have increased in both frequency and intensity

24. All of these are causes of coral bleaching events except which of the following?

- A. ocean acidification
- B. overfishing
- C. increased solar radiation
- D. increased sedimentation

25. Since 1980, approximately what percentage of the coral cover of the Great Barrier Reef has died due to bleaching?

- A. 25%
- B. 40%
- C. 50%
- D. 75%

Questions 26-28 refer to the images in section 6 of the resource booklet.

26. These images reflect the culture of which of the following nations?

- A. Turkey
- B. Georgia
- C. Kazakhstan
- D. Estonia

27. Based on the images, which of the following is most likely the main religion of this nation?

- A. Sunni Islam
- B. Judaism
- C. Orthodox Catholicism
- D. Roman Catholicism

28. The cuisine of this nation, shown in the image, is heavily influenced by all of these except which of the following?

- A. techniques and dishes from North Africa
- B. cuisines from the broader region in which this nation is located
- C. its presence as a major crossroads of Medieval and early modern trading routes
- D. techniques and dishes from larger nations and empires that formerly ruled over this country

Questions 29-34 refer to the images in section 7 of the resource booklet.

These images show a section of the coastline of South Louisiana in the period before and after a certain natural event.

29. The large lake pictured in the top center of the images is which of the following?

- A. Lake Maurepas
- B. Sabine Lake
- C. Lake Borgne
- D. Lake Pontchartrain

30. Which of the following events would have caused the damage pictured to the Louisiana coastline during the last 20 years?

- A. Hurricane Harvey
- B. Hurricane Andrew
- C. Hurricane Katrina
- D. the Mississippi River floods of 2018

31. What is the likely effect of the dredging and cutting of canals for oil and gas exploration in the Louisiana coastal wetlands on coastal erosion?

- A. increased boat traffic helps further coastal erosion
- B. these canals allowed the intrusion of salt water into coastal wetlands furthering wetland degradation
- C. silt and dredging materials deposited in wetlands caused degradation and erosion
- D. these canals had no appreciable effect on coastal erosion

32. Nutria have accelerated coastal erosion in all of these ways except which of the following?

- A. nutria grazing causes rapid removal of plant material from marshes and wetlands
- B. nutria cut their own tunnels and canals into wetlands, increasing saltwater intrusion
- C. nutria infestation causes a loss of dead organic matter which further degrades wetlands
- D. nutria upset local ecosystems causing additional damage from other animals to wetlands

33. Which of the following describes the role of the Mississippi River in coastal erosion in this part of Louisiana?

- A. the intensive harvesting of Gulf seafood in the Mississippi delta, including oysters and shrimp, has upset natural ecosystems and caused wetland degradation
- B. increased marine traffic and industrial activity on the lower Mississippi River in the last fifty years and the resultant pollution has accelerated wetland degradation
- C. flood-control levees on the Mississippi River prevent periodic flooding and the deposition of silt which previously built up coastal wetlands
- D. the Mississippi River plays no appreciable role in coastal erosion in Louisiana

34. All of these methods have been used to mitigate and reverse coastal erosion in Louisiana except which of the following?

- A. removal of flood-control levees from the lower Mississippi River
- B. diversion of fresh water and silt from the lower Mississippi River via aqueducts to wetlands and estuaries
- C. seeding of marsh grasses and wetland plants in damaged areas
- D. construction of man-made barriers using dredged material from the Mississippi River

Questions 35-40 refer to the images in section 8 of the resource booklet.

These images show four different countries ranked on the Sustainable Society Index, a scale that measures the human, economic and environmental wellbeing of different countries on a scale of 1-10, with 10 being the most sustainable and 1 being least sustainable. This index is based on the Brundtland definition of sustainable development, created by the namesake UN commission in the 1980s.

35. Which of the following most closely describes the Brundtland definition of sustainable development?

- A. development that meets the needs of the present without compromising the ability of future generations to meet their own needs
- B. environmental resources should be treated as important economic assets, and should be developed on a limited basis with a care towards preservation
- C. the total environment includes not just the biosphere of earth, air, and water, but also human interactions with these things, with nature, and what humans have created as their surroundings
- D. societies need to manage three types of capital (economic, social, and natural), which may be non-substitutable and whose consumption might be irreversible

36. All of these are among the Sustainable Development Goals of the United Nations except which of the following?

- A. ending worldwide hunger
- B. achieve gender equality and empower women and girls
- C. promote effective management of fossil fuel resources
- D. make cities and human settlements inclusive, safe, resilient and sustainable

37. Given the information on the charts, which of the following statements would be true about the Human Development Index scores of the countries shown?

- A. country 3 is in the bottom 5 of the HDI
- B. country 2 ranks in the medium human development category
- C. the UK ranks above both country 2 and country 4 on the HDI
- D. countries 1 and 3 are within 20 places of each other on the HDI and ranked in the medium human development category

38. Which of the countries represented likely has the lowest life expectancy?

- A. 1
- B. 2
- C. 3
- D. 4

39. Which of these graphs most likely represents Bolivia?

- A. 1
- B. 2
- C. 3
- D. 4

40. Which of these graphs most likely represents the United States?

- A. 1
- B. 2
- C. 3
- D. 4