

2020 US Geography Championships Multiple Choice Examination - Part 1

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 1-8 refer to the map in section 1 of the resource booklet. This map shows travel time to the nearest major city, defined as a city with a population greater than 50,000 people.

1. Given the information in the map, roughly how much of the world's land area is more than 48 hours from a major city?
A. 5%
B. 10%
C. 25%
D. 40%
2. As of 2020, what percentage of the world's population lives in urban areas?
A. 25%
B. 40%
C. 55%
D. 70%
3. The United Nations projects that what three countries will account for 35% of the world's urban population growth by 2050?
A. Mexico, Brazil and Indonesia
B. the United States, Japan and Kenya
C. Malaysia, Thailand and Pakistan
D. India, China and Nigeria
4. Which of these things is it possible to determine from the information on this map?
A. the travel time between London and New York City
B. the method by which a person would travel from the Amazon rainforest to a major city in Brazil
C. whether Western Europe has a higher population density than Northern Europe
D. whether it is possible to get from Barrow, AK to a major city in less than 24 hours
5. Which of the following best describes the gravity model?
A. it is a method of determining the strength of interaction between two places based on their size and distance
B. it is a method of calculating the likelihood of a major city growing or shrinking in population

- C. it describes the number of people a city can support given available resources
- D. it is the distance people are willing to travel to visit friends or relatives

6. Which of the following features on the map can best be explained and predicted using the gravity model?
A. the remoteness of the Australian Outback
B. the number and location of air route connections between the East Coast of the United States and Europe
C. shipping lanes between Europe and Greenland
D. the population density of northern Quebec

7. All of these are criticisms of the gravity model EXCEPT which of the following?
A. it does not give enough consideration to distance in its calculations
B. it is impossible to prove scientifically
C. it is naturally biased towards the largest population centers
D. it does not consider factors like network usage

8. In 1931 William Reilly adapted the gravity model to consider which of the following?
A. the economic effects of the Great Depression
B. the problem of rural electrification
C. access to health care in the United States
D. a customer's willingness to travel to buy retail goods

9. In 1989 David Harvey formulated the theory of geographical time-space compression to consider the ability of all of these EXCEPT which of the following to condense spatial and temporal distances?
A. economics
B. communication
C. transportation
D. education

Questions 10-18 refer to the image in section 2 of the resource booklet.

10. Which of the following best describes a horst?
A. a block of crust that has subsided while the land on either side has uplifted
B. a block of crust that has uplifted or remained stationary while the land on the side has subsided
C. a boundary zone between any two faults
D. an area where new mountains are constantly being formed via uplift

11. Grabens will usually form at which of the following locations?
A. a transform fault
B. a reverse fault
C. a normal fault
D. a strike-slip fault

12. Which number on the image corresponds to a horst?
A. 1
B. 2
C. 3
D. 4

13. Which number on the image corresponds to a graben?

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

14. Which of the following is an example of a graben?

- A. Death Valley in California
- B. the Grand Canyon
- C. Skeleton Inlet in Antarctica
- D. Scoresby Sund in Greenland

15. Which of these locations is a major example of horst and graben topography in Europe?

- A. the Spanish Pyrenees
- B. the Aegean islands of Greece
- C. the southern Italian coast
- D. the Rhine Valley

16. Which of these best defines the term endorheic basin?

- A. any inland saline body of water
- B. a natural spring that creates a large lake in a depression
- C. a basin that retains water and allows no outflow to other bodies of water
- D. an inland body of water located entirely below sea level

17. What is the connection between endorheic basins and horst and graben topography?

- A. endorheic basins often occur in rift valleys
- B. horsts funnel groundwater into aquifers in endorheic basins
- C. horst and graben topography makes the formation of endorheic basins impossible
- D. there is no connection between endorheic basins and horst and graben topography

18. Which of these is an example of an endorheic lake?

- A. Lake Chad
- B. Lake Tanganyika
- C. Lake Van
- D. Lake Erie

Questions 19-26 refer to the image in section 3 of the resource booklet. The map shows annual average path length of a tornado within 40km of a point.

19. Which of the following leads to frequent tornado formation in the area of the United States known as 'Tornado Alley'?

- A. the action of El Nino and La Nina
- B. an unusually weak jet stream over the area
- C. frequent hurricanes
- D. the confluence of warm moist air from the Gulf of Mexico, cold dry air from the Great Plains and warm dry air from the southwest

20. Tornado Alley in the United States is most often associated with which of the following regions?

- A. Southeastern states like Florida, Alabama and Mississippi
- B. an area stretching westward from New Mexico through Texas and into Louisiana
- C. the Great Plains including parts Kansas, Nebraska and Oklahoma
- D. an area of the West Coast from central Washington to central California

21. According to this map, which of the following is at the highest risk of being impacted by a tornado?

- A. Baton Rouge, LA
- B. Jackson, MS
- C. Little Rock, AR
- D. St. Louis, MO

22. Which of the following pieces of relevant data is NOT directly shown on this map?

- A. the strength of tornadoes in a given area
- B. the frequency of tornadoes in a given area
- C. the damage caused by tornadoes in a given area
- D. none of these are directly shown on this map

23. Which of the following is most commonly associated with the formation of a tornado?

- A. a strong downdraft
- B. a supercell thunderstorm
- C. a squall line
- D. a pulse storm

24. Why are areas in South Asia subject to monsoon rains also subject to tornadic activity?

- A. the interaction of warm moist air from the Bay of Bengal and the cold dry air from the Himalayas help to cause tornadoes before and during monsoon season
- B. local El Nino currents similar to those in the US
- C. frequent strong storms from the Himalayas
- D. a weak jet stream similar to that in Tornado Alley in the US

25. The intensity of tornadoes is most commonly measured on which of the following?

- A. the Beaufort Scale
- B. the Rohn Emergency Scale
- C. the Enhanced Fujita Scale
- D. the Saffir-Simpson Scale

26. Of the 14 documented tornadoes that have killed 250 or more people, 8 of them have occurred in what country?

- A. Canada
- B. the United States
- C. Bangladesh
- D. Pakistan

Questions 27-33 refer to the following passage.

"THE general pattern of the development of slums is almost always the same. They begin with the overcrowding of existing buildings and the addition of

tenants built by conscienceless speculators to a considerable height on little land, without reference to light, air, sanitation, and other standards of decent living and safety. The place of a single family in a reasonably comfortable house is taken by a number of families, and in the tenements people are packed in like chickens in a coop. Wave after wave of newcomers inhabits these rookeries. As soon as one generation achieves enough prosperity to get out, it moves on and another with lower standards and income takes its place.

In many cities this process of central decay has been encouraged and speeded up by the building of rapid transit, railroad, road, and other facilities to minutely subdivided farms and estates in outlying sections and the suburbs. The effects of this siphoning of people out of town were either not understood or were tacitly ignored by influential citizens and even the press, not to speak of the promoters immediately interested. If in New York City we had refrained from building so many miles of subways at twenty million dollars a mile and had put some of this money into rehabilitating and making livable and attractive the older and central parts of town, millions of people would not today be crowded like cattle into hurtling trains during the rush hours."

Robert Moses, "Slums and City Planning", *The Atlantic*, January 1945

27. Which of the following best characterizes Moses's view on public transportation as expressed in the passage?
A. he felt it caused slums to proliferate
B. he believed buses were preferable to subways
C. he wanted more people to ride subways, especially at rush hour
D. he felt that money spent on subways could be better spent on other projects

28. Given the views expressed in the passage, Moses would have been in favor of which of the following?
A. projects that would involve the drastic changes to improve existing city neighborhoods
B. the creation of commuter suburbs linked to subway lines
C. the relocation of highways to preserve existing neighborhood structures
D. the restriction of automobile use within the city limits

29. During his time in power in New York City, Moses was known for all of these EXCEPT which of the following?
A. the construction of Shea Stadium in Queens
B. a desire to preserve older neighborhoods like Greenwich Village
C. construction of numerous bridges, including the Triborough and Verrazzano-Narrows
D. convincing the United Nations to locate its headquarters in New York City

30. The transformative effect of Robert Moses on New York City in the twentieth century has been compared to

the effect of Georges-Eugene Haussmann on which of the following cities?

- A. Washington, DC
- B. Boston
- C. Brussels
- D. Paris

31. Which of these people directly opposed Moses in New York City, particularly on his Lower Manhattan Expressway project?

- A. Ebenezer Howard
- B. Jane Jacobs
- C. Daniel Burnham
- D. Le Corbusier

32. Ebenezer Howard was the pioneer of which of the following methods of urban planning in the late nineteenth century?

- A. the 'garden city' movement
- B. radical planning
- C. transactive planning
- D. the 'blueprint' method

33. The bargaining model of urban planning tries to incorporate which of the following?

- A. empowerment of previously underserved groups and the decentralization of urban planning
- B. clear goals and targets, quantitative analysis and scientific management
- C. the structures of political and legal institutions, public participation, and give and take among the various interests in a city
- D. practical and incremental approaches to achieving planning needs and incorporation of the rational paradigm

Questions 34-40 refer to image 4 in the resource section of the examination.

34. According to the map, which of the following would have the HIGHEST mean daily tidal range?

- A. Southern California
- B. Normandy, France
- C. Ghana
- D. the western coast of Honshu

35. According to the map, which of the following would have the LOWEST mean daily tidal range?

- A. the western coast of Madagascar
- B. the Gulf Coast of Texas
- C. the Falkland Islands
- D. the western coast of South Korea

36. In which of the following have the largest mean daily tidal ranges in the world been recorded?

- A. Wales
- B. Alaska
- C. Nova Scotia
- D. Kamchatka

37. Based on the information on the map, which of the following is true?

- A. tidal ranges get larger the further the location from the equator
- B. tidal ranges get smaller the further the location from the equator
- C. tidal ranges do not seem to be dependent on distance from the equator
- D. none of these can be determined using the information on the map

38. All of these effect tidal ranges in a given location EXCEPT which of the following?

- A. topography
- B. water depth
- C. shoreline configuration
- D. local flora and fauna

39. All of these are true of tidal ranges EXCEPT which of the following?

- A. Syzygy at the new moon results in higher-than-average tides
- B. there is a two-week interval between spring and neap tides
- C. neap tides are the lowest points in the tidal range
- D. neap tides occur when the moon is in the first and third quarters

40. Which of these is true of power generation from tides?

- A. it is more predictable than solar or wind generation
- B. it is lower cost than solar or wind generation
- C. there are a large number of sites with suitable tidal ranges for tidal power generation
- D. there are a large number of sites with sufficient flow velocities for tidal power generation