2024 US Geography Championships
Multiple Choice Examination

Name _____

School _____

State _____

Division _____ Grade _____

Instructions – This examination consists of 50 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 document. Diacritic marks such as accents may have been omitted from place names and other proper nouns. You have 45 minutes to complete this examination.

Questions 1-5 are about tornadoes.

1. Which of these is NOT true of tornadoes in the United States?
   A. the US has more tornadoes per year on average than any other country
   B. the US has stronger and more violent tornadoes on average than any other country
   C. the average number of tornadoes per year in the US has been increasing over the last 100 years
   D. geography and climatic conditions over the central portion of the US are favorable to tornado formation

2. Which of these is true of tornadic activity in Europe?
   A. there are almost no tornadoes in Europe
   B. the Alps prevent tornado formation throughout most of the central and western parts of the continent, but there is a high frequency of tornadoes in Eastern Europe
   C. due to cold air masses from the Arctic, Northern Europe has the most intense tornadoes
   D. the Po Valley, between the Alps and Apennines, is one of Europe's most active tornado zones during the summer due to collisions between cold and warm air masses

3. Which of these is NOT a factor that accounts for the high average yearly number of tornado-related deaths in Bangladesh?
   A. lack of an adequate early warning system for tornadic activity
   B. very high population density
   C. unwillingness of NGOs and international groups to render aid in the country during disasters
   D. the relative poverty of much of the country

4. Which of these is the most common time of day for tornadoes to occur in the United States?
   A. midnight
   B. 7am
   C. noon
   D. 5pm

5. Which of the following measures the intensity of a tornado?
   A. Enhanced Fujita scale
   B. Saffir-Simpson scale
   C. Beaufort scale
   D. Richter scale

Questions 6-10 are about demographic transition.

6. In stage two of the demographic transition model, which of these would be expected to happen?
   A. population would begin to decrease
   B. death rates would decline due to improved health care, sanitation and nutrition
   C. birth rates would decline due to access to contraception and family planning
   D. birth rates would increase sharply for economic reasons

7. Which of these is NOT true of the demographic transition model?
   A. it traces the development of a society from pre-industrial to industrial
   B. it tracks birth and death rates of each stage of development
   C. it originally had four stages, but recent studies have included a fifth to account for post-industrial societies
   D. it expects the birth rates of industrial and post-industrial societies to increase

8. Which of the following populations was the first to emerge from stage one of the demographic transition model in the late eighteenth century?
   A. sub-Saharan Africa
   B. South America
   C. the United States
   D. Western Europe

9. Which of these is true of demographic transition in the United States during the nineteenth century?
   A. the US historically had much lower birth rates than Western Europe throughout its demographic transition
   B. in the US, mortality rates started from a much higher baseline at the beginning of demographic transition than they did in Western Europe
   C. mortality rates in the American South remained much higher than the North into the late nineteenth century
   D. the combination of lower birth rates and higher mortality resulted in lower stage 1 and 2 population growth for the US than other countries

10. Which of these is NOT adequately explained by the demographic transition model?
   A. government programs to control or modify fertility rate
   B. rapid economic development within nations
   C. scientific advancements
   D. the effect of food availability on either population or economic development

Questions 11-15 are about glacial landforms.

11. Which of these is NOT an erosional glacial landform?
   A. roche moutonnée
   B. trimline
   C. arête
   D. kame

12. A lake formed in a cirque by overdeepening is known by which of these terms?
   A. tarn
   B. paternoster lake
   C. kettle lake
   D. drumlin

13. The direction of striations formed in rock outcrops by glaciers indicate which of the following?
   A. rapidly melting glaciers
   B. the direction the glacier was moving
   C. the type of rock or other material being carried by the glacier
   D. the speed at which the glacier is advancing or retreating

14. Fjords result when which of these is filled with ocean water?
   A. nunatak
   B. U-shaped valley
   C. esker
   D. outwash fan

15. Which of these is NOT a way that lateral moraines might form?
   A. they form when two glaciers meet and the debris on the edges of the adjacent valley sides join in the middle
   B. unconsolidated debris can be deposited on top of the glacier by frost shattering of the valley walls
   C. unconsolidated debris can be deposited by tributary streams flowing into the valley
   D. subglacial debris can be carried to the surface of the glacier, melted out, and transported to the glacier margin

Questions 16-20 are about cities.

16. Which of these best defines the term urban primacy?
   A. a city that is geographically situated at the center of the country in which it is located
   B. a city that serves as a national capital and serves no other significant function
   C. the phenomenon of excessive concentration of population and development of the main city of a country or a region
   D. a city that serves as a cultural and economic center but is not the largest in population within its country

17. Which of these countries does NOT have a national primate city?
   A. France
   B. Ethiopia
   C. Cuba
   D. the US

18. Which of these pairs has the highest ratio of relative primacy, which compares the population of the primate city and the next largest city?
   A. Colombo and Kandy, Sri Lanka
   B. Istanbul and Ankara, Turkey
   C. Seoul and Busan, South Korea
   D. Tbilisi and Batumi, Georgia

19. Which of these is NOT true of primate cities?
   A. the presence of a primate city in a country may indicate an imbalance in economic development
   B. they serve as targets for the majority of a country or region's internal migration
   C. blue-collar workers usually migrate out of primate cities and are replaced by white-collar professionals
   D. primate cities are usually indicative of a progressive core and a lagging periphery within a country

20. Which of these Alpha + global cities is also a national primate city?
   A. Beijing
   B. Tokyo
   C. Shanghai
   D. Hong Kong

Questions 21-25 are about desertification.

21. According to the UN, desertification involves land degradation in arid, semi-arid and dry sub-humid regions that is primarily caused by what two factors?
    A. overgrazing and nomadic pastoralism
    B. urbanization and deforestation
    C. climatic variations and human activities
    D. fertilizers and pesticides

22. In the Sahel region, drought and desertification is mostly driven by which of these?
    A. large-scale sea surface temperature variations and anthropogenic emissions of aerosols and greenhouse gases
    B. natural climate cycles and seasonal effects
    C. agriculture-induced vegetation loss
    D. deforestation

23. Which of these agricultural practices can contribute to desertification, especially in vulnerable regions?
    A. extensive agriculture
    B. intensive agriculture
    C. organic agriculture
    D. agroforestry

24. Which of these best represents the increase in global dust coverage since the nineteenth century due to desertification and climate change?
    A. 2%
    B. 5%
    C. 10%
    D. 25%

25. Which of these is NOT a way humans can fight or reverse desertification?
    A. afforestation
    B. soil regeneration
    C. eliminating certain types of vegetation cover
    D. management of grazing

Questions 26-30 are about the gravity model.

26. The gravity model predicts interaction between places based on what two factors?
    A. push and pull factors
    B. distance and population
    C. economic and agricultural output
    D. social and cultural ties

27. Which of these is NOT a criticism of the gravity model with regard to migration?
    A. understates the impact of transportation accessibility
    B. it doesn't factor in intervening opportunities or obstacles
    C. it is biased towards smaller cities over large ones
    D. it diminishes the role of cultural differences

28. Economists use the gravity model to predict which of these activities?
    A. bilateral trade flows
    B. development of economies of scale
    C. transition through stages of economic development
    D. transition from periphery to core

29. All of these networks EXCEPT which of the following have in recent decades made the gravity model less accurate at predicting migration and interaction?
    A. flight networks
    B. cultural networks
    C. communication networks
    D. road networks

30. In recent years, geographers have begun to use a more accurate and empirical model based on which of the following to predict interaction between places?
    A. the orbits of planets
    B. the periods of comets
    C. radiation
    D. taxation

Questions 31-34 refer to image 1 in the resource section.

31. What is the term for the type of map seen here, where a set of features is altered to reflect a variable or set of data?
    A. isorhythmic
    B. chorochromatic
    C. dasymetric
    D. cartogram

32. Given the information in the map, the size of countries is relative to which of these variables?
    A. GDP per capita
    B. proportion of the world's Christians
    C. number of organic farms
    D. children living in poverty

33. Which of these would NOT be true if the map's data set was oil exports?
    A. Nigeria would be very small compared to other African countries
    B. Middle Eastern countries like Saudi Arabia would be disproportionately large
    C. Norway would be the largest of the Nordic countries
    D. Russia would be vastly larger than China

34. If the map reflected proportion of the world's atheists, which of these would be the largest country on the map?
    A. Russia
    B. the US
    C. the UK
    D. China

Questions 35-39 refer to image 2 in the resource section.

35. Which of the numbers on this diagram would indicate sedimentary rock?
    A. 1
    B. 2
    C. 3
    D. 4

36. In addition to weathering and erosion, what other process must be present at letter C on the diagram?
    A. melting
    B. deposition
    C. cementation
    D. uplift

37. Which of these is the correct pair of terms that should appear at letter D and number 3 on the diagram?
    A. erosion and sediments
    B. melting and magma
    C. compaction and sedimentary rock
    D. solidification and igneous rock

38. Based on the information in the diagram, which of these transitions is primarily one of heat and pressure?
    A. A
    B. B
    C. C
    D. D

39. The correct label for number 2 should be which of these?
    A. magma
    B. sedimentation
    C. igneous rock
    D. metamorphic rock

Questions 40-43 refer to image 3 in the resource section.

40. Which of these are the closest to the coordinates of the airport pictured here?
    A. 67°N 50°W
    B. 45°N 80°W
    C. 85°N 50°E
    D. 75°N 70°E

41. Given the information in the picture, where is this airport most likely located?
    A. Iceland
    B. Ireland
    C. the US
    D. Greenland

42. The flight times on the sign are accurate due to what practice of navigating between points on the globe?
    A. gnomonic navigation
    B. great-circle navigation
    C. cube mapping
    D. projective navigation

43. Given the information in the picture, which of these would be true of the direct flight time from this airport to Miami, FL?
    A. it would be shorter than 4 hours
    B. it would be between 4 hours and 6 hours
    C. it would be between 7 hours and 9 hours
    D. it would be longer than 10 hours

Questions 44-46 refer to image 4 in the resource section.

44. Which of these is NOT a major factor in the increase in life expectancy seen across the world on this chart?
    A. advances in medicine and healthcare
    B. the end of the Cold War
    C. greater access to a variety of agricultural products
    D. increasing access to education and higher global literacy rates

45. Which of these was the most significant cause of the drop in Asian and World life expectancy seen on the chart in the mid-twentieth century?
    A. a famine
    B. a war
    C. a pandemic
    D. political instability

46. Based on the data, what trend would be expected for all of the areas on the chart over the next decade?
    A. the Covid-era declines will continue for at least several more years
    B. life expectancy across the world will flatten out
    C. life expectancy should recover quickly and continue to rise over the decade
    D. it is impossible to predict given the information on the chart

Questions 47-50 refer to image 5 in the resource section.

47. Which of these names the principle that the geologic feature which cuts another is the younger of the two features?
    A. faunal succession
    B. lateral continuity
    C. original horizontality
    D. cross-cutting relationships

48. What is the chronological order of the rock layers and fault labeled A-E on the diagram?
    A. C-B-A-D-E
    B. D-C-B-E-A
    C. C-D-B-A-E
    D. C-B-D-E-A

49. Which of these most accurately describes the law of superposition?
   A. layers of sediment initially extend laterally in all directions
   B. the oldest strata will be on the bottom and newer strata will form above
   C. layers of sediment are originally deposited horizontally under the action of gravity
   D. clasts in a rock are older than the rock itself

50. Which of these can create an exception to the law of superposition?
   A. overturning
   B. fossilization
   C. stoping
   D. inclusion