GGH1501 (475099) May/June 2018

Know Your World: Introduction to Geography

Duration 2 Hours 100 Marks

EXAMINERS
FIRST PROF RW PRETORIUS
SECOND MR RL ANDERSON

Use of a non-programmable pocket calculator is permissible

Closed book examination

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This examination paper consists of 23 pages

INSTRUCTIONS

A After you have completed this examination paper, you should hand in the following
• This examination paper
• The mark-reading sheet with your answers for Section A
• Your examination book with your answers for Section B

B Make sure that your student number and all the other required information are entered on your examination book and mark-reading sheet. Where the module code is requested, write GGH1501

C Note that the unique number of the examination paper for GGH1501 is 475099 (provided on the cover page of the examination paper, in brackets, following the module code). Importantly this unique number must be written and marked on the mark-reading sheet

D Allocation of marks
• Section A — 60 marks (44 multiple-choice questions. Answer all of them)
• Section B — 40 marks (Select and answer any four (4) questions of 10 marks each)

E It is recommended that you utilise your time as follows
• Section A — Approximately 60 minutes
• Section B — Approximately 60 minutes

F Read the instructions and follow them carefully

G Do your best, good luck!
SECTION A

Instructions
- Answer all the questions in this section.
- The questions in this section must be answered on a mark-reading sheet.
- For some questions, the alternatives to choose from may continue on the following page, so make sure that you do not miss them.
- Write your student number, the unique number of the examination paper, and all other required information on the mark-reading sheet.
- Put the mark-reading sheet in the front of your examination book when handing in everything at the end of the examination.

Questions

The nature of geography and geographical thinking

1. The geographic concept that describes the fact that Africa does not have the same climate everywhere is referred to as
   (1) relative location
   (2) spatial association
   (3) spatial location
   (4) spatial variation
   (5) long-term climate change

2. Which of the following statements on the utility (i.e., things it can be used for) of the geographic grid is/are true?
   (a) It can be used to accurately find the location of a geographic phenomenon
   (b) It can be used to get an idea of the direction you are traveling in
   (c) It can be used to provide descriptions of what is found at towns and places
   (d) It can be used to assist in determining time

   Select the correct combination of alternatives
   (1) Only (b) and (c) are correct
   (2) Only (a) is correct
   (3) (a), (b) and (d) are correct
   (4) (a), (b), (c) and (d) are correct

TURN OVER
3. Which one of the following observations does not relate to spatial analysis as a method used by geographers to analyse geographic information?
   (1) the distribution of a phenomenon in terms of its position, placement and/or arrangement throughout space
   (2) the unique combination of physical and human characteristics (i.e., site characteristics) for each place on Earth
   (3) the frequency of occurrence of a phenomenon in relation to a geographic area
   (4) the geometric arrangement of objects in an area to form specific patterns

4. As seen in Figure 1, transportation improvements through time have greatly reduced the amount of time it takes to get from one place to another. What term do geographers employ to describe this phenomenon?
   (1) transportation improvements
   (2) increasing speed of movement
   (3) distance decay
   (4) space-time compression
   (5) spatial interaction

Figure 1 Worldwide travel distance and time (Figure 1 10 1 in prescribed textbook)
5. Consider the scenario that you are on board a flight that departed 14 March at 12:30 pm from Auckland to Honolulu (refer to Figure 2 for orientation). Flying time is 8 hours and 30 minutes and you will be crossing the International Date Line. On which date and at what time will you arrive in Honolulu?

   (1) 14 March, 9 pm
   (2) 13 March, 11 pm
   (3) 14 March, 11 pm
   (4) 13 March, 9 pm
   (5) 14 March, 4 am

6. Which one of the following statements about the concept of location is false?

   (1) Location is the position that something occupies on the Earth's surface
   (2) Location can be described by using place names, situation and site
   (3) A GPS is used to determine the exact location of something on the Earth's surface
   (4) Latitude and longitude can be used separately to identify specific locations

   TURN OVER
Key processes of the physical environment

7. The occurrence of the largest average annual temperature ranges on Earth in Siberia (part of Russia) in the Northern Hemisphere is related to the location of this region close to:
   (1) a big water body which does not have the capacity to take heat into storage for long time periods
   (2) the Arctic Circle and as part of the very large continental landmass of Asia
   (3) the Antarctic Circle and the moderating influence of the Pacific Ocean
   (4) the Equator, where the angle of incidence of solar rays varies significantly during the course of the year

![Diagram of a landscape profile with labels: Headwaters, Steep gradient, Gentle gradient, Mouth.]

Figure 3  Landscape profile (Figure 3.9.1 in prescribed textbook)
8. A fluvial landscape as depicted in Figure 3 is
   (1) usually found in areas with a very low rainfall
   (2) characterised by streams eroding downwards and networks of channels and valleys
   (3) found specifically in only the Northern Hemisphere
   (4) formed primarily through earthquakes and volcanoes
   (5) primarily the result of converging tectonic plates

9. On average, the highest temperature on Earth in January can be found
   (1) close to the North Pole
   (2) close to the South Pole
   (3) roundabout 40°N
   (4) roundabout 23½°S
   (5) in Russia

10. Which one of the following observations about geological hazards such as volcanoes and earthquakes is false?
    (1) Volcanic eruptions and earthquakes are inclined to occur along the boundaries of tectonic plates
    (2) An earthquake that occurs under the ocean can generate tsunami waves, which could cause devastation greater than that caused by ground shaking
    (3) It is on record that eruptions of composite cone volcanoes have killed tens of thousands of people at a time such disasters are less frequent than severe earthquakes
    (4) In general, predicting earthquakes is more accurate than predicting volcanic eruptions, because earthquakes present more warnings than volcanic eruptions before happening

11. Which one of the following factors does not necessarily have to play a role in soil formation, although soil might indeed be affected/accelerated by this factor?
    (1) biological activity
    (2) climate
    (3) human activities
    (4) parent material
    (5) topography

TURN OVER
12. Where will an explorer most probably start his or her search for the wettest place on Earth?
   (1) in the vicinity of the Equator
   (2) in areas where high atmospheric pressure is the most dominant weather phenomenon
   (3) in coastal areas washed by cold ocean currents
   (4) at the North or South Pole
   (5) in desert areas

13. The tropical forest biome is characterised by , which are low in nutrients as a result of the of soluble minerals associated with the wet climate
   (1) aridisols, absorption
   (2) oxisols, leaching
   (3) histosols, freezing
   (4) mollisols, erosion
   (5) histosols, weathering

14. Photosynthesis contributes to the carbon cycle by means of
   (1) the fixation of nitrogen to forms that can be used by plants and animals
   (2) carbohydrates that are broken down, while carbon dioxide is released
   (3) the burning of biomass, while carbon dioxide is released
   (4) carbohydrates that are stored in plant tissue, while oxygen is released

Patterns and trends of the global population

15. Which one of the following statements about the world’s population distribution is false?
   (1) Generally speaking, humans avoid clustering in harsh environments
   (2) Large populations are frequently concentrated along fertile floodplains of big rivers
   (3) The population is spread uniformly across all regions of the world
   (4) In mountainous areas, slopes may be too steep to sustain large populations

TURN OVER
16. To understand the relationships between population and resources in a specific country, geographers would examine the  

(1) natural increase rate of the population  
(2) agricultural and physiological population density  
(3) crude birth and death rate of the population  
(4) arithmetic population density  
(5) population structure

![World Map](image)

**Figure 4** Arithmetic population density (Figure 5.2.1 in prescribed textbook)

17. With reference to Figure 4, showing the global spatial distribution of arithmetic population density in persons per square kilometre, which one of the following observations is true?

(1) Afghanistan has a lower population density than either the Democratic Republic of Congo (DRC) or Brazil  
(2) Brazil and Germany have very similar population densities  
(3) Germany has a higher population density than Afghanistan  
(4) The population density of Brazil and the DRC is comparable with that of countries with the highest population densities in the world

**TURN OVER**
18. Which one of the following observations on the changing nature of population is true?

(1) The highest crude birth rates are in Europe and the lowest in sub-Saharan Africa

(2) The natural increase rate in Europe is negative, implying that in the absence of immigrants, the population is actually declining

(3) If the crude birth rate of a country is 20 per 1,000 persons per year and the crude death rate is 5 per 1,000 persons per year, the natural increase rate is 15% per year

(4) Regional differences in natural increase rates show that most of the people currently added to the world population live in countries that are able to support them

19. Which one of the following trends accurately characterises current patterns of international migration?

(1) International migration is decreasing, as disparities between wealthy and poor regions are getting smaller

(2) The global migration pattern reflects the importance of migration from developed to developing countries

(3) Migrants from relatively wealthy countries generally head for countries with relatively low incomes

(4) At a global scale, Asia, Latin America and Africa have a net out-migration of people

20. Concerning forced migration, it would be correct to state that

(1) environmentally displaced persons are protected by the 1951 Refugee Convention

(2) the largest movement of refugees are within poor and conflict prone regions

(3) the number of forced migrants by far exceeds the number of labour migrants

(4) environmental causes of forced migration include issues such as discrimination, flooding, drought and armed conflict

The global cultural mosaic

21. The predominant religion in Afghanistan is , while Germany would be characterised by the religion

(1) Islam, Christianity

(2) Hinduism, Judaism

(3) Daoism, Shintoism

(4) Christianity, Universalising

(5) Animism, Islam

TURN OVER
22. Since the DRC is actually largely a compact state, but with a protruding extension to the west to give it access to the Atlantic Ocean (refer to Figure 5), it is referred to as

   (1) an elongated state
   (2) a fragmented state
   (3) a perforated state
   (4) a prorupted state
   (5) an enclave

23. Which one of the following statements on universalising religions is true?

   (1) In the Western Hemisphere, Protestantism dominates in Latin America and Roman Catholicism in North America
(2) With more than 2 billion followers, Buddhism is the world's largest universalising religion.

(3) Universalising religions appeal mainly to one group of people living in one place, while ethnic religions attempt to be global.

(4) Although dominant in the Middle East, about one-half of the world's Muslims live outside the Middle East in countries such as Pakistan, India, Bangladesh and Indonesia.

24. A/an ______ boundary between countries is created using the geographic grid in areas where no physical/cultural features exist to define a boundary, while the Himalayas is an example of a ______ boundary.

   (1) geometric, cultural  
   (2) arithmetic, mountain as a  
   (3) physical, water body as a  
   (4) physical, cultural  
   (5) geometric, physical

25. Which one of the following statements on the distribution pattern and diffusion of languages over the world is false?

   (1) Languages diffuse from their place of origin mainly through migration  
   (2) Arabic is a major Afro-Asiatic language and also the official language in a number of countries in the Middle East  
   (3) The whole of Africa is characterised by languages belonging to the Niger-Congo family  
   (4) Indo-European is the world's most widely spoken language family

26. Which one of the following statements on the use and diffusion of English in the world is false?

   (1) English is the world's leading lingua franca  
   (2) Spanish is an official language in more countries than English  
   (3) In some countries, English is the official language, although many residents cannot speak it  
   (4) English achieved its status of lingua franca due to migration in the colonial period  
   (5) Recently, expansion diffusion lead to further establishment of English as lingua franca
Making (and earning) a living

27. Which one of the following alternatives is not characteristic of countries with a self-sufficiency approach to development?

(1) spreading investment across all regions and all sectors of the economy
(2) giving precedence to poverty reduction over a few people becoming wealthy consumers
(3) setting high taxes on imported goods
(4) reliance on trade with the outside world for survival
(5) complex administrative systems that may lead to abuse and corruption

28. Developing countries are generally characterised by compared to developed countries

(1) a higher share of tertiary sector workers
(2) a smaller share of primary and secondary sector workers
(3) people completing fewer years of school
(4) a higher expenditure on health care
(5) a longer life expectancy of people

29. Which one of the following statements on the agricultural regions of the world is true?

(1) Commercial agriculture is a general practice in developing countries
(2) The intensive agricultural regions of East, Southeast and South Asia are characterised by pastoral nomadism, which suits the dry climates found here since it is unsuitable for crops
(3) In developed countries, a much higher percentage of workers are engaged in agriculture compared to developing countries
(4) Shifting cultivation is a practice in much of the world’s humid tropics, which have relatively high temperatures and abundant rainfall

TURN OVER
30 With reference to Figure 6, showing the global spatial distribution of the percentage of the labour force engaged in agriculture, which one of the following observations is true?

1. In Brazil below 5% of the labour force is engaged in agriculture
2. In Germany 50% and above of the labour force is engaged in agriculture
3. Germany has a lower percentage of the labour force engaged in agriculture than Brazil
4. In both Afghanistan and in the DRC, a lower percentage of the labour force is engaged in agriculture than in Brazil

31 Which one of the following observations on the occurrence of the phenomenon of undernourishment in the world is false?

1. Worldwide the total number of undernourished people increased significantly over the past few decades
2. Since Sub-Saharan Africa is struggling to keep food production ahead of population growth, the threat of famine is particularly severe in this region

TURN OVER
(3) Although enough food is produced on average to meet the world’s dietary needs, some developing countries lack food security and are undernourished.

(4) India has by far the largest share of the world’s approximate 800 million undernourished people.

32. Industrial location is typically affected by a situation factor as well as a site factor as

   (1) cost of labour, proximity to inputs
   (2) availability of land, minimisation of transportation costs
   (3) type of product, proximity to markets
   (4) cost of production inside the plant, unique characteristics of a location
   (5) proximity to markets, ability to obtain capital

33. Which one of the following statements on the services sector is false?

   (1) Services generate a much higher percentage of GDP in developed than in developing countries
   (2) A service is any activity that fulfils a human want or need and returns money to those who provide it
   (3) The four main types of consumer services are retail, financial, leisure and transport
   (4) Public services amongst others include protection for citizens and businesses

Resources Use and abuse

34. The ratio of oil reserves to annual production is an indication of

   (1) how much oil each OPEC country is allowed to produce
   (2) how much oil countries are allowed to hold in reserve
   (3) the price per barrel as determined by the total output around the world
   (4) the number of years that the known oil reserves will last

35. Which one of the following alternatives does not present a reason why the continued use of fossil fuels are increasingly questioned?

   (1) increasing costs
   (2) concerns about global warming
   (3) even spatial distribution and availability

TURN OVER
(4) non-renewable nature
(5) pollution released during combustion

36 Which of the following factors help us to identify substances as resources for different uses?
(a) technological demands and influences
(b) population numbers
(c) processes through which the resources are created
(d) cultural values
(e) economic systems and realities

Select the correct combination of factors
(1) (a), (b) and (c)
(2) (c), (d) and (e)
(3) (b), (c) and (d)
(4) (b), (d) and (e)
(5) (a), (d) and (e)

37 Which one of the following alternatives is not associated with using coal to provide energy?
(1) increased CO₂ emissions
(2) acid depositions
(3) coal is cleaner to burn than gas
(4) damage by mining to the environment

Geographical data nature, sources and representation

38. In what format will each of the following features respectively be presented on maps:
roads, police stations, lakes?
(1) polygons, lines, points
(2) lines, points, polygons
(3) lines, points, points
39. You are considering a holiday in the United Kingdom and plan to make a travel booking with a major airline. You want to know how far you will be traveling, and by using one of the world maps in your prescribed textbook, you measure the distance between Johannesburg and London as 9 cm (as a straight line). The scale of the map is provided as 1 100 000 000. Use this information to calculate what the real distance between Johannesburg and London should be.

(1) 100 000 km
(2) 1 000 km
(3) 9 000 km
(4) 10 900 km
(5) 90 000 km

40. An important difference between a world map and a map of the inner part of a city is that the world map would have a __scale__, while the map of the inner part of the city would have a __scale__.

(1) small, large
(2) absolute, relative
(3) word, line
(4) ratio, azimuthal
(5) graphic, word

41. Which one of the following elements is required on all maps?

(1) bright colours
(2) a scale
(3) names of countries
(4) borders between countries
(5) names of cities and the streets in them

TURN OVER
Figure 7  Map showing location of some cities in South Africa

42. With reference to Figure 7, the absolute location of Durban is best approximated by , while its relative location can be described as

(1) 30°15′ E and 30°15′ S, on the east coast of South Africa, just south of the Tropic of Capricorn
(2) 29°30′ W and 29°10′ S, on the east coast of South Africa, to the northeast of East London
(3) 30°40′ E and 29°55′ S, on the east coast of South Africa, in the southeastern parts of KwaZulu Natal
(4) 31°15′ E and 30°15′ S, on the east coast of South Africa, between East London and Maputo
(5) 32°40′ W and 29°55′ N, on the west coast of South Africa, just north of the Tropic of Cancer

43. A client has requested you to provide him or her with a 1:25 000 map of a holiday resort on which the scale is indicated by means of a word scale. Which one of the following phrases (word scales) would you be able to add to the map?

TURN OVER
44. According to the Guinness Book of Records, Dunedin in New Zealand has the steepest street in the word. In this street, every 2860 metres travelled horizontally means that the altitude has risen by 1 kilometre. This is equivalent to a gradient of

(1) 1 1
(2) 1 5 72
(3) 1 2 86
(4) 1 0 286
(5) 1 2 86

[Total of Section A: 60 marks]
SECTION B

Instructions
- This section consists of six (6) questions
- You have to answer ANY FOUR (4) of these questions
- The questions must be answered in your examination book
- Length guideline (relative, depends on size and spacing of your hand writing)
  For 1 mark  Briefly mention in a line or two
  For 2 marks  About 4 written lines
  For 4 marks  About 6 to 8 written lines
  For 6 marks  About 10 to 12 written lines

Questions

Question 1
1.1 (a) Referring to any of Brazil, Germany, the DRC and/or Afghanistan as (6) examples, very briefly discuss
- the enabling role of climate as settlement factor (2)
- the constraining role of climate as settlement factor (2)
(b) To which school of thought on human-environment relationships would a geographer that considers only climate as settlement factor belong? (1)
(c) If you would study human settlement patterns, which two additional factors apart from climate would you also consider? (1)

1.2 Briefly explain how the relative motion between tectonic plates contributes to the (4) formation of large-scale landforms at the plate boundaries. Using examples will assist you in presenting a proper explanation

Tip Think about the various types of relative motion occurring at plate boundaries and arrange your answer accordingly

Question 2
2.1 Consider the following scenario. You are doing research about the spatial (6) distribution patterns of renewable and non-renewable resources over the world, and need to decide which type of maps would be best to use in your research. Answer the following two questions
(a) List the four major distortions that may occur on maps as a result of the process to transfer the spherical shape of the Earth to a flat surface (2)
(b) Briefly discuss how these distortions might affect map characteristics by referring to the way these distortions might affect the usability of maps for your research (4)
(c) For a bonus mark Name an example of a type of projection which would be suitable to depict such world patterns (1)

TURN OVER
2.2 Use any two (2) of dairy farming, grain farming or livestock ranching to briefly (4) evaluate the long-term sustainability implications of commercial agriculture for the environment.

Question 3
3.1 Describe the main features (in terms of location and variation) of the spatial (6) distribution pattern of dry climates over the world, followed by a brief explanation of the most important reasons for this pattern.

Tip Give equal attention to the description of the pattern and the explanation of the reasons for the pattern.

3.2 Carefully analyse the population pyramid provided in Figure 8. Decide whether (4) this population pyramid would typically be representative of either Germany or the DRC, and then provide a brief motivation for your decision.

Figure 8 Population pyramid (Figure 5.5.3.1 in prescribed textbook)
Question 4

4.1 Explain how Christianity (or any other universalising religion of your preference) has spread through large parts of the world by means of the process of diffusion. Refer to the respective roles of both relocation and expansion diffusion.

*Tip* Give equal attention to the role of each of the types of diffusion.

4.2 With reference to the layered organisation of thematic information in GIS (an example is shown in Figure 9), explain how GIS can be used to analyse a geographical phenomenon of your choice.

*Tip* Do not just describe the geographical phenomenon you have chosen. The question is about how GIS can be used to analyse it.

![Diagram of GIS layers](image)

Figure 9 (Figure 153 in prescribed textbook)

Question 5

5.1 Provide a brief explanation why access to knowledge is important for development, with reference to the spatial distribution of access to knowledge over the world.

*Tip* You can develop your answer with reference to the two criteria identified by the United Nations to measure the ability of individuals to gain access to knowledge, namely quality and quantity of schooling.

TURN OVER
5.2 Choose one (1) of the following topics and then explain how you would research it from a geographical point of view:
(a) A study of the interaction between people and natural resources in a region of your choice
OR
(b) A study of the geometric arrangement of infrastructure in a city of your choice
OR
(c) Comparing and analysing the site and situation characteristics of the major industrial regions in country of your choice

Tip You can use either spatial analysis or area analysis or systems analysis to structure your answer

Figure 10  GNI per capita ppp (Figure 9.2.1 in prescribed textbook)
Question 6

6.1 Using Germany and the DRC as examples, identify and explain the spatial (6) association between the world distribution patterns of the percentage of the labour force engaged in agriculture (refer to Figure 6 on p. 13) and standard of living (refer to Figure 10 on p. 22).

6.2 Briefly explain the function fulfilled by boundaries between political states, with (4) reference to examples where boundaries have or are
(a) leading to conflict (2)
(b) contributing to peaceful co-existence (2)

[Total of Section B. 40]

[Total of Paper: 100]