This examination paper consists of 15 pages plus a graph sheet (p i).

INSTRUCTIONS FOR PART 1

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
   • The graph sheet with your answer for Question 3.1 (If you decided to answer Question 3 of Section B)

B Make sure that your student number and all the other required information are entered on your examination book, mark-reading sheet and graph sheet (if you answered Question 3.1). Where the module code is requested, write GGH1501.

C Note that the unique number of the examination paper for GGH1501 is 499953 (provided on the cover page of the examination paper, in brackets, following the module code). Importantly this unique number has to be written and marked on the mark reading sheet.

D Allocation of marks:
   • Section A — 50 marks (44 multiple choice questions: Answer all of them)
   • Section B — 50 marks (Select and answer 5 questions of 10 marks each)

E It is recommended that you utilise your time as follows:
   • Section A — Approximately 50 minutes
   • Section B — Approximately 70 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.
• 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

Learning Unit 1
1. An event that makes headlines in the media can be regarded as geographical if it meets certain important requirements. Which one of the following can be regarded as an absolute requirement in this regard?
   (1) The event is only about human activities.
   (2) The event is only about a natural process.
   (3) The event is connected to a location that can be described in absolute or relative terms.
   (4) It is a very important event.
   (5) It is a very recent event.

2. Which one of the following statements is false?
   (1) Location can be described by providing a geographical coordinate.
   (2) Location can be described in terms of the location (situation) of another place or places.
   (3) The concepts of scale, space and connection are used to explain interrelatedness.
   (4) The distinctiveness of place depends solely on physical site characteristics.

3. A map projection should never distort … .
   (1) shape
   (2) direction
   (3) distances
   (4) location
   (5) the size of areas

4. Which one of the following statements about the concept of a region is false?
   (1) Countries, provinces and municipalities are examples of formal regions.
   (2) For a region to qualify as uniform, there should be no variation within the region.
   (3) The area from which a shopping centre attracts customers is a functional region.
   (4) Vernacular (perceptual) regions do not have fixed boundaries.
   (5) Geographers demarcate regions to simplify reality.
5. Which **one** of the following statements about the distribution of geographical features is **false**?
   (1) Density, concentration and pattern are terms used to describe spatial distribution.
   (2) Spatial distribution refers to the arrangement of phenomena across space.
   (3) To be able to compare the population density of countries, the countries should be of the same size.
   (4) Clustered and dispersed are on the opposite poles of a distribution pattern.

6. The argument that favourable climatic conditions in a region or country leads to better conditions for and performance by humans is called … .
   (1) fundamentalism
   (2) environmental determinism
   (3) possibilism
   (4) physical ecology
   (5) ecological determinism

**Learning Unit 2**

7. Which **one** of the following statements about map symbols used on official South African maps is **false**?
   (1) On a 1:50 000 map a small town will be depicted by means of an area symbol.
   (2) On a map showing the **entire South Africa** a small town will be depicted by means of a point symbol.
   (3) Vineyards and cultivated land shown on 1:50 000 maps of South Africa, are examples of nominal data depicted by means of area symbols.
   (4) The values of height above sea level written next to trigonometrical stations on 1:50 000 maps of South Africa are examples of ratio data.
   (5) Mine dumps are depicted on 1:50 000 maps by means of the symbol shown here: 🧪

8. Which **one** of the following statements about geographical phenomena or data is **false**?
   (1) Geographical data can be related to a point, a line or an area on the Earth’s surface.
   (2) Geographical data have a temporal component.
   (3) A phenomenon such as average daily temperature has a discrete distribution.
   (4) A geographical variable of a phenomenon contains the data that inform us how the specific phenomenon varies across space.
   (5) The resolution of data gathered at a macro scale is rather low.

9. The distance between Place A and Place B on a 1:10 000 map is 5 cm. This implies that these two places are … apart in reality.
   (1) 5 000 m
   (2) 500 m
   (3) 5 km
   (4) 0.05 m
   (5) 5.5 km
10. The distance between Place C and Place D is 3.2 km. These two places are situated 360 m and 680 m above sea level respectively. The average gradient between Place C and Place D is therefore … .

(1) 1:10
(2) 1:3.2
(3) 320:3200
(4) 1:32
(5) 10:1

Figure 1
The following two questions are based on Figure 1, which appears on Page 4.

11. The May 2017 magnetic bearing from Point X on Point Y is … .
   (1) 25°5'
   (2) 64°45'
   (3) 115°10'
   (4) 195°5'
   (5) 205°5'

12. The absolute location of Point Y is approximately … .
   (1) 22°37'45"; 32°18'
   (2) 22°37'45"S; 32°18'E
   (3) 32°18'S; 22°37'35"E
   (4) 32°18'S; 22°37'45"E
   (5) 32°18'E; 22°37'50"S

Learning Unit 3

13. Which one of the following statements describing the position of the Sun in June every year is true?
   (1) The Sun will be directly above the Equator.
   (2) The Sun will be directly above the Tropic of Cancer.
   (3) The Sun will be directly above the Tropic of Capricorn.
   (4) The Sun will be directly above the 40° north latitude.

14. The tendency of an object moving across the Earth’s surface to be deflected from its apparent path as a result of the Earth’s rotation is called the … .
   (1) angle of incidence
   (2) Coriolis effect
   (3) monsoon circulation
   (4) thermohaline circulation

15. Which one of the following processes is not involved in chemical weathering?
   (1) acid released by decaying vegetation
   (2) oxidation of iron minerals
   (3) breakdown of calcium carbonate into soluble ions
   (4) expansion of water during freezing

16. Which one of the following alternatives is associated with the smallest form of channel erosion?
   (1) rills
   (2) gullies
   (3) canyons
   (4) rivers

[TURN OVER]
17. Which one of the following landforms is represented on the contour map in Figure 2?
   (1) poort
   (2) mountain spur
   (3) escarpment
   (4) butte

18. Which type of tectonic plate boundary is not indicated in Figure 3?
   (1) divergent boundary
   (2) transform boundary
   (3) convergent boundary
   (4) subduction boundary

19. Which one of the following statements concerning biomes is false?
   (1) A biome is a large grouping of ecosystems characterised by particular plant and animal types.
   (2) Biomes typically contain many ecosystems.
   (3) Climate and vegetation are two visible features of a terrestrial biome.
   (4) Human activity has no influence on biomes.
20. Which one of the following statements about the El Niño-Southern Oscillation (ENSO) is false?

(1) El Niño illustrates the close link between oceanic and atmospheric circulation.
(2) El Niño means “the boy child” in Spanish.
(3) During El Niño the flow of warm water in the eastern tropical Pacific changes to the south.
(4) Australia experiences drought during El Niño.

Learning Unit 4

21. Which one of the following statements about the world’s population distribution is false?

(1) Generally speaking, humans avoid clustering in harsh environments.
(2) Dry lands generally lack sufficient water to sustain large populations.
(3) The population is spread uniformly across all regions of the world.
(4) Large populations are frequently concentrated along fertile floodplains of big rivers.

22. Which one of the following alternatives is not among the criticisms voiced by geographers concerning Malthus’s theory on population growth and resources?

(1) A larger population could stimulate economic growth, leading to an increase in food production.
(2) Population growth will not necessarily decrease resources.
(3) Population growth could generate more customers and bring about technological improvements.
(4) A high population growth could make a country less powerful.

23. To compare the number of people living on equally-sized pieces of land in different regions of the world, the ... density is an appropriate measure.

(1) hypothetical
(2) arithmetic
(3) agricultural
(4) scientific
(5) physiological

24. Which one of the following statements about population structure is false?

(1) Countries in the developed world generally have population pyramids with a very broad base.
(2) Crude death rates in developed countries show an increasing trend due to the increasing percentage of elderly people.
(3) Developed countries generally face decreasing percentages of older people.
(4) Countries in the high growth phase of demographic transition typically have a high crude death and birth rate.

25. In recent years, international migrants have mainly … .

(1) fled from humid climate conditions
(2) been political refugees
(3) been workers looking for jobs
Learning Unit 5

26. Which one of the following alternatives does not provide a valid explanation for the diffusion of the nine main language families to many regions in the world?

   (1) emigration and immigration
   (2) colonisation of different regions
   (3) isolation and religious exclusivity
   (4) cross-cultural contact and sharing
   (5) the political and military strength of speakers of a language

27. The three universalising religions with the largest number of adherents in the world are Christianity, Islam and ...

   (1) Hinduism
   (2) Judaism
   (3) Jainism
   (4) Buddhism
   (5) Animism

28. ... have been established to forbid states from extending their sovereignty claims over the oceans, Antarctica and outer space.

   (1) Various policies
   (2) Treaties and conventions
   (3) Territorial treaties
   (4) Informal agreements

29. Which one of the following statements about conflict in various parts of the world is true?

   (1) The recent genocide in South-Sudan occurred because religious minorities resisted a unified nationality.
   (2) Ethnic cleansing had no impact and led to no conflict in Europe over the past 25 years.
   (3) Global economic trends and diversity of languages have been the defining reason for the conflict in Israel/Palestine.
   (4) Demographic differences serve as a prime input in contributing to conflict between religious groups.

30. Which one of the following statements about frontiers is false?

   (1) A frontier is an area where no state exercises complete political control.
   (2) A frontier is an area, often many kilometres wide, that is either uninhabited or sparsely settled.
   (3) Historically, frontiers separated many states.
   (4) Clear boundaries between states have been replaced by frontiers.
Learning Unit 6

31. Which one of the following criteria forms part of the Human Development Index (HDI), which is used to measure a country’s level of development?
   (1) level of government housing
   (2) HIV/AIDS infection rate
   (3) birth rate
   (4) access to knowledge

32. Geographers divide the world into nine regions in order to differentiate between developed and developing countries, based on the … features of the various regions.
   (1) temperature, climatic and topographical
   (2) physical, cultural and economic
   (3) cultural, population and religious
   (4) industrial, labour and settlement

33. Which one of the following alternatives is not a Millennium Development Goal (MDG)?
   (1) ending poverty and hunger
   (2) promoting gender equality
   (3) reducing child mortality
   (4) ensuring environmental sustainability
   (5) reducing developmental aid

34. Which one of the following factors is not associated with the varied consumption of food around the world?
   (1) people in developing countries consume more food than people in developed countries do
   (2) the effect of cultural practices, for example religious taboos, on food preferences
   (3) varying physical conditions, for example conditions related to climate
   (4) varying levels of development between countries

35. Which one of the following alternatives presents an aspect of sustainable agriculture?
   (1) increased use of chemicals
   (2) ridge tillage
   (3) monoculture (single product) farming
   (4) elimination of all cattle farming

36. Which one of the following statements about site factors that influence the location of industries is true?
   (1) The cost and availability of labour is unimportant for siting of labour-intensive industries.
   (2) Locations in urban city centres are attractive due to the availability of large tracts of open land.
   (3) The availability of funding is a critical factor in siting of industries in developing countries.
   (4) Locations on the urban periphery are unattractive for new industrial development because the price of land in such areas is relatively high.
37. Services are human activities that produce financial returns and they generate … .
   (1) more money in developing countries than in developed countries
   (2) more money in developed countries than in developing countries
   (3) equal returns in monetary terms in both developed and developing countries
   (4) very little money in developed and developing countries

38. Which one of the following statements on the distribution of services and their associated patterns is true?
   (1) Consumer services generally have an irregular, unpredictable spatial distribution pattern.
   (2) Larger settlements generally offer fewer services than smaller settlements do.
   (3) People are willing to travel long distances for everyday consumer services.
   (4) The market area of a service is determined by its range and threshold.

**Learning Unit 7**

39. Although natural resources are created through natural processes, humans define them by their cultural, technological and ... conditions.
   (1) topographic
   (2) commodification
   (3) economic
   (4) durability

40. A renewable resource can be defined as … .
   (1) a resource that is naturally produced at rates that are slower than our rate of consumption
   (2) a resource that is naturally produced at rates that are similar to our rate of consumption
   (3) a resource that is anthropogenically produced at rates that are slower than our rate of consumption
   (4) a resource that is anthropogenically produced but has stagnant rates of consumption.

41. Which one of the following resources is an example of a fossil fuel?
   (1) wood
   (2) shale
   (3) lithium
   (4) coal
   (5) water

42. An example of a renewable source of energy is power generated from utilising … .
   (1) coal
   (2) natural gas
   (3) wind
   (4) petroleum
   (5) peat
43. Which **one** of the following statements about non-point source (NPS) pollution is **false**?
   (1) Pollutants come from a large, diffuse area.
   (2) Agricultural lands are a major source of NPS pollution.
   (3) Acid deposition through acid rain is a source of NPS pollution.
   (4) Wastewater discharge pipes are a source of NPS pollution.

44. Which **one** of the following statements about sustainable development is **false**?
   (1) Sustainable development is development that utilises resources at a rate that conserves them for future generations.
   (2) The concepts of sustainability and sustainable development have not yet been defined and therefore they cannot be differentiated.
   (4) Sustainable development recognises the importance of economic growth while also conserving the natural environment and promoting social equity.

[Total of Section A: 50 marks]
SECTION B

Instructions
• This section consists of six (6) questions.
• You have to answer ANY FIVE (5) of these questions.
• The questions must be answered in your examination book.
• Length guideline:
  For 2 marks: About 3 to 4 written lines
  For 4 marks: About 6 to 8 written lines
  For 6 marks: About 10 to 12 written lines
• If you decide to answer Question 3, note that the whole of Question 3.1 must be answered on the graph sheet attached to the examination paper. Remember to fill in your student number on the graph sheet, to remove it from the examination paper and to place it inside the front cover of your examination book.

Questions

Question 1
1.1 Certain physical environments are sparsely populated. Discuss any two of these environments by providing a brief explanation of the relationship between the environment and population for each of the environments that you have chosen. (6)

1.2 List and very briefly explain any two important differences that exist between sustainable agriculture and general commercial agriculture. (4)

Question 2
2.1 Discuss any one of the three types of major uncertainties associated with anticipated global warming and comment on the impact of this uncertainty. (6)

2.2 Briefly explain the concept of interrelatedness by referring to the interaction between the biosphere and any one or more of the Earth’s main abiotic physical systems (spheres). (4)

Question 3
3.1 Answer this question on the graph sheet attached to the examination paper. (6)
Remember to fill in your student number on the graph sheet, to remove it from the examination paper and to place it inside the front cover of your examination book.

(i) Draw an annotated profile (side view) to illustrate how the landscape between Points X and Y shown in Figure 1 (on page 4) varies in height. (5 marks)

(ii) Is Point Y visible from Point X? Substantiate your answer with reference to an intervisibility line that you have drawn on your profile sketch. (1 mark)

For your convenience, we have prepared a grid (refer to the graph sheet attached to the examination paper) on which you can make your drawing. An extract of
Figure 1 is provided as well. **Remember to write your student number on the graph sheet before you place it in your examination book.**

Note the following:

- The vertical axis should start at 250 m above sea level and 1 cm on the profile should represent 50 m in reality.
- The scale of the horizontal axis should be the same as the scale of the map and the axis should be labeled “Distance from Point X in km”.
- Indicate the location of Points X and Y on your sketch.

3.2 In your own words, explain what “cultural mosaic” means by referring to the situation in a country of your choice. Briefly indicate the implications of the nature of this mosaic for peaceful coexistence in that country. (4 marks)

**Question 4**

4.1 Choose any region or country that has a diversity of languages and discuss the challenges and implications that arise from this diversity. Also make a suggestion on how to overcome these challenges. (6 marks)

4.2 What makes a Geographical Information System (GIS) unique? Also provide an example of how a GIS is used in a location-based application of your choice. (4 marks)

**Question 5**

5.1 Briefly discuss the two development paths that developing countries could typically follow in order to promote their economic development. Provide an example of a country following each of the development paths. (6 marks)

5.2 Draw a line diagram of a river meander and indicate streamflow as well as the occurrence of erosion and deposition. (4 marks)

**Question 6**

6.1 (i) Briefly explain the concepts of spatial distribution and spatial variation by referring to a selection of the Earth’s major biomes. (4 marks)

(ii) Briefly explain the concept of spatial association by referring to any one of the Earth’s major biomes and global precipitation. (2 marks)

6.2 Very briefly mention two differences between labour migration and forced migration, and provide relevant examples of places where each of these types of migration occur in the world. (4 marks)

[Total of Section B: 50]
[Total of Paper: 100]
GRAPH SHEET FOR QUESTION 3.1

STUDENT NUMBER / STUDENTENOMMER:
If you selected Question 3, use this graph sheet to answer Question 3.1. When done, remove this sheet from the examination paper and place it in your examination book.

(i)
Grid on which to draw profile / Ruitnet waarop profiel getekend moet word

(ii)
Use this space to answer question (ii). / Gebruik hierdie ruimte om vraag (ii) te beantwoord.