Tutorial Letter 103/1/2018

(26 March update)

Know your world: introduction to Geography

GGH1501

Semester 1

Department of Geography

IMPORTANT INFORMATION

This tutorial letter contains:
- Comments on the activities in Learning units 0, 1, 2 and 3
- Comments on the self-test questions in Learning units 1, 2 and 3
- Update: Note changes highlighted in yellow for Self-tests 1 and 2
1 INTRODUCTION

Dear Student

The purpose of Tutorial letter 103 is to provide the following:
- Comments on the activities in Learning units 0, 1, 2 and 3
- Feedback on the self-test questions in Learning units 1, 2 and 3

Note the following acronyms that are used in the various sections of this tutorial letter to refer to different elements of the study material:
- PB Sect A: Section A of the prescribed book
- PB Sect B: Section B of the prescribed book
- MCQs: Multiple-choice questions
- SG: GGH1501_SG001_2018 (“study guide document”)
- LU: Learning unit
- Sect: Section
- Ch: Chapter
- Fig: Figure
- p/pp: page/pages

The names of the lecturers who have contributed to this tutorial letter are mentioned in the sections they are lecturing this semester. Please contact them as indicated if you have any queries.
## 2 COMMENTS ON THE ACTIVITIES IN LEARNING UNITS 0, 1, 2 AND 3

**Learning unit 0** (Know your learning environment)

Enquiries: Mr Carel Greyling, +27 11 670 9464, egreyla1@unisa.ac.za

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<th><strong>Learning unit 0</strong> (Know your learning environment)</th>
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<tr>
<td><strong>Activity 0.1</strong> (Introduce yourself on myUnisa)</td>
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<tr>
<td><strong>Aim of activity:</strong> To give you the opportunity to introduce yourself to the class</td>
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<td><strong>Source material:</strong> SG: 8-9; 11</td>
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**Feedback/Pointers for a good answer:** When you get a task such as this, it is important to keep to the requirements as set out in the instructions. Also keep to the specified length and topic. You had to share your name and area of residence, your current occupation, the degree you are studying towards, any other geography subjects you are studying and, to conclude, your expectations and personal goals for the module. The activity was aimed at helping you to discover how the website works and what it offers. The activity was completed very successfully, although too few students replied to the contributions of fellow students, which is a pity. Although participation in these types of activities is optional, those students that do participate found that it helps them to find their feet in the module. It also helps us to form a community of practice that can assist in clarifying difficult concepts, provides a space to share interesting information pertaining to the module and generally serves as meeting point for support during difficult times. Please participate, and if you have not yet registered on myUnisa, please do so as soon as possible. (This feedback was originally written by Prof Pretorius in 2016 and has been edited by Mr Greyling in 2017.)

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<th><strong>Learning unit 0</strong> (Know your learning environment)</th>
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<td><strong>Activity 0.2</strong> (Blog your study experience)</td>
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<tr>
<td><strong>Aim of activity:</strong> To create a space for continuous feedback on your learning experience as you progress through the semester</td>
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<td><strong>Source material:</strong> SG: 15–16</td>
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</table>
Feedback/Pointers for a good answer: Similar to posts in discussion forums, blog posts should also only focus on and address the topic at hand. A blog post is of average length (150–300 words) and focuses only on what is asked. In this activity you had to reflect on your first impressions of studying at Unisa and specifically studying GGH1501, and then write a blog about your impressions. You had to write about the aspects of GGH1501 that excite you, the goals that you have for GGH1501 and the challenges you face during your studies. Remember that your blog post is public and can be read by any of your classmates, lecturers and/or tutors. Please keep this in mind when you decide what to say and how to say it! Your classmates, lecturers and/or tutors can also comment on your blog post and a conversation may follow. Later in the study guide you will be asked to write more blog posts, and by the end of the semester you will have a set of blog posts describing your GGH1501 experience and showing how your ideas about the world have developed. Blogging can be very exciting – we hope that many of you will keep on doing so. We are looking forward to reading your blog posts on GGH1501. (This feedback was originally written by Prof Pretorius in 2016 and has been edited by Mr Greyling in 2017.)

Learning unit 1 (The nature of Geography and geographical thinking)
Enquiries: Mr Carel Greyling, +27 11 670 9464, egreyla1@unisa.ac.za

Learning unit 1 (The nature of Geography and geographical thinking)
Activity 1.1 (My view of Geography)

Aim of activity: To give students an opportunity to explain why they have enrolled in this module and to document the continuous development of their knowledge of the nature of Geography

Source material: SG:17–18

Feedback/Pointers for a good answer: Your blog entry should be well argued. It may not contain any spelling and grammar errors. You should have outlined why you wished to study this module and then described your understanding of Geography as a discipline. Your blog should be about 400 words long and based on meaningful reflection. Since you were required to write a personal entry about your own view, there are no wrong answers. We are excited about your blog
entries, which allow us to get to know you better. Later in the semester you are asked to return to this blog and to investigate whether your view of Geography has changed or expanded.

**Activity 1.2 (Geographical phenomena in my local environment)**

**Aim of activity:** To help you to understand what a geographical phenomenon is and to create awareness of geographical phenomena that can be found in your local environment

**Source material:** SG: 20-22

**Feedback/Pointers for a good answer:** Since we live in different places, it is impossible to provide a single correct answer. However, to do well in this activity you first should have chosen an appropriate example and then explained why it is a geographical phenomenon.

Let me share my own experience: I used to stay in Pretoria, in a suburban area in the eastern part of the city. The area has a few hiking trails and small parks which residents can enjoy. I often used to go hiking in the parks, enjoying nature and the serenity. The spatial arrangement of the parks always intrigued me. The parks are not too far apart, but neither are they too close together. Therefore, in the east of Pretoria the majority of residential areas are relatively close to a park. The spatial distribution of the parks, how they have been spatially planned, and the interaction between humans and the natural environment are reasons why they can be regarded as a geographical phenomenon.

**Activity 1.3 (Analytical methods)**

**Aim of activity:** To assist you in identifying the characteristics of human–environment interaction in your local environment

**Source material:** PB Sect A: 37–49

**Feedback/Pointers for a good answer:** To complete this activity, you had to summarise information and compile a table. This summary and table can be used during your preparation for the examination. Therefore, you had to summarise, in table format, three analytical methods that are easily found in the prescribed textbook. Then you had to write down a main characteristic of each
method and briefly explain the important theoretical concepts of each. Since these methods are discussed at length your textbook, I suggest you refer to the source material listed above for this activity.

### Activity 1.4 (Exploring interconnectedness – Our food)

**Aim of activity:** To help you to establish whether you understand concepts such as interconnectedness and interaction

**Source material:** SG: 28-29

**Feedback/Pointers for a good answer:** Since this is a very subjective activity, it is once again impossible to give a single correct answer. I will once again rather provide my own example:

I really enjoy a good cup of coffee and I go out of my way to find new, exotic brands of coffee. The most recent coffee I bought came all the way from Burundi, a new and exciting producer of coffee. The coffee beans grow on a farm in Burundi, are processed there and then sent to South Africa, where it is packed in Gauteng. What I buy and consume is connected to, and therefore supports, the livelihood of a worker on a small farm in Burundi. The coffee I bought is transported to South Africa by transportation companies that depend on fuel and the infrastructure between South Africa and Burundi. This infrastructure is maintained by engineers and workers. The infrastructure can expand and influence other trade opportunities – and it all started with a coffee bean. The market chain is vast and contains many links that benefit from my habit. When we think about food in this manner, we realise how interconnected the world is. Globalisation and the use of new technology have brought the whole world to our doorstep.

### Activity 1.5 (The essence of an holistic approach)

**Aim of activity:** To ensure that students understand what is meant by a holistic view of a geographical problem (e.g. water security in South Africa)

**Source material:** PB Sect A: 51–52; PB Sect B: 26–27
Feedback/Pointers for a good answer: To complete this activity successfully, you had to pay close attention to the instructions. You had to list five factors that need to be taken into consideration when researching water security. Then you had to explain some relevant factors supporting your choice of factors.

It is very important to determine precisely what a question requires before answering it, especially in the examination.

I would have listed each factor separately, followed by a motivation/ explanation of each. Keep in mind that the purpose of the activity is to determine whether you can look at the problem holistically. It would not have been sufficient to think about only some aspects in isolation, such as a possible drought and food or water shortages on farms. How would the problem influence cities? Does each province receive the same rainfall? Is water used in the same way across the whole of South Africa, or are there vast differences between water usage in the Northern Cape and Gauteng, for example? How would the industries and the economy be influenced by a water shortage? To look at a problem from this perspective is to look at a problem in a geographical way.

Activity 1.6 (Applying the geographical perspective)

Aim of activity: To give you an opportunity to show that you have a comprehensive and holistic understanding of an area or geographical phenomenon at a scale of your choice

Source material: SG: 31–32

Feedback/Pointers for a good answer: Once again, it is important to follow the instructions carefully. Note that the question does not require that you answer your newly formulated questions, but it would have been good practice to do so. Different students would have provided different examples. Look at your fellow students’ examples to explore the different scales at which different geographical phenomena are occurring. To do well in this activity, it was important to choose a simple phenomenon that could show you how to think geographically and investigate geographical phenomena in depth.
Here is an example: River mouths

- Where are river mouths located?
- What are rivers mouths like?
- Why do they differ from one another?
- How have river mouths influenced the fauna, flora and human population in the area?

And possible answers:

- A river mouth can be found where a river flows into an ocean, a dam or a lake.
- River mouths usually differ from one another. For example, they flow into the ocean as small streams or create deltas that fan out.
- The formation of the river mouth depends on many variables, such as the gradient of the slope, geology, stream velocity and amount of rainfall. All of these play a vital role in the type of mouth created by the stream or river.
- Many people live in these areas because rivers provide easy access to both nutrition and water. Fauna and flora are usually found in abundance around a river mouth.

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**Learning unit 2** (Key processes in the physical environment)

Enquiries: Mr Curtis Mashimbye, +27 11 471 2107, mashinc@unisa.ac.za

(Originally compiled by Ms Arina Lotz for Semester 1, 2017. Revised by Mr Mashimbye for Semester 1, 2018)

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**Activity 2.1** (Temperature, climates and global warming) – NOTE change country for application to Siberia

**Aim of activity:** To you an opportunity to apply geographical tools, such as maps or images, and your knowledge of the Earth’s systems and how these relate to spatial location, variation and the distribution of temperature and climate

**Source material:** PB Sect B: 41; 54–55; 61

**Feedback/Pointers for a good answer:**

a) Read the temperature range from the map (PB Sect B: 41, Fig 2.4.3). Use the
source material indicated and write a paragraph on how latitude, effects of land and water, global circulation and air pressure influence temperature. E.g., Siberia is located in the northern mid-latitude region spanning a large area therefore, during summer, some areas are exposed to long hours of solar radiation because of the angle of incidence of the sun’s radiation, whereas the situation switches to the opposite during winter. You could also have discussed the influence of the Ural Mountain range, Siberian Anticyclone, etc.

b) Read the major climate type from the map (PB Sect B: 54-55, Fig 2.11.1) and then discuss the characteristics of this climate type. Siberia has a cold mid-latitude climate.

c) The worst case of warming would increase the average temperature range by approximately 10°C.

d) Calculate the new temperature range by adding the two ranges.

e) The increased temperature range will influence Siberia’s climate classification and could change the climate classification to a warm mid-latitude climate, etc.

Activity 2.2 (Processes shaping the Earth’s landforms)

**Aim of activity:**
- to discuss the importance of location and the occurrence of internal and external processes in shaping the Earth’s landforms
- to consider the role of time in the processes associated with determining, shaping and influencing the Earth’s landforms
- to use geographical concepts in an appropriate way when referring to events and phenomena mentioned in the study material

**Source material:** PB Sect B: 68–71; 76–77

**Feedback/Pointers for a good answer:**

**Task 1**
Divergent plate boundaries – Located between plates moving away from each other e.g. the Mid-Atlantic Ridge, between the African plate and South and North American plates, and the African plate (African Rift Valley).
Convergent plate boundaries – Located where plates are moving towards each other e.g. the Indo-Australian and Eurasian, Pacific and Philippine plates.
Transform plate boundaries - Located between plates that are moving past each other in opposite directions e.g. the San Andreas fault, Nazca and Antarctic plates.

At the boundaries mentioned above, there are violent changes e.g. upliftment of continental and subduction of oceanic plates to create large mountains, earthquakes and volcanism. The subducted oceanic plate crust is re-melted and an upsurge of magma can occur, causing violent earthquakes and volcanic eruptions. The greatest example of the spatial correlation is around The Ring of Fire Seismic Belt in the Pacific basin (Pacific Ocean).

Task 2
Soil creep is the most common and gradual mass movement. The force of gravity is the main influence and results in the movement of soil down the slopes of hills. Mudslides are rare and sudden mass movements that can be very destructive, such as the mudslides that occurred down the slopes of California, USA in January this year. The gradient of a slope (steepness of its angle) plays a role in the susceptibility to mass movements because steeper and wetter slopes are more susceptible. Slopes that have weakened rocks and little vegetation are particularly susceptible to mass movement, especially after heavy rains or geological events such as volcanic eruptions or earthquakes.

Activity 2.3 (Biochemical cycles)

Aim of activity: To give you an opportunity to apply your knowledge of cycles, biomes and soil, and to establish the relationship between cycles, biomes and soil

Source material: PB Sect B: 68–71; 76–77

Feedback/Pointers for a good answer:

a) Explain where the drinking water in the area where you stay comes from. E.g., the main source of drinking water in Gauteng is Lesotho (Katse and Mohale dams through the Lesotho Highlands Water Project) and the Vaal Dam.

b) It might be helpful to make or to look at sketches of the hydrologic, nitrogen, carbon and phosphorus cycles and the flow of water and nutrients through them.

c) Soil is created through the weathering of rocks and is modified by chemical and biological processes over time.
d) When living material dies, it decomposes and forms organic matter that moves through ecosystems.

e) All the factors are interdependent and influence one another. Brazil (in the north) is located along the Equator and therefore has equatorial, tropical and Mediterranean climates because of its location. The main biomes in Brazil are tropical rain forests and tropical savannah, mixed grassland and woodland. In the rain forests, the soil will be rich in organic material because of wet climate, high biological activity and dense vegetation.

**Activity 2.4 (Climate, soil and biome relationships)**

**Aim of activity:**

- to explain how and why regions differ from each other in terms of weather, climate, landforms and the biosphere
- to infer and/or observe the spatial location, variation and distribution of weather, climate, landscapes and spheres by using geographical tools such as maps or images
- to explain that phenomena related to weather, climate, landforms and the biosphere exist at a particular place at a particular time for particular reasons
- to anticipate and describe the realities associated with processes not functioning in isolation, but in the context of connections and interaction between the physical and biological systems on earth

**Source material:** PB Sect B: 54–55; 106–107; 110–111

**Feedback/Pointers for a good answer:**

a) Use your map reading and interpretation skills to obtain the required information from the world climate map, PB Sect B: 54-55, Fig 2.11.1.

b) Use your map reading and interpretation skills to obtain this information from the world soil map, PB Sect B: 106-107, Fig 4.7.2.

c) Use your map reading and interpretation skills to obtain this information from the world biomes map, PB Sect B: 110-111, Fig 4.9.1.

d) Refer to PB Sect B: 54-55 (diversity of climate), 106-107 (soil) and 110-111 (biomes). Your discussion should include variables such as low rainfall in the area, which results in lower biological activity in soil formation and the accumulation of
soluble minerals on the soil surface.

e) Again refer to PB Sect B: 54-55 (diversity of climate), 106-107 (soil) and 110-111 (biomes). The discussion should include aspects such as the characteristics of a climate category and soil type. The discussion should link low rainfall and poor soils to adapted or distressed vegetation due to water stress.

Learning unit 3  (Patterns and trends of the global population)
Enquiries:  Mr Curtis Mashimbye, +27 11 471 2107, mashinc@unisa.ac (Originally compiled by Ms Claire Adams for Semester 1, 2017.)

Activity 3.1: Population distribution, density and population concentrations

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<th>Feedback/Pointers for a good answer</th>
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<tbody>
<tr>
<td>3.1.1</td>
<td>PB Sect B: 118–119, Fig 5.1.1</td>
<td>Use your map reading and interpretation skills to determine which continent is the most densely populated. Refer to the map legend.</td>
</tr>
<tr>
<td>3.1.2</td>
<td>PB Sect B: 118–119</td>
<td>Use your map reading and interpretation skills to determine which is the most densely populated hemisphere of Africa. Refer to the map legend. Remember to look at both maps.</td>
</tr>
<tr>
<td>3.1.3</td>
<td>PB Sect B: 118–120</td>
<td>Refer to what you have learnt thus far from the learning unit and the prescribed pages. Why are some areas more densely populated? Also look at spatial distribution and environmental factors when you consider your answer to this question.</td>
</tr>
<tr>
<td>3.1.4</td>
<td>PB Sect B: 118–121</td>
<td>First make sure that you understand each term. Then you can attempt to define them and discuss the relationship between them. Point out the similarities and differences between the terms. Now ask yourself whether you understand how they are interlinked.</td>
</tr>
<tr>
<td>3.1.5</td>
<td>PB Sect B: 118</td>
<td>Read about cold lands in PB Sect B: 118 and then select a region on the map that has a low number of persons per kilometre. Remember to refer to the map</td>
</tr>
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</table>
legend. Now state why the population distribution and density are low in this area.

**Activity 3.2: Crude birth rates and crude death rates**

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<tbody>
<tr>
<td>3.2.1</td>
<td>PB Sect B: 123</td>
<td>Use your map interpretation skills and select a country in the colour that represents a crude birth rate of 40 and above per 1 000 persons.</td>
</tr>
<tr>
<td>3.2.2</td>
<td>PB Sect B: 123</td>
<td>Use your map reading and interpretation skills and the legend, and determine which hemisphere has the highest crude birth rate per 1 000 persons.</td>
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<tr>
<td>3.2.3</td>
<td>PB Sect B: 123</td>
<td>Read about crude death rates in PB Sect B: 123 and then answer the question. Keep in mind that Africa is a developing continent.</td>
</tr>
<tr>
<td>3.2.4</td>
<td>PB Sect B: 123</td>
<td>With the knowledge you have gained thus far, and after you have answered Question 3.2.3, you should be able to understand this question.</td>
</tr>
<tr>
<td>3.2.5</td>
<td>PB Sect B: 123</td>
<td>At this point you should understand that wealthy countries have a lower death rate as they have better medical facilities. Africa has a different result as Africa is a developing continent.</td>
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**Activity 3.3: Forced migration**

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<tbody>
<tr>
<td>3.3.1</td>
<td>PB Sect B: 150</td>
<td>Look at the map legend and select the colour that represents 1 000 000 persons and above. Write down the name of countries involved (one source country and two destination countries).</td>
</tr>
<tr>
<td>3.3.2</td>
<td>PB Sect B: 150</td>
<td>Refer to the map legend. What does the yellow shaded colour represent? Explain.</td>
</tr>
</tbody>
</table>
3.3.3 | PB Sect B: 150 | Read PB Sect B: 150. The largest movements of refugees are within poor and conflict-prone areas.

3.3.4 | PB Sect B: 150 | Look at the map. Which shade/colour is France? Now look at the map legend and deduce the answer.

3.3.5 | PB Sect B: 150 | Look at the colour of Ethiopia. Now look at the map legend to assist you to answer the question.

3.3.6 | PB Sect B: 150–151 | The main reasons for forced migration are discussed in PB Sect B: 150–151.

**Activity 3.4: Capstone activity: overpopulation**

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<tbody>
<tr>
<td>3.4.1</td>
<td>SG: 51</td>
<td>Watch the video clip and then state what you feel. Do you think the world is overpopulated? Why? What did you learn from the video clip?</td>
</tr>
<tr>
<td>3.4.2</td>
<td>SG: 51</td>
<td>The video shows that the world population grows rapidly because of better agriculture and medicine.</td>
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<tr>
<td>3.4.3</td>
<td>SG: 51</td>
<td>The video shows that the three regions with the highest population in the world are in Asia.</td>
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<tr>
<td>3.4.4</td>
<td>SG: 51, PB Sect B: 118–119</td>
<td>The three regions are India, China and the rest of Asia. Fig 5.1.1 (PB Sect B: 118–119) shows that the population concentrations in these regions are high and match that of the three regions mentioned in the video.</td>
</tr>
<tr>
<td>3.4.5</td>
<td>SG: 51, PB Sect B: 122–123</td>
<td>Discuss the increases in birth rate over time and compare this with death rates. How do these influence world population numbers? Base your discussion on the contents of the prescribed book and the information in the video.</td>
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</table>
3.4.6 SG: 51
PB Sect B: 118–119

Refer to the prescribed textbook and the video. Select the two countries and compare their population numbers, economic states and medical facilities. Do the countries have good agricultural land, are they perhaps landlocked and do they have harbours?

3 COMMENTS ON SELF-TEST QUESTIONS IN LEARNING UNITS 1, 2 AND 3

**Learning unit 1** (The nature of geography and geographical thinking)

Enquiries: Mr Carel Greyling, +27 11 670 9464, egreyla1@unisa.ac.za

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<th>Page references</th>
<th>Comment on correct answer and/or incorrect option (where applicable)</th>
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<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>PB Sect A: 38–39, PB Sect B: 13, SG: 24</td>
<td>To answer this question, you needed to understand the difference between a relative location and an absolute location. Read the text mentioned in the page references column. Note that providing exact co-ordinates or a street address cannot be the right answer and should be left out.</td>
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<tr>
<td>2</td>
<td>2</td>
<td>SG: 26–29</td>
<td>The question refers to interrelatedness, which is not addressed by Options 1, 2, 4 and 5. Interrelatedness refers to <strong>connections</strong> that are shared over <strong>spatial</strong> area/s (refer to globalisation) on various <strong>scales</strong>.</td>
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<td>3</td>
<td>3</td>
<td>PB Sect A: 44–45, PB Sect A: 20</td>
<td>This section is clearly marked in the textbook and therefore it should have been easy to spot the right answer once you have read the prescribed material. However, you can also eliminate the incorrect answers, since distribution refers to a spatial context. Options 1</td>
</tr>
</tbody>
</table>
and 2 are incorrect. Option 4 is incorrect, as it lists types of analysis that are not the subject of this question.

| 4 | 3 | PB Sect A: 52–53  
PB Sect B: 10–11 | Use the process of elimination to find the answer relatively easily. The function of the geographic grid is to determine the absolute location of a specific place or phenomenon. Therefore the answers that do not provide an absolute location are not functions of the geographical grid. |
|---|---|---|---|
| 5 | 2 | PB Sect A: 39, 42–43  
PB Sect B: 16–17 | This is a difficult question if you have not prepared or worked through the relevant study material. A uniform region is clearly defined in the prescribed material, but it can be perceived as a homogeneous region or an area with the same properties or characteristics. |
| 6 | 3 | PB Sect B: 24–25  
SG: 29–30 | This was an easy question. We need all the spheres to survive on the planet. The question ties in with what geographers need to consider when studying the planet. All things are connected – nothing should be studied without considering the interconnectedness of the natural and human environments. |
| 7 | 4 | PB Sect A: 46–47  
PB Sect A: 22–23; 30–31 | It is important to understand the different processes of diffusion to answer this question. However, nodes of power can be seen as hierarchical. Ideas are initiated at nodes of power. Then the ideas grow and in this manner are distributed. Think about the expansion of religion or a certain idea as examples. |
This question refers to contemporary Geography, which is associated with possibilism rather than determinism. It is very important that you understand the difference between environmental determinism and environmental possibilism. Determinism states that the environment determines our actions, while possibilism states that people have the possibility to alter their actions with tools and technology. However, this changes the environment. Please read the prescribed material again if still not understanding.

Learning unit 2 (Key processes in the physical environment)
Enquiries: Mr Curtis Mashimbye, +27 11 471 2107, mashinc@unisa.ac.za (Originally compiled by Ms Arina Lotz for Semester 1, 2017.)

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<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>PB Sect B: 34–35</td>
<td>Do not become confused when the textbook refers to equinoxes and solstices. The textbook has an American perspective and focuses on the Northern Hemisphere. Remember that the seasons in the Northern and Southern Hemispheres are opposite.</td>
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<tr>
<td>2</td>
<td>3</td>
<td>PB Sect B: 59</td>
<td>Politics do not influence scientific facts.</td>
</tr>
<tr>
<td>3</td>
<td>3 4</td>
<td>PB Sect B: 45</td>
<td>Find the answer in Fig 2.6.3 (PB Sect B: 45). Note that these are generalised maps of air pressure. Although variations occur over continents, the general pattern</td>
</tr>
</tbody>
</table>
Emerging from the maps is as follows: Asia, North America and Europe all experience relatively high air pressure in January, but relatively lower pressure in July.

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<th>PB Sect B:</th>
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<td>102–103</td>
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<tr>
<td>9</td>
<td>3</td>
<td>94–103</td>
</tr>
<tr>
<td>10</td>
<td>3</td>
<td>75</td>
</tr>
</tbody>
</table>

4. As magma reaches the Earth’s surface as lava, new crust is created. Subduction boundaries do not exist.

5. Most damage occurs close to the epicentre.

6. Day length has no influence on soil formation.

7. Find the answer in Fig 4.8.2 (PB Sect B: 108-109).

8. The phosphorous cycle does not involve the atmosphere.

9. This is a tricky question. Each option therefore has to be considered very carefully.
   1) The phosphorus cycle does not involve the atmosphere.
   2) Photosynthesis produces oxygen not carbon dioxide.
   3) The nitrogen cycle does not involve the lithosphere.

10. Direct human activities are not seen as part of weathering processes, but human activities can influence weathering processes indirectly.
Learning unit 3 (Patterns and trends of the global population)  
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<table>
<thead>
<tr>
<th>Question</th>
<th>Correct answer</th>
<th>Page references</th>
<th>Comment on the correct answer and/or incorrect option (where applicable)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>PB Sect B: 125–127</td>
<td>The population pyramid cannot represent a highly developed country as it shows high birth rates and death rates. These are characteristics of a less developed country with a large number of economically inactive people.</td>
</tr>
<tr>
<td>2</td>
<td>4</td>
<td>PB Sect B: 120–121</td>
<td>Egypt has the highest arithmetic, physiological and agricultural densities, and is thus the closest to being overpopulated.</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>PB Sect B: 120</td>
<td>To answer this question, you had to interpret the map. Refer the legend of Fig 5.2.1 (PB Sect B: 120). The darkest green represents “above 200 persons per square kilometre”. The countries on the map with the darkest green regions are India and Germany.</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>PB Sect B: 125–127</td>
<td>Birth rates, death rates and stages of demographic transition can be interpreted off a population pyramid. Literacy cannot be read off from a population pyramid.</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>PB Sect B: 139</td>
<td>Definition of overpopulation: The number of people in an area exceeds the capacity of the environment to support life at a decent standard of living. The answer appears in the list of key terms at the end of Ch 5 (PB Sect B).</td>
</tr>
</tbody>
</table>
6 | 3 | PB Sect B: 118–119 | New Zealand’s population is not similar to Japan’s population and population density is not always the highest in poor countries. In PB Sect B: 119 we learn that South Asia’s population is greatest along its coastal margin, mostly on a series of islands. Fig 5.1.1 (PB Sect B: 118-119) shows that the US population is greater in the east than in the west of the country.

7 | 2 | PB Sect B: 154; 163 | Emigration is defined “out-migration” (moving out of a region to another), while intraregional migration is migration within one region.

8 | 3 | PB Sect B: 148 | International labour migrants are generally of a working age and seek growing economies for financial opportunities.

9 | 2 | PB Sect B: 146–147 | Global migration is occurring at an increasing rate. There is a brain drain from developing countries. In PB Sect B: 146 we read about the large flow of migrants from Asia to North America and Europe. It is false that global migration involves a net out-migration from North America and Europe. See Fig 6.3.2 (PB Sect B: 146-147). Both Europe and North America are in brown, which indicates net in-migration.

10 | 4 | PB Sect B: 146–147 | Map interpretation. Fig 6.3.2 (PB Sect B: 146-147) indicates “above 100” net migration in red. Note that areas in places such as Australia and North America are marked in red.