



SUBJECT: **Geography**
DATE: 31st August 2018
TIME: 4:00 p.m. to 7:05 p.m.

Directions to Candidates

Answer a total of **FIVE** questions: **ONE** question from **EACH** of the four Sections and a fifth question from any Section.

The use of non-programmable calculators is permitted.

ALL questions carry equal marks.

SECTION 1: PHYSICAL GEOGRAPHICAL PROCESSES

1. "The earth's crust is divided into a series of plates which float like rafts on the underlying mantle."

(Skinner et al. 1996)

- (a) Briefly explain the difference in properties of oceanic crust and continental crust and how this may influence movement at plate boundaries. (8)
- (b) Name and describe the **THREE** types of plate boundaries that exist. Draw clearly-labelled sketches to support your answer. (12)

(Total: 20 marks)

2. (a) Explain the term 'longshore drift'. (8)
- (b) Draw an annotated sketch of longshore drift. (6)
- (c) Briefly explain how longshore drift can lead to beach erosion and provide **TWO** examples that are used to help conserve beach erosion in such situations. (6)

(Total: 20 marks)

Please turn the page.

3. Figure 1 shows the synoptic weather chart of the 10th February, 2018.

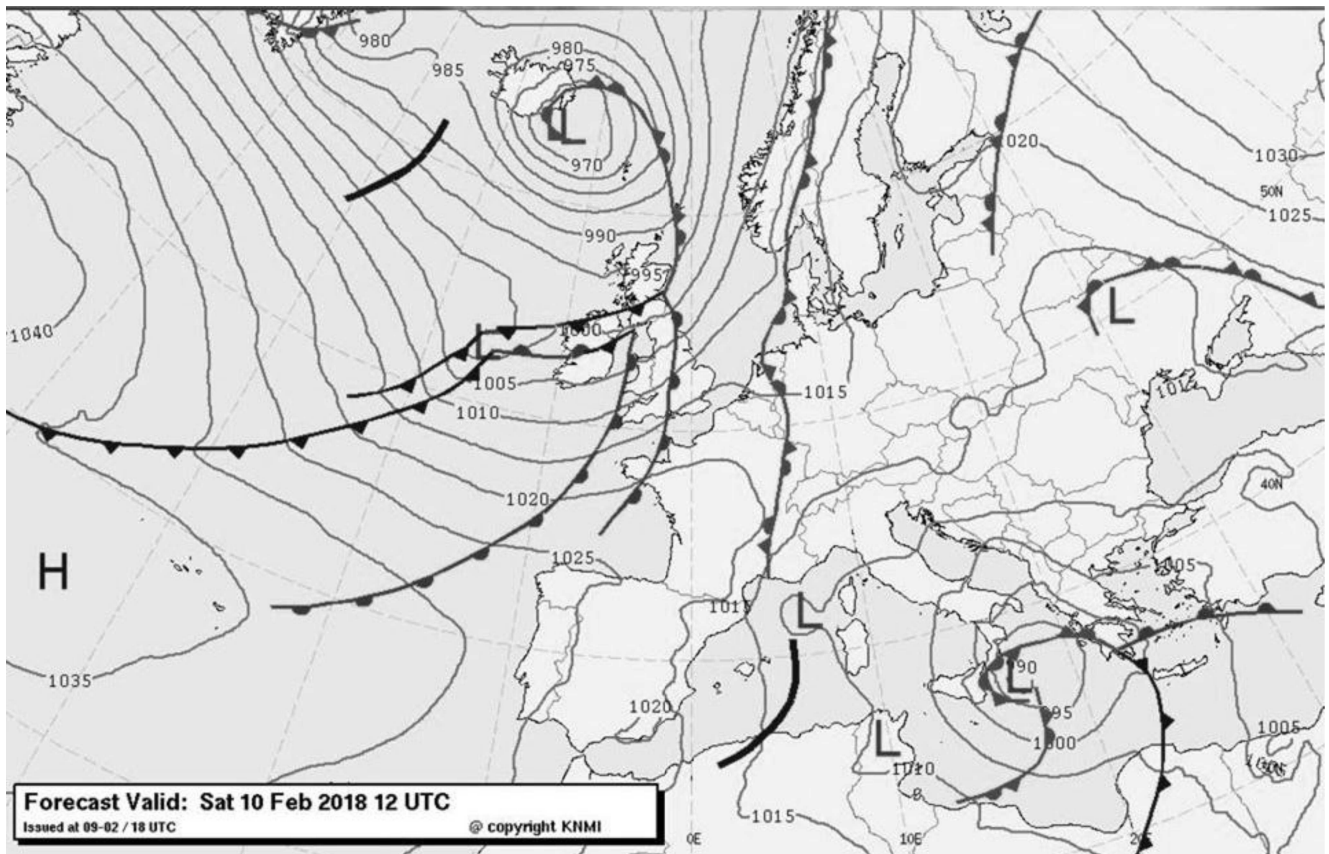


Figure 1: Synoptic weather chart of 10.02.18

(Source: Gozo Weather Page, 2018)

- (a) Provide a detailed description of the weather on 10th February 2018 over the central Mediterranean Sea. (8)
- (b) Describe and explain the weather conditions associated with each of the following fronts:
 - (i) Cold Front;
 - (ii) Warm Front;
 - (iii) Occluded Front.
 Use clearly labelled diagrams to illustrate your answer. (12)

(Total: 20 marks)

SECTION 2: HUMAN GEOGRAPHICAL PROCESSES

4. (a) With reference to **ONE** primary industry in Malta, describe **FOUR** difficulties that it faces. (8)
- (b) Discuss **THREE** measures that can be taken to reduce these difficulties. (12)

(Total: 20 marks)

5. (a) With the help of clearly-labelled diagrams, describe the main characteristics of Burgess and Hoyt's models of urban structure. (12)
(b) Discuss **TWO** limitations of these models. (8)

(Total: 20 marks)

6. "In the 20th Century, especially after World War II, many Maltese people were obliged to leave their country and the community of their origins and travel to Australia, the United States of America, Canada, the United Kingdom and other countries."

(Source: <https://foreignaffairs.gov.mt/en/PDF%20Documents/VELLA-Alfred.pdf>)

- (a) Define the term 'migration'. (2)
(b) Discuss **THREE** factors that led to mass migration from the Maltese Islands in the 1960s. (9)
(c) Describe **THREE** potential problems faced by the Maltese Islands due to this mass migration. (9)

(Total: 20 marks)

SECTION 3: THE MAN-ENVIRONMENT RELATIONSHIP

7. "Soil is the earth's fragile skin that anchors all life on Earth. It is comprised of countless species that create a dynamic and complex ecosystem and is among the most precious resources to humans."

(Source: <https://www.worldwildlife.org/threats/soil-erosion-and-degradation>)

- (a) Identify and describe **THREE** human-induced practices that bring about and/or encourage the erosion of soil. (12)
(b) Provide an in-depth description of **TWO** environment-friendly practices which can be practiced in Malta to encourage the conservation of soil. (8)

(Total: 20 marks)

8. (a) Name **THREE** main types of vegetation communities found in the Maltese Islands and describe their principal characteristics. (12)
(b) With reference to **ONE** of the vegetation communities mentioned in (a), discuss at least **TWO** examples to explain how human interference and environmental degradation is adversely affecting this habitat. (8)

(Total: 20 marks)

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9. "The current world population of 7.3 billion is expected to reach 8.5 billion by 2030, 9.7 billion in 2050 and 11.2 billion in 2100."

(Source: <http://www.un.org/en/development/desa/news/population/2015-report.html>)

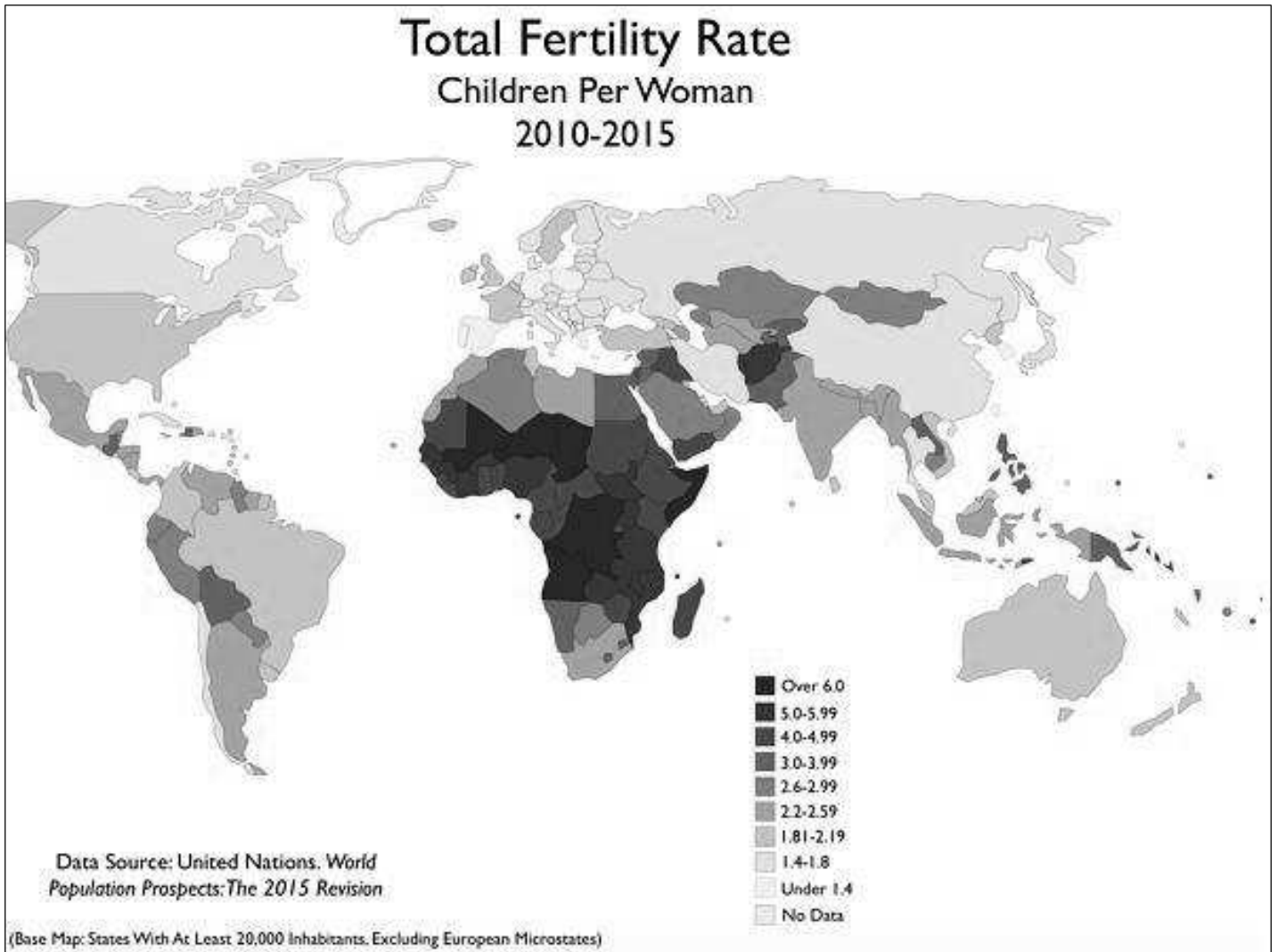


Figure 2: Female Fertility Rate 2010-2015

(Map source: <https://thebreakthrough.org/index.php/issues/population/faqs-on-population>)

- (a) Figure 2 shows female fertility between the years 2010 and 2015. Name **ONE** country with a high fertility rate and explain how this influences its development prospects. (8)
- (b) With reference to **THREE** concrete examples, explain how large-scale population increase causes undue pressure on the Earth's resources and its natural environment.

(12)

(Total: 20 marks)

SECTION 4: FIELDWORK AND MAPWORK SKILLS

10. (a) Explain the meaning of the term 'environmental survey' and indicate when it is necessary for a field researcher to employ the use of this research method. (6)
- (b) Give a comprehensive description of a fieldwork investigation involving the environmental survey of a rural area in Malta or Gozo. Your account should include a reference to the following items:
- (i) Reasons for location choice;
 - (ii) Methods of data collection employed;
 - (iii) The importance of annotated photographs and field sketches. (12)
- (c) Briefly explain how the employment of re-photography (the utilisation of old photographs) might benefit the fieldwork context described in (b) above. (2)

(Total: 20 marks)

11. "The chi square test is used to test a distribution observed in the field against another distribution determined by a null hypothesis."

(Source: <http://www.geography-site.co.uk>)

- (a) Describe a geographical inquiry in which the chi-squared test can be used. (12)
- (b) Formulate a hypothesis that reflects the geographical inquiry listed in (a) above. (4)
- (c) State **TWO** limitations of using this statistical test. (4)

(Total: 20 marks)

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12. Figure 3 shows an example of isoline maps as used in geography.

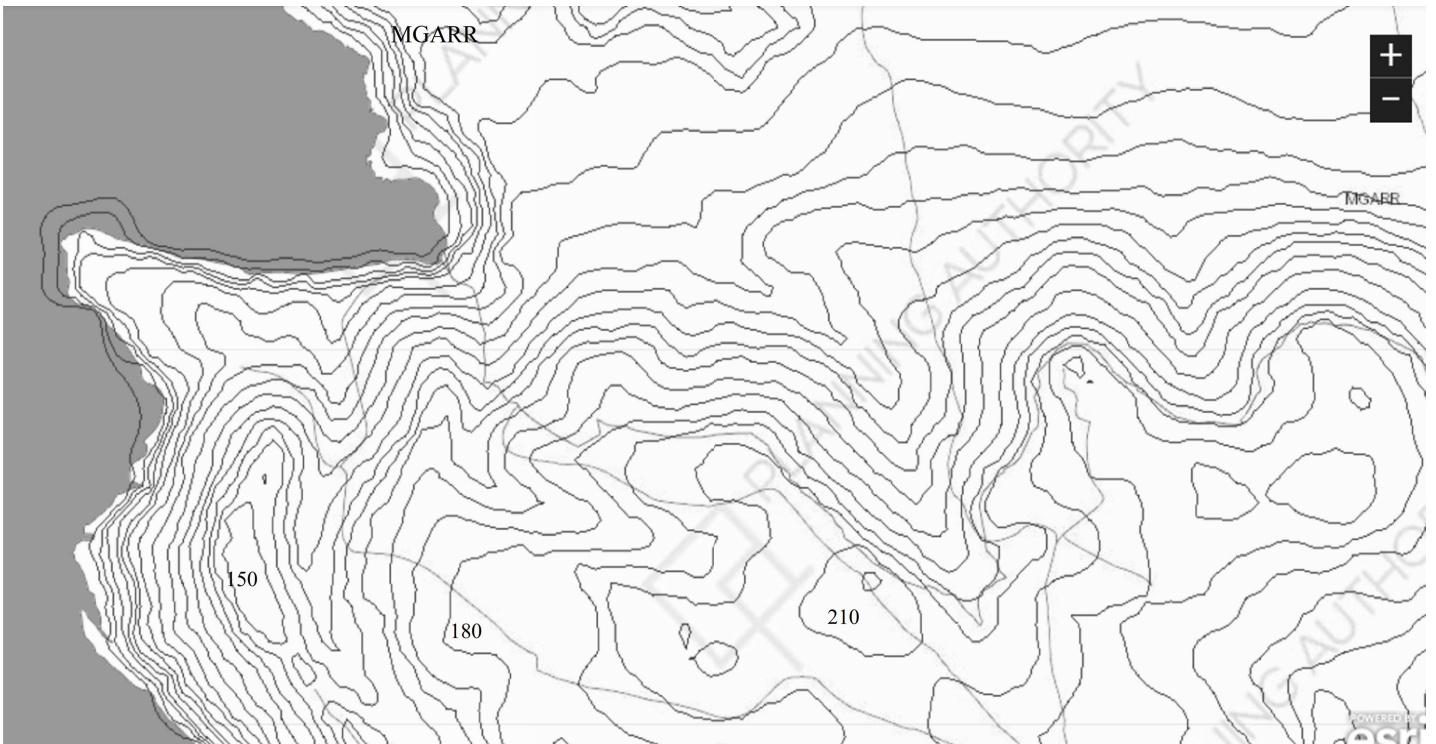


Figure 3: An Isoline Map of a section of North Western Malta

(Source: www.pa.org.mt (Powered by ESRI, 2018))

- (a) Provide a brief definition of isoline maps (4)
- (b) Explain why geographers use isoline maps (4)
- (c) What are the isolines that are illustrated in Figure 3 called and what do these isolines represent? (4)
- (d) Provide another **TWO** examples of isolines, and explain what they represent. (4)
- (e) Describe the topography shown in the map in Figure 3. (4)

(Total: 20 marks)