L-Università ta' Malta

MATRICULATION AND SECONDARY EDUCATION CERTIFICATE EXAMINATIONS BOARD

ADVANCED MATRICULATION LEVEL
2025 SECOND SESSION

SUBJECT:	**Geography**
PAPER NUMBER:	I
DATE:	29th August 2025
TIME:	9:00 a.m. to 12:05 p.m.

Answer **FOUR** questions in total. Questions carry 25 marks each.

1. Figure 1 shows patterns of global thermohaline circulation.

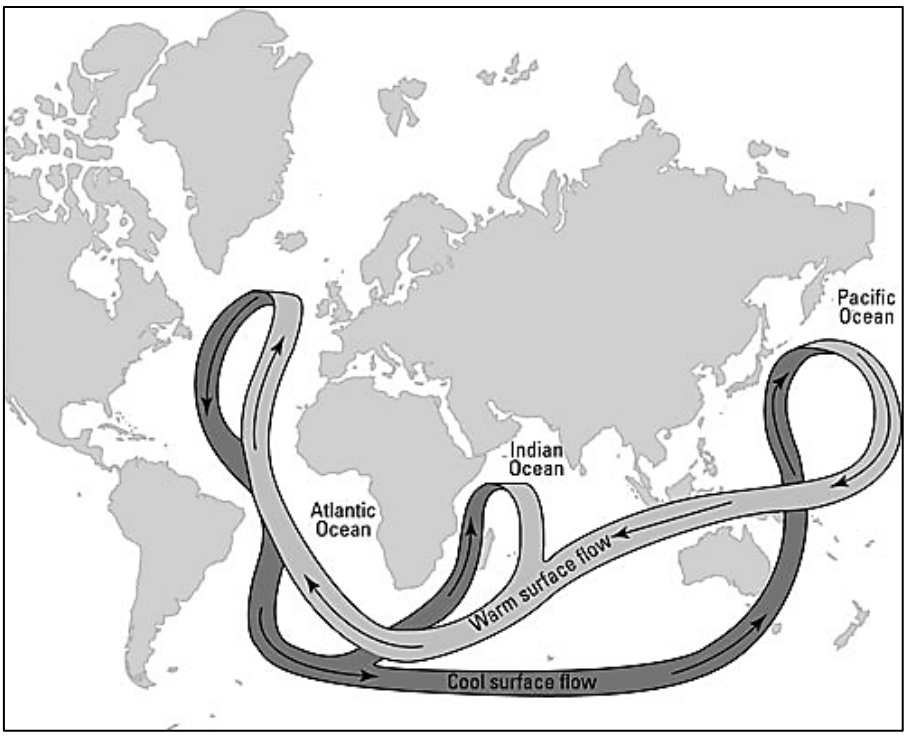

Figure 1: Patterns of global circulation through thermohaline circulation (*Source: Spooner, 2016*).

(a) Define the term thermohaline circulation. (3)

(b) Explain the formation of the North Atlantic Conveyor Belt (Atlantic Meridional Overturning Circulation or AMOC) in global thermohaline circulation. (8)

(c) Discuss how latitudinal variations in temperature and salinity drive the system seen in Figure 1 and evaluate its significance in regulating Earth's climate. (14)

(Total: 25 marks)

2. (a) Describe the **FOUR** main layers of Earth's internal structure and outline the principal characteristics of **each** layer. Illustrate your answer with a simple diagram. (12)

(b) With reference to specific examples, explain how the Earth's internal structure contributes to the distribution and formation of volcanoes around the world. (13)

(Total: 25 marks)

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3. (a) With the help of an annotated diagram, illustrate the various geomorphological zones along the coast and describe the distinct characteristics of **each** zone. (15)

   (b) Sediment distribution on beaches is a common occurrence and is influenced by seasonal effects. Explain the physical processes that shape the distribution of sediment from the swash zone to the backshore. (10)

(Total: 25 marks)

4. Figure 2 shows the two primary river flow patterns.

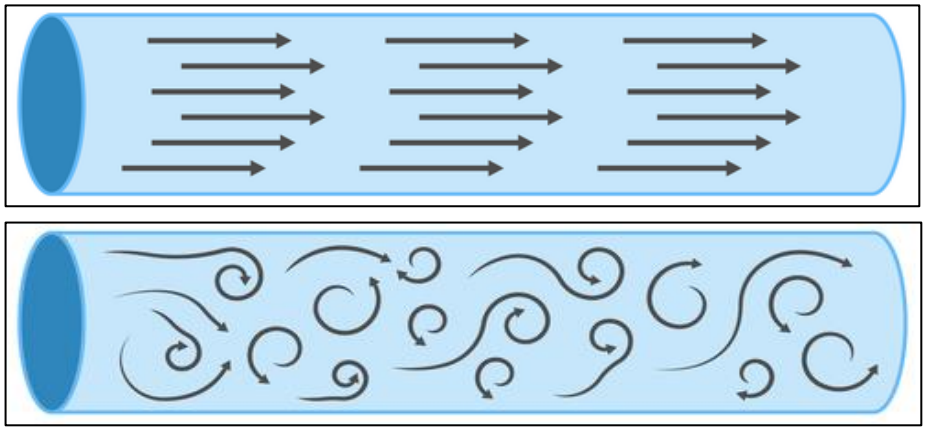

Figure 2: The two primary river flow patterns.
(*Source: www.bronkhorst.com*)

   (a) With reference to Figure 2, identify and explain the primary patterns of water flow observed in rivers. (8)

   (b) Describe the morphological features that influence river flow patterns. Include **ONE** well-labelled diagram to illustrate **ONE** of the features being discussed. (17)

(Total: 25 marks)

5. (a) Describe in detail **THREE** of the following processes involved in soil formation: (15)
   i. weathering;
   ii. leaching;
   iii. podsolization; and
   iv. mechanical downwash.

   (b) Analyse the impact of human activities on soil formation, discussing how these activities can contribute to **both** soil preservation and degradation. (10)

(Total: 25 marks)

6. (a) Explain the environmental conditions that lead to the formation of fog and smog. (16)

   (b) Smog poses a significant health challenge in many urban areas. Outline **THREE** adverse effects of smog on human health. (9)

(Total: 25 marks)

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MATRICULATION AND SECONDARY EDUCATION CERTIFICATE EXAMINATIONS BOARD

ADVANCED MATRICULATION LEVEL
2025 SECOND SESSION

SUBJECT:	**Geography**
PAPER NUMBER:	II
DATE:	1st September 2025
TIME:	9:00 a.m. to 12:05 p.m.

Answer **FOUR** questions in total. Questions carry 25 marks each.

1. Figure 1 shows the population pyramids of Malta for 1994 and 2024.

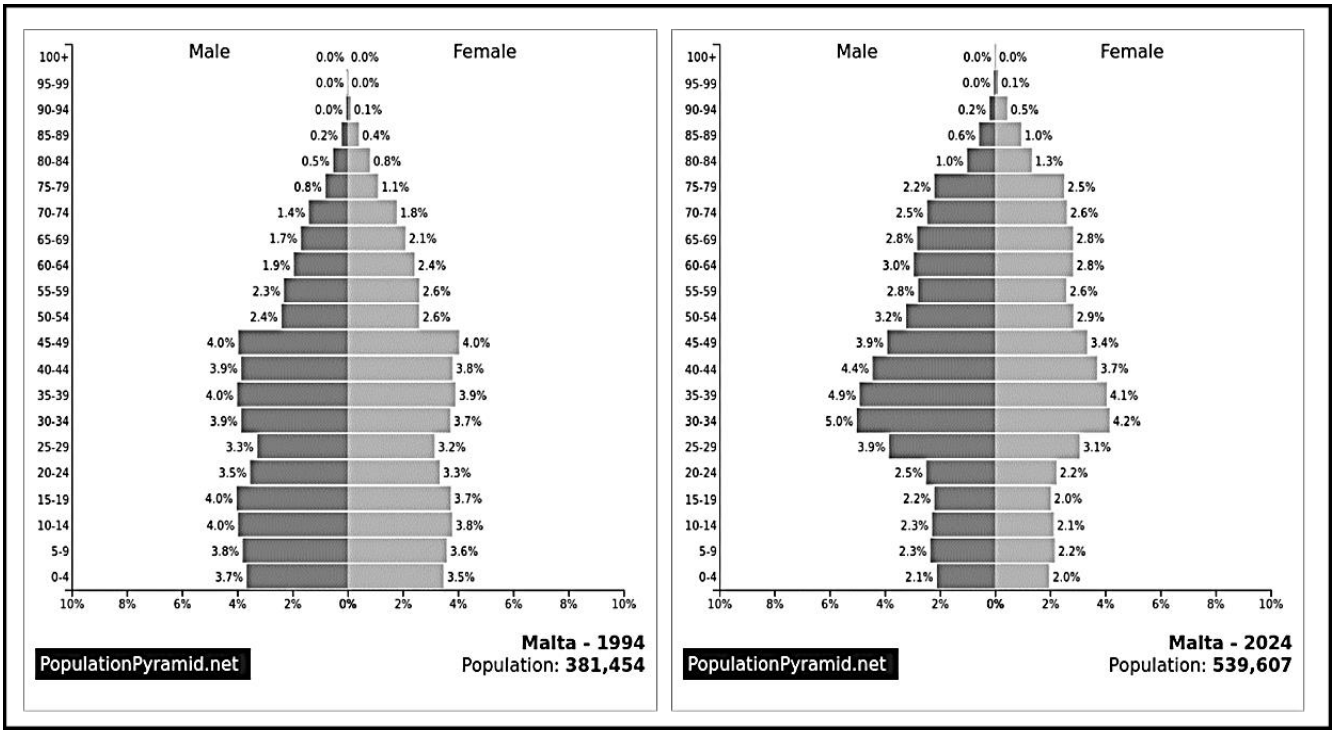

Figure 1: Malta's population pyramids in 1994 and 2024.
(Source: https://www.populationpyramid.net/)

(a) Define 'population pyramids' and explain why they are used. (6)

(b) Describe the main characteristics of the **TWO** population pyramids in Figure 1. (10)

(c) Discuss **THREE** effects of the changing demographic trends in Malta. (9)

(Total: 25 marks)

2. (a) Describe **THREE** types of farming systems and refer to their world distribution. (9)

(b) Agricultural activities are influenced by both physical and human factors. Describe **TWO** physical factors and **TWO** human factors and explain how **each** factor influences agriculture. (16)

(Total: 25 marks)

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3. Figure 2 shows the 17 Sustainable Development Goals (SDGs) for 2030.

Figure 2: The 17 Sustainable Development Goals for 2030.
(Source: https://www.un.org/ht/teach/SDGs)

(a) Define the term 'Sustainable Development'. (3)

(b) Explain the main purpose of the United Nations Sustainable Development Goals. (6)

(c) With reference to Figure 2, discuss **FOUR** of the UN Sustainable Development Goals, including their aims. (16)

(Total: 25 marks)

4. Butler's model of tourism is one of the best-known theories of destination growth and change within the field of tourism studies.

(a) With the help of an annotated diagram, describe **each** stage of Butler's model of tourism. (15)

(b) Explain the application of Butler's model of tourism to the Maltese Islands. (6)

(c) Identify **TWO** positive and **TWO** negative impacts of tourism in the Maltese Islands. (4)

(Total: 25 marks)

5. In 2020, approximately 1.1 billion people lived in the slum-like conditions of squatter settlements within cities, with 2 billion more expected in the next 30 years.
(*Source: United Nations Sustainable Development Goals Report, 2023)*

(a) Describe **THREE** characteristics of squatter settlements. (9)

(b) Explain **THREE** causes that lead to the development of squatter settlements. (6)

(c) With reference to a named case study, explain **TWO** consequences of squatter settlements. (6)

(d) Briefly describe **TWO** ways how squatter settlements can be improved. (4)

(Total: 25 marks)

6. Figure 3 shows the share of population experiencing food insecurity in the world and by region in 2017, 2020 and 2022.

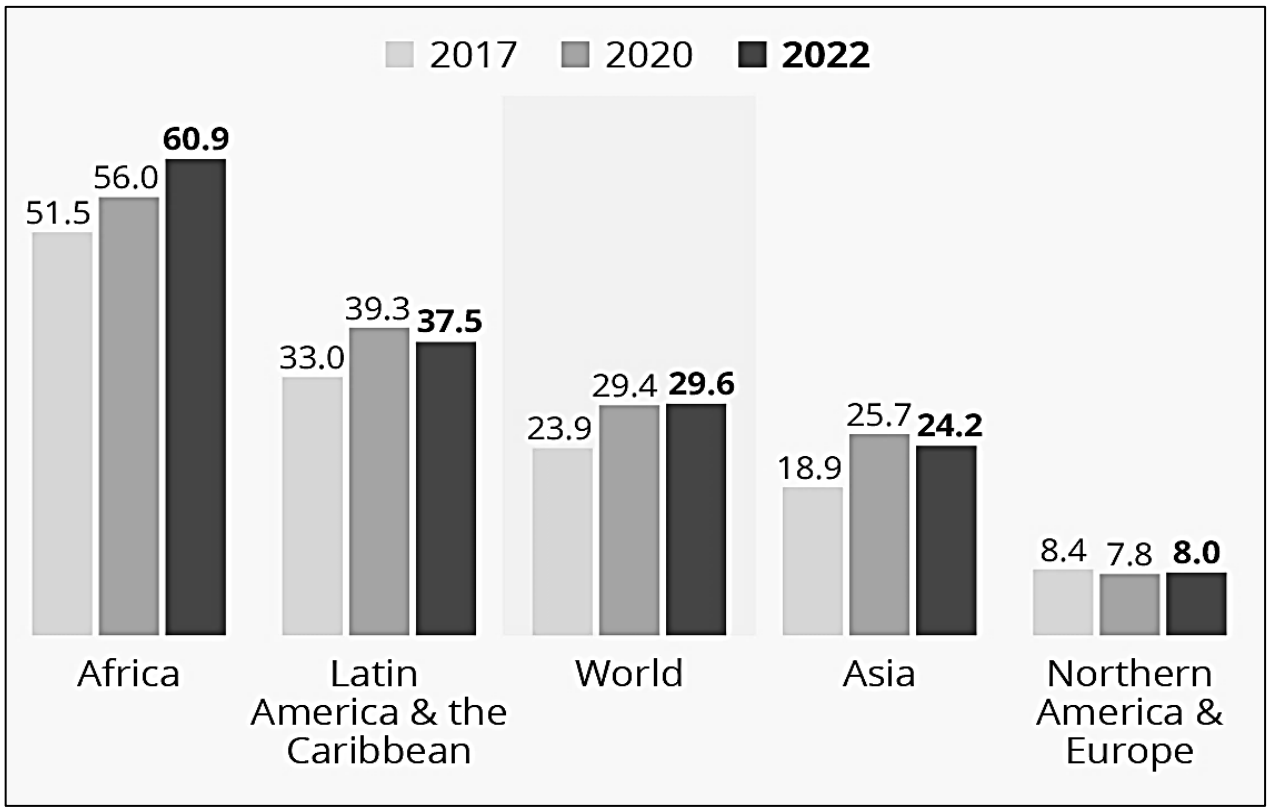

Figure 3: The state of food insecurity in the world and by region in 2017, 2020 and 2022.
(Source: https://www.statista.com/)

(a) Describe the main findings of Figure 3. (7)

(b) Discuss **THREE** reasons for the global variations in the distribution of food. (12)

(c) Explain **TWO** types of aid programmes that can be used to tackle the problem of food insecurity. (6)

(Total: 25 marks)