

MATRICULATION AND SECONDARY EDUCATION CERTIFICATE EXAMINATIONS BOARD  
UNIVERSITY OF MALTA, MSIDA  
MATRICULATION EXAMINATION  
INTERMEDIATE LEVEL  
SEPTEMBER 2015

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<b>SUBJECT:</b>	GEOGRAPHY
<b>DATE:</b>	5th September 2015
<b>TIME:</b>	9.00 a.m. to 12.00 noon

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**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.

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**Section 1: Physical Geographical Processes**

1. The news in Figure 1 was reported by the Japan Coast Guard in November 2013.

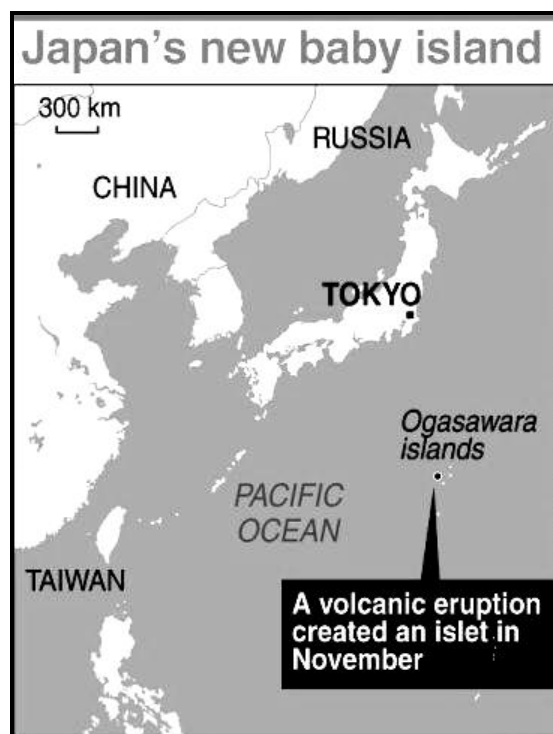


Figure 1: News reported by Japan Coast Guard.  
(Source: <http://phys.org/news/2013-12-japan-volcanic-islet.html>)

- Why is the formation of new islands off the coast of Japan a common occurrence? (10 marks)
- Draw a labelled diagram to show and explain the movement of the plates that bring about the formation of new volcanic islands. (6 marks)
- Describe **one** other topographic feature that may be formed as a result of plate movements close to Japan. Include a labelled diagram of this feature. (4 marks)

2. (a) Describe the main chemical weathering process that shapes karst topography. (4 marks)  
 (b) Name **six** features typical of a karst landscape and then explain how **two** of these features are formed. (16 marks)
  
3. (a) Explain the main characteristics and location of the Inter Tropical Convergence Zone. Include well-labelled diagrams to illustrate your answer. (10 marks)  
 (b) How does the Inter Tropical Convergence Zone influence the Mediterranean climate? (10 marks)

**Section 2: Human Geographical Processes**

4. (a) Figure 2 shows that the global world population increased rapidly over the last two centuries, reaching seven billion in 2012. Discuss **four** factors that have contributed to this rapid population growth in these last two centuries. (12 marks)  
 (b) Despite this rapid global population growth, Europe is experiencing low birth rates. Describe **four** factors that have brought about this situation. (8 marks)

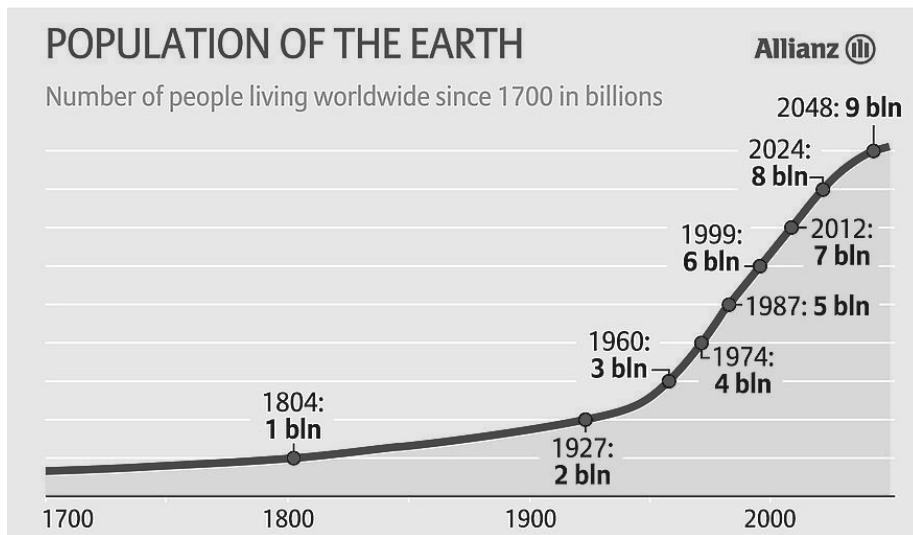


Figure 2: Global population growth  
 (Source: [www.knowledge.allianz.com](http://www.knowledge.allianz.com))

5. (a) Define the term **urbanisation**. (2 marks)  
 (b) Choose either (i) Burgess’ concentric urban model or (ii) Hoyt’s urban sector model. Draw, label and describe the chosen model. (10 marks)  
 (c) List **two** assumptions made by either Hoyt or Burgess. (4 marks)  
 (d) List **two** criticisms of either Hoyt’s or Burgess’ urban model. (4 marks)

6. The following table lists a group of countries and their percentage (%) share of those employed in each economic sector in 2014.

Table A

Country	Primary Industry (%)	Secondary Industry (%)	Tertiary Industry (%)
Malta	1.4	25.3	73.3
Liberia	38.8	16.4	44.8
China	9.2	42.6	48.2
Belgium	0.8	21.1	78.1

(Source: <https://www.cia.gov>)

- (a) Define the following terms:
- (i) Primary industry
  - (ii) Secondary industry
  - (iii) Tertiary industry. (6 marks)
- (b) Give an example of each type of industry. (3 marks)
- (c) Compare the percentages of those employed in each economic sector in Table A and state **three** differences between the countries. (6 marks)
- (d) Do you agree that developing countries tend to have a larger proportion employed in the primary industry? Give **two** reasons for your answer. (5 marks)

### **Section 3: The Man-Environment Relationship**

7. In 2013 over 1.5 million tourists visited Malta according to the Malta Tourism Authority.
- (a) Mention and discuss **five** environmental factors that make the Maltese archipelago a desirable tourist destination. (10 marks)
  - (b) Mention and discuss **three** ways by which tourism is impacting the environment of the Maltese Islands negatively. (6 marks)
  - (c) Name **two** measures that can be taken to remedy and improve the negative impact of tourism on the environment of the Maltese archipelago. (4 marks)
8. Deforestation and soil erosion are land degradation processes that can lead to desertification.
- (a) Give the meaning of the term **desertification**. (2 marks)
  - (b) Discuss in some detail **two** agricultural practices that may lead to soil erosion. Give examples where necessary. (10 marks)
  - (c) Through the mention of a case study of your choice, explain why economic or demographic pressures are considered as agents leading to soil erosion. (8 marks)

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9. Figure 3 shows groundwater protected areas in the Maltese archipelago (shaded in grey).



Figure 3: The shaded parts represent groundwater protected areas in Malta and Gozo.  
(Source: *Malta water resources review*, FAO, 2006)

- (a) Draw a well-labelled diagram to illustrate fresh water movement in the Maltese geological layers, clearly indicating aquifer locations. (5 marks)
- (b) Discuss and describe a Maltese industry of your choice which heavily depends on groundwater extraction. (6 marks)
- (c) Discuss and describe **three** ways how settlements and industries (including agricultural activity), can harm the groundwater resources of the Maltese Islands, thus necessitating the creation of groundwater protected zones. (9 marks)

#### **Section 4: Fieldwork and Mapwork Skills**

10. (a) The data collection phase of any geography-related field investigation requires the use of primary research and secondary sources of evidence. Define **primary research** and **secondary sources** of evidence. (4 marks)
- (b) Describe in detail a geographical investigation of your choice that includes primary research and secondary sources of evidence. Your answer should include:
- (i) a purpose statement;
  - (ii) a description of the data collection methods used;
  - (iii) the employed method(s) for recording the data. (12 marks)
- (c) Secondary sources of evidence have to be used with caution due to a possible lack of reliability. Mention briefly, **two** ways how the reliability of these sources can be assessed. (4 marks)

11. The ages of tourists arriving at the airport on a Monday afternoon in February were recorded and organised into the frequency table below (Table B):

Table B

Ages	Frequency
0 – 15	15
16 - 25	28
26 – 35	42
36 – 45	30
46 – 55	20
56 – 65	15
66 +	10

- (a) Draw a histogram using the data in Table B. (7 marks)
- (b) What percentage (%) of tourists arriving at the airport are aged (i) 66 years and over and (ii) 46 years and over? (4 marks)
- (c) What type of distribution does your histogram have? (2 marks)
- (d) Mention **two** differences between a histogram and a bar chart. (4 marks)
- (e) Suggest an alternative method of presenting the data shown above. (3 marks)

*Please turn the page.*

12. Figure 4 is a pictogram showing the ratio of working-age citizens for each citizen aged 65 and over in Singapore.
- (a) What is a pictogram? (2 marks)
  - (b) What can you conclude about the ratio of working-age citizens for each citizen aged 65 and over in Singapore from the pictogram in figure 4? (4 marks)
  - (c) An essential feature of any pictogram is missing in figure 4. What is this missing feature and why is it important in a pictogram? (4 marks)
  - (d) Give **three** advantages of using a pictogram. (6 marks)
  - (e) Give **two** disadvantages of using a pictogram. (4 marks)

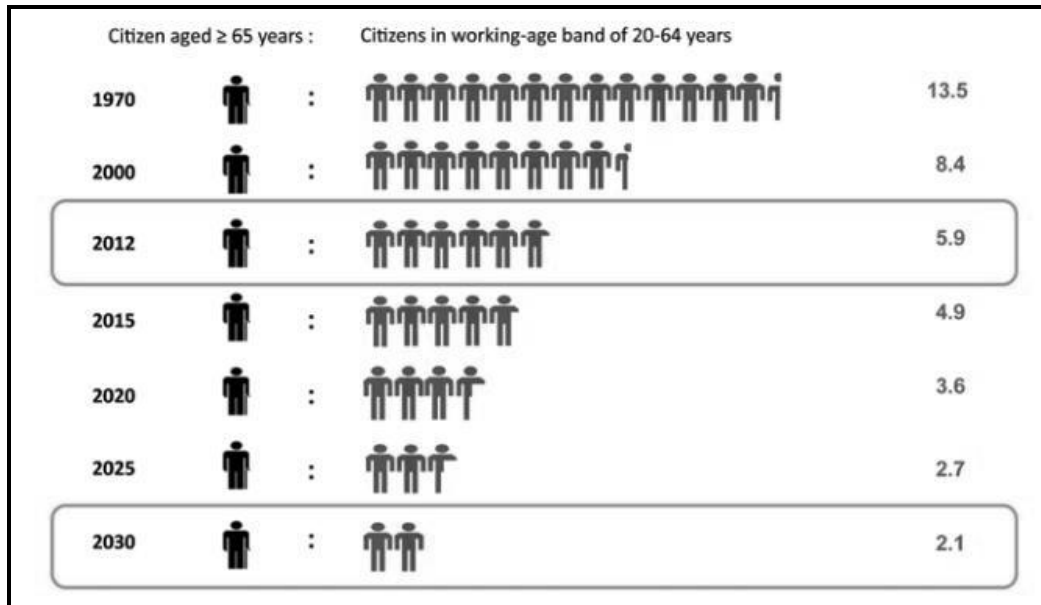


Figure 4: A pictogram  
 (Source: <http://www.uschina.usc.edu>)