MATRICULATION AND SECONDARY EDUCATION CERTIFICATE EXAMINATIONS BOARD

UNIVERSITY OF MALTA, MSIDA

MATRICULATION EXAMINATION
INTERMEDIATE LEVEL
SEPTEMBER 2017

SUBJECT:	GEOGRAPHY
DATE:	1st September 2017
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. (a) Explain the main characteristics of the Tri-Cellular Model in atmospheric circulation. Use a labelled diagram to illustrate your answer. (10)
    (b) Describe how this model explains the formation of mid-latitude depressions over the North Atlantic and Western Europe. (10)
    (Total: 20 marks)

2. (a) What geographical term is used to refer to a volcano that erupts regularly? Name **ONE** such volcano found in the Mediterranean Region. (4)
    (b) Describe the location of this volcano with reference to tectonic plates present in the Mediterranean Region. (6)
    (c) With the help of a labelled diagram, illustrate the main features of a composite volcano and explain its formation. (10)
    (Total: 20 marks)

3. (a) Differentiate between constructive and destructive waves. (6)
    (b) Name **THREE** coastal landforms which are a result of marine erosion. (3)
    (c) Describe the formation of **EACH** feature mentioned in (b). (9)
    (d) Name a specific example of **ONE** of the landforms mentioned in (b) found in the Maltese Islands. (2)
    (Total: 20 marks)

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SECTION 2: HUMAN GEOGRAPHICAL PROCESSES

4. (a) What is the Demographic Transition Model? (5)
    (b) Draw the Demographic Transition Model and explain each of its stages. Provide **ONE** example for **EACH** stage. (12)
    (c) At which stage would you place contemporary Malta within the Demographic Transition Model? Provide reasons for your answer. (3)

(Total: 20 marks)

5. (a) Discuss the concept of a settlement hierarchy. (8)
    (b) In his Central Place Theory, Christaller made a number of assumptions to develop his theory. List **THREE** of these assumptions. (3)
    (c) Define the following basic concepts of the Central Place Theory:
        i)   Threshold population; (3)
        ii) Range of goods or services. (3)
    (d) List and briefly explain the **THREE** principles that derive from the Central Place Theory. (3)

(Total: 20 marks)

6. Quarrying is one of Malta's primary industries.
    (a) There are two types of quarries in the Maltese Islands. Name these **TWO** types of quarries and give **ONE** example of **EACH**. (2)
    (b) Name the rocks extracted at each quarry type found in the Maltese Islands and give **TWO** specific examples for the use of the quarried rocks. (6)
    (c) Compare the different quarrying processes which are used for the **TWO** main types of quarries found in the Maltese Islands. (6)
    (d) Briefly explain how exhausted quarries may be utilised for alternative activities. (6)

(Total: 20 marks)

SECTION 3: THE MAN-ENVIRONMENT RELATIONSHIP

7. "Currently over 250 million people experience the direct consequences of desertification. Many of them are the World's most destitute and vulnerable citizens."

Source: Fletcher 2011 p. 368

    (a) Briefly define the term 'desertification'. (4)
    (b) Describe **THREE** natural processes by which desertification can take place. (6)
    (c) Explain in some detail how desertification and lack of economic development in developing countries are linked to each other. (10)

(Total: 20 marks)

8. The island of Comino is a national bird sanctuary and nature reserve that attracts thousands of tourists every year.
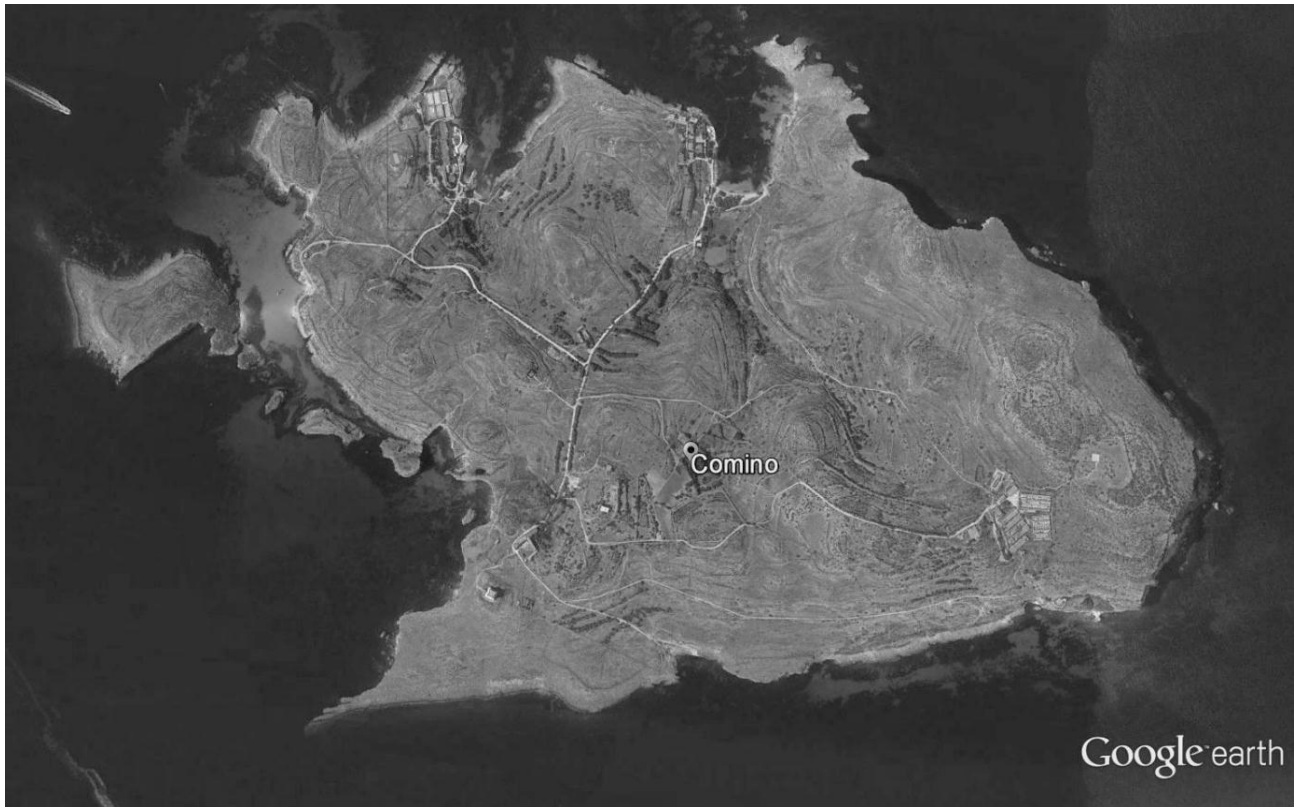

Figure 1: Satellite view of the island of Comino

Source: Google Earth

(a) Discuss **ONE** positive impact that tourism has on the environment of Comino.   (3)

(b) Discuss **FOUR** negative impacts that tourism has on the environment of Comino.   (12)

(c) Suggest reasonably practical measures that can be put into effect in order to minimise or mitigate the negative impact of tourism on Comino.   (5)

(Total: 20 marks)

9. Human-related activities within Maltese territory (both terrestrial and coastal) are increasingly responsible for the degradation of its water resources.

(a) Identify and discuss **TWO** activities causing groundwater degradation and recommend remedial actions which can be taken to address the problems.   (8)

(b) Identify **TWO** activities causing coastal marine water degradation and recommend remedial actions which can be taken to address the problems.   (8)

(c) Name **TWO** specific areas in the Maltese archipelago where groundwater and coastal marine water degradation are evident and give reasons for this degradation.   (4)

(Total: 20 marks)

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SECTION 4: FIELDWORK AND MAPWORK SKILLS

10. (a) Identify a sandy beach in the Maltese archipelago in which remnants of sand dunes survive and describe **FIVE** field research-based tasks that can be performed as part of a physical geographical field-based enquiry. (12)

    (b) You have been tasked with assessing the public's awareness on:
       i)   the existence of sand dunes;
       ii) factors leading to sand dune formation; and
       iii) factors causing sand dune degradation and erosion.

       For this purpose, design a questionnaire of eight questions aimed at collecting the necessary data. This must include both closed- and open-ended questions. (8)

    (Total: 20 marks)

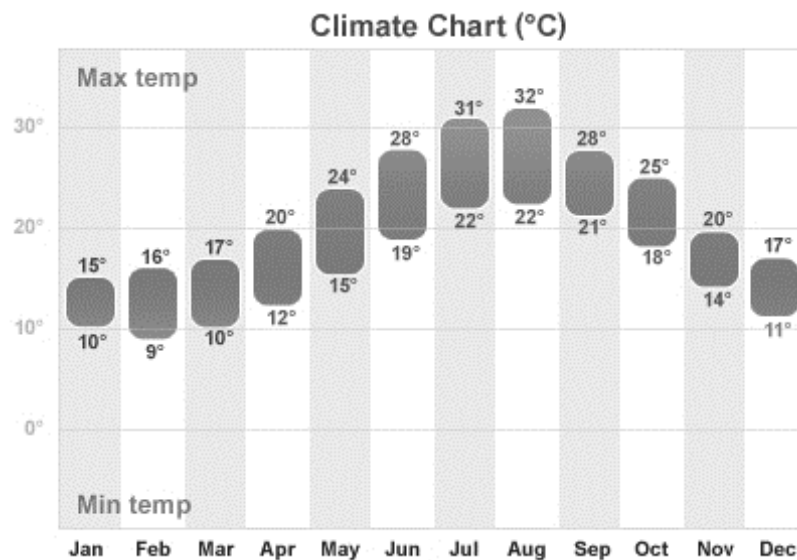11. Figure 2 shows the average monthly maximum and minimum temperatures of a location.

Figure 2: Climate chart

Source: http://www.gozoandmalta.com/

    (a) Describe the variations in the average monthly maximum and minimum temperatures of the place as shown in figure 2. (6)

    (b) Discuss whether this chart can be used to describe the climate of the place. (10)

    (c) Suggest **ONE** method that can be used to show the climate of a particular location. Give **ONE** reason for your choice of method. (4)

    (Total: 20 marks)

12. Table 1 shows the child population in Malta between 1931 and 2000.

Table 1: Child population in Malta between 1931 and 2000

Year	Population			Child Population			Children as a Percentage of Population		
	Males	Females	Total	Boys	Girls	Total	Boys	Girls	Total
1931	117,457	124,164	241,621	45,051	44,201	89,252	38.4	35.6	36.9
1948	150,665	155,326	305,991	62,412	61,265	123,677	41.4	39.4	40.4
1957	153,108	166,512	319,620	67,766	65,611	133,377	44.3	39.4	41.7
1967	150,598	163,618	314,216	58,324	56,311	114,635	38.7	34.4	36.5
1970	153,920	168,267	322,187	56,281	53,849	110,130	36.6	32.0	34.2
1975	152,807	167,078	319,885	49,220	43,350	92,570	32.2	25.9	28.9
1980	154,759	163,269	318,028	48,246	44,517	92,763	31.2	27.3	29.2
1985	167,875	173,032	340,907	49,760	46,899	96,659	29.6	27.1	28.4
1990	175,782	180,128	355,910	51,002	48,256	99,258	29.0	26.8	27.9
1995	184,306	187,824	372,130	49,928	47,387	97,315	27.1	25.2	26.2
2000	189,720	192,805	382,525	48,023	45,270	93,293	25.3	23.5	24.4

Source: NSO 2002

(a) Draw a scatter diagram of children as a percentage of population between the years 1931 and 2000. (10)

(b) Describe changes in the percentage of child population as shown by the scatter diagram produced in (a). (5)

(c) Give **ONE** advantage and **ONE** disadvantage of using a scatter diagram to show the changes in the percentage of child population. (5)

(Total: 20 marks)