Index Number:_____ SEC15/1.12m

MATRICULATION AND SECONDARY EDUCATION CERTIFICATE EXAMINATIONS BOARD
UNIVERSITY OF MALTA, MSIDA

SECONDARY EDUCATION CERTIFICATE LEVEL

MAY 2012 SESSION

SUBJECT:	**Geography**
PAPER NUMBER:	I
DATE:	30th April 2012
TIME:	9:00 a.m. to 11:00 a.m.

Directions to Candidates:

ANSWER ALL QUESTIONS

1. Examine the map extract (Scale 1: 25,000) showing Rabat and Mdina and their surroundings in 1974 and answer the following questions:

(a) Give the six-figure grid reference of:

(i) the centre of Notabile Cathedral, marked A (1 mark)

_____

(ii) the Annunciation Church and underground chapel, marked B (1 mark)

_____

(b) What is the compass direction of the following from Notabile cathedral?

(i) Imtarfa Clock Tower, marked C (1 mark)

_____

(ii) Qattara, marked D (1 mark)

_____

(iii) Tombs, marked E (1 mark)

_____

(iv) Tas-Salib Chapel, marked F (1 mark)

_____

(c) What is the approximate area in square kilometres of:

(i) Mdina? (2 marks)

(ii) Rabat? (2 marks)

(d) Using the topography and contour lines shown on the map as a guideline, write a paragraph describing the **site** of Mdina and Rabat. (6 marks)

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FIGURE 1 MAP

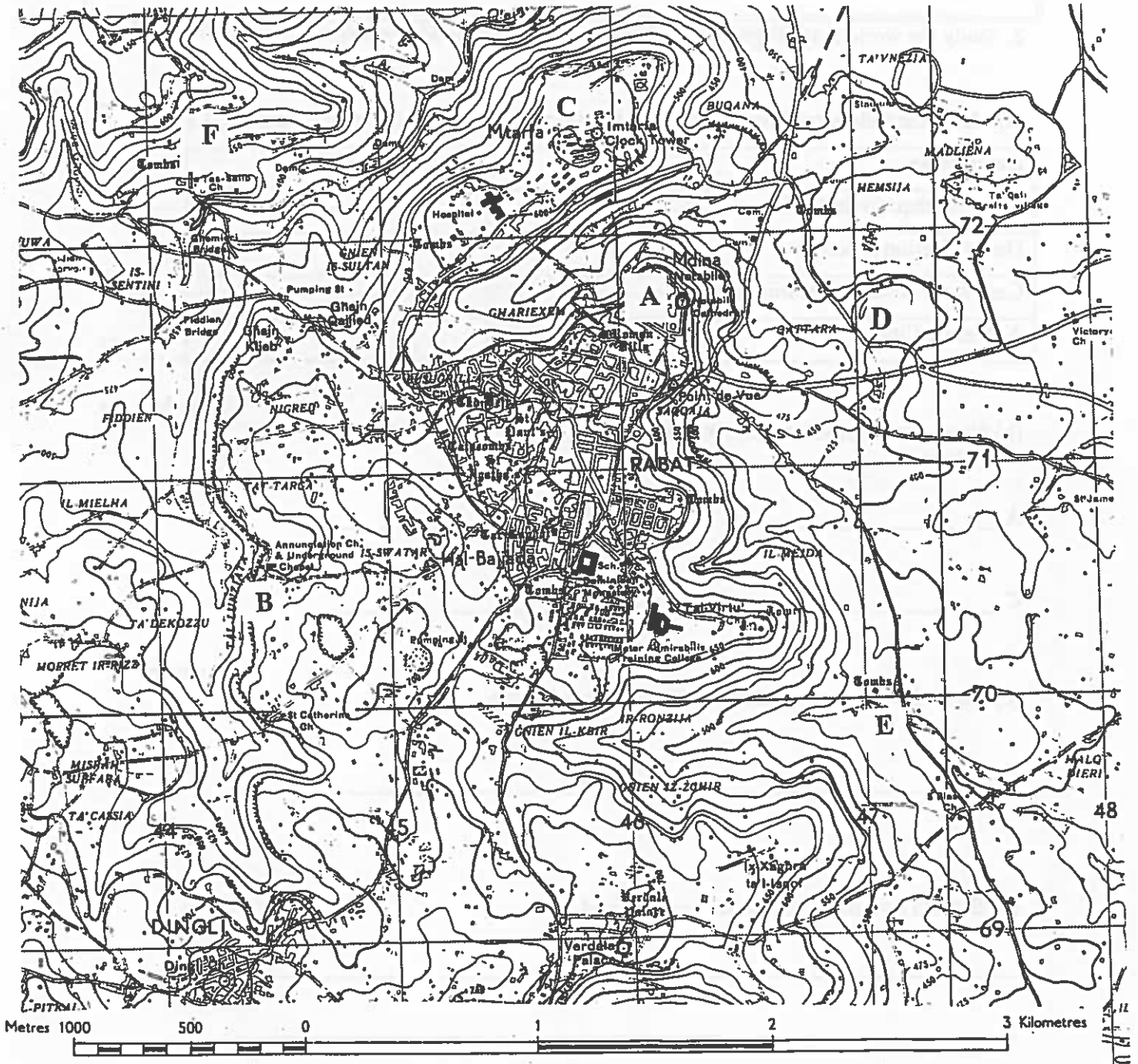


Figure 1: Map extract (scale 1:25,000) showing Rabat and Mdina and surrounding areas

Major Roads
Main Roads — Culvert
Secondary Roads
Minor Roads and Cart Tracks
Footpaths
Named Buildings, Others — &
Antiquities — Qalaxx Tower
Church, Chapel, School — Ch Cha Sch
Hospital, Police Station — Hosp Pol Sta
Barracks, Cemetery — Bks Cem
Factories

Trigonometrical Stations :- Main
" " :- Minor
" " :- Tertiary
Heights in feet given to ground level — 823
Contours (V. 25')
Water Tank
Spring
Reservoir
Groups of Trees

2. Study the world map (**Figure 2**) and then answer the following questions.

(a) Match the following descriptions with locations marked on the map and numbered **1** to **4**.

Description	**Name of Location**
Major earthquake in 1995	
Desertification processes	
Case study for irregular migration	
A Primate City	

(2 marks)

(b) Name the countries marked **A** to **D**.

A _____ **B** _____

C _____ **D** _____

(2 marks)

(c) Name the volcanoes marked by the numbers **5** and **6**.

5 _____ **6** _____

(2 marks)

(d) Explain how these volcanoes were formed.

_____

_____

_____

_____

_____

(5 marks)

(e) Name the deserts numbered 7 to 10 and the major ports numbered 11 to 16.

7 _____ **8** _____

9 _____ **10** _____

11 _____ **12** _____

13 _____ **14** _____

15 _____ **16** _____

(5 marks)

DO NOT WRITE ABOVE THIS LINE

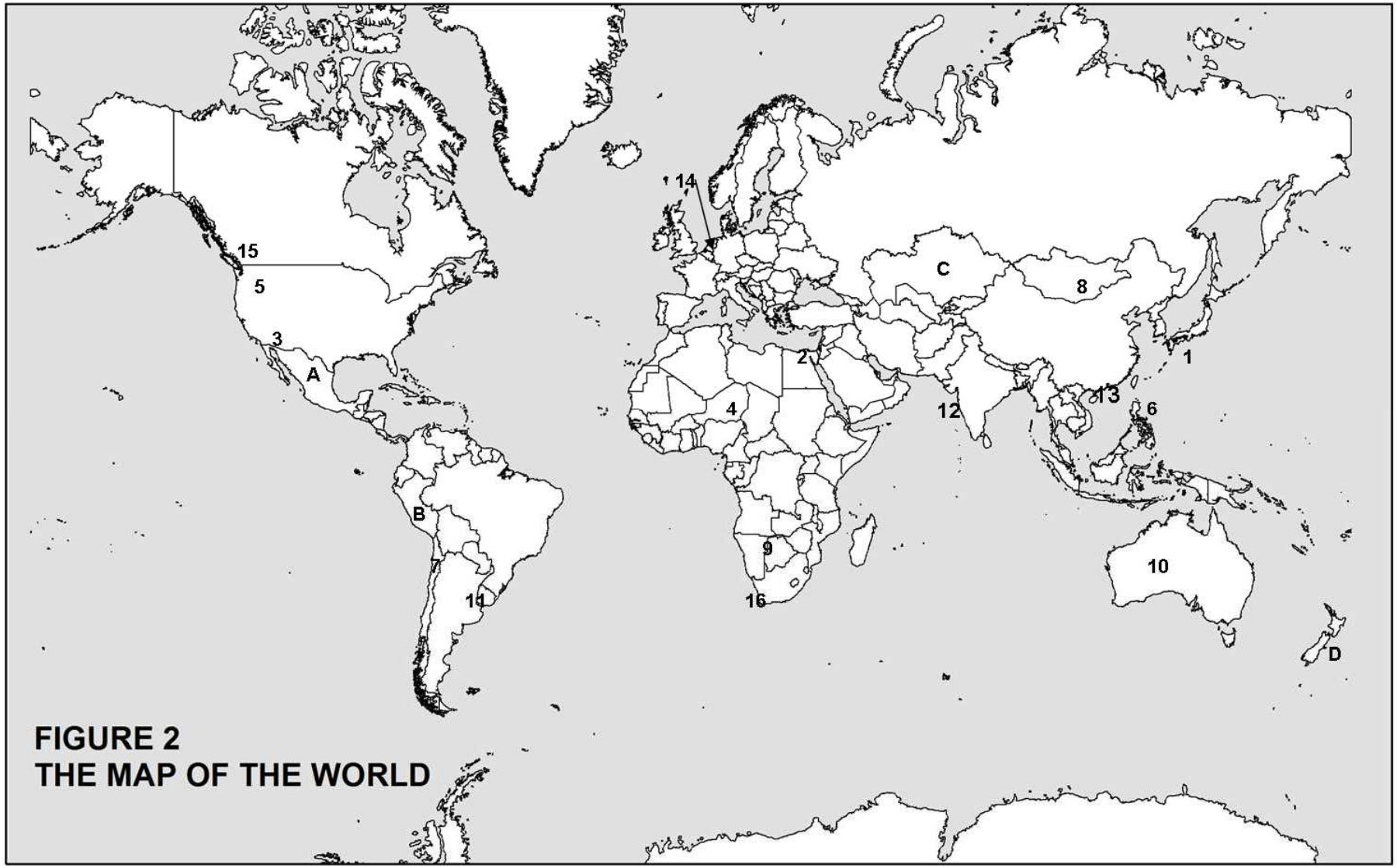


FIGURE 2
THE MAP OF THE WORLD

3. The global population was estimated to be 7 billion on the 31st of October 2011 by the United Nations Population Fund (UNPF). **Table 1** shows the growth of the global population over the last two centuries.

Table 1: Global population growth in billions, 1800-2011

Year	Population
1800	1
1927	2
1960	3
1974	4
1987	5
1999	6
2011	7

Source: UNFP (2012)

(a) Write in digits, the number 7 billion, paying attention to include the appropriate number of zeros. (1 mark)

_____

(b) Give **THREE** reasons why it took so long for the population to reach **one** billion. (3 marks)

_____

_____

_____

(c) Name the **TWO** continents in which the fastest growth rates are occurring today. (2 marks)

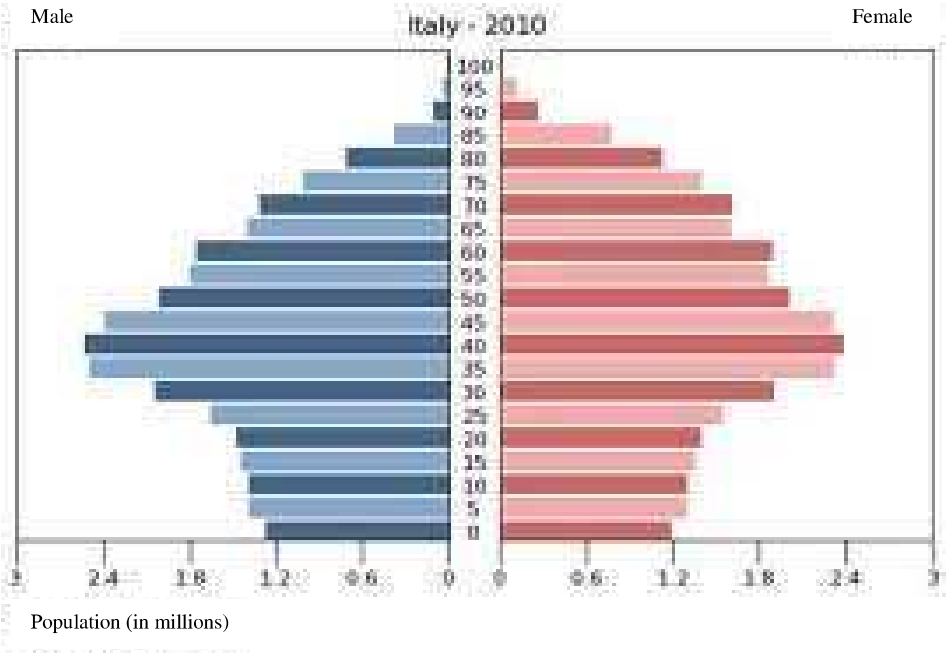
_____

_____

(d) Give **TWO** reasons for your answer in (c) above. (2 marks)

4.

Figure 3: Population pyramid of Italy



Source: http://www.bbc.co.uk/scotland/learning/bitesize/higher/geography/human/population_rev1.shtml

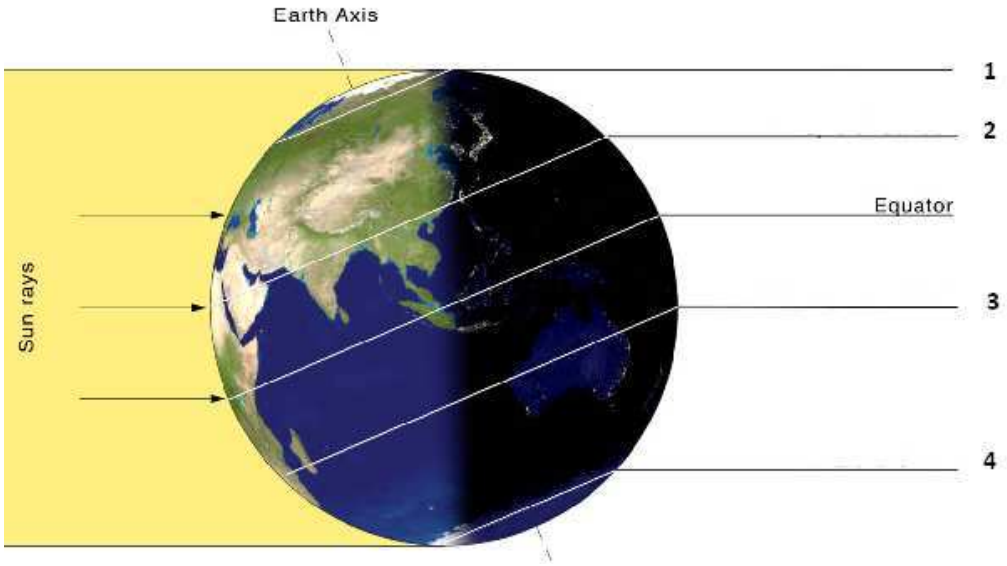
(a) With reference to the different age groups illustrated in the population pyramid in **Figure 3**, indicate **TWO** features from the pyramid which show that Italy has an ageing population. (3 marks)

(b) Describe **TWO** problems created in a country, that are the result of an ageing population.

(2 marks)

5. Study **Figure 4** which shows the earth and lines of latitude across its surface, indicated by numbers 1 to 4.

Figure 4: Lines of latitude across planet Earth



Source: http://www.worldatlas.com/aatlas/imageg.htm

(a) State which numbers correspond to the following lines of latitude:

(i) Tropic of Cancer _____

(ii) Tropic of Capricorn _____

(iii) Arctic Circle _____

(iv) Antarctic Circle _____ (4 marks)

(b) State the date and month during which the sun would be overhead at:

(i) Tropic of Cancer _____

(ii) Tropic of Capricorn _____ (2 marks)

6. Define 'Central Business District' (CBD).

_____

_____

_____

(2 marks)

(b) List **TWO** functions of a modern Central Business District (CBD).

_____

_____

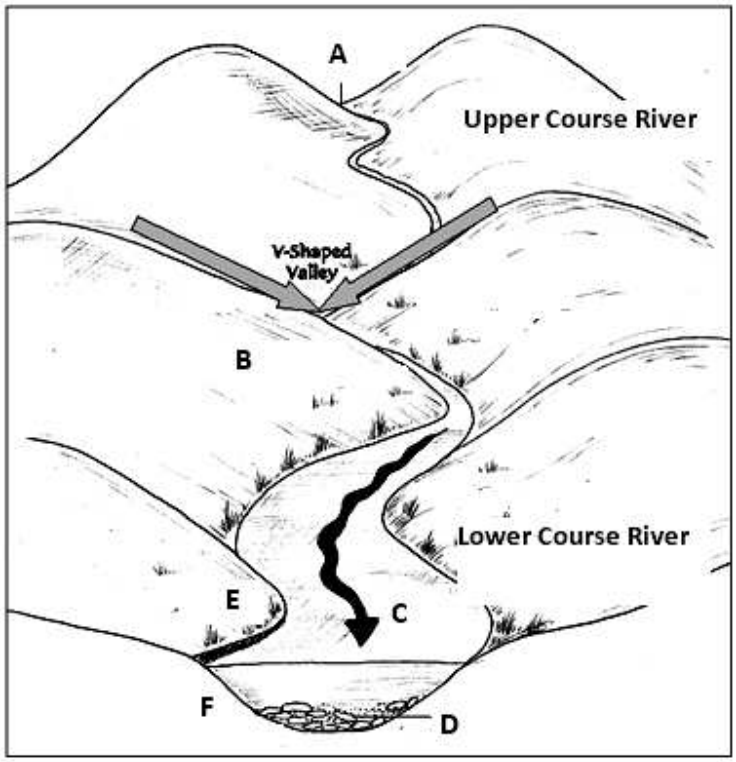
_____

_____

(2 marks)

7. **Figure 5** shows the main characteristics of a V-shaped valley, indicated with letters A to F.

Figure 5: V-shaped valley characteristics



Source: Adapted from
http://www.talktalk.co.uk/reference/encyclopaedia/hutchinson/m0035488.html

(a) Match the letters with the following keywords:

(i) Interlocking spur ☐

(ii) Source ☐

(iii) Load ☐

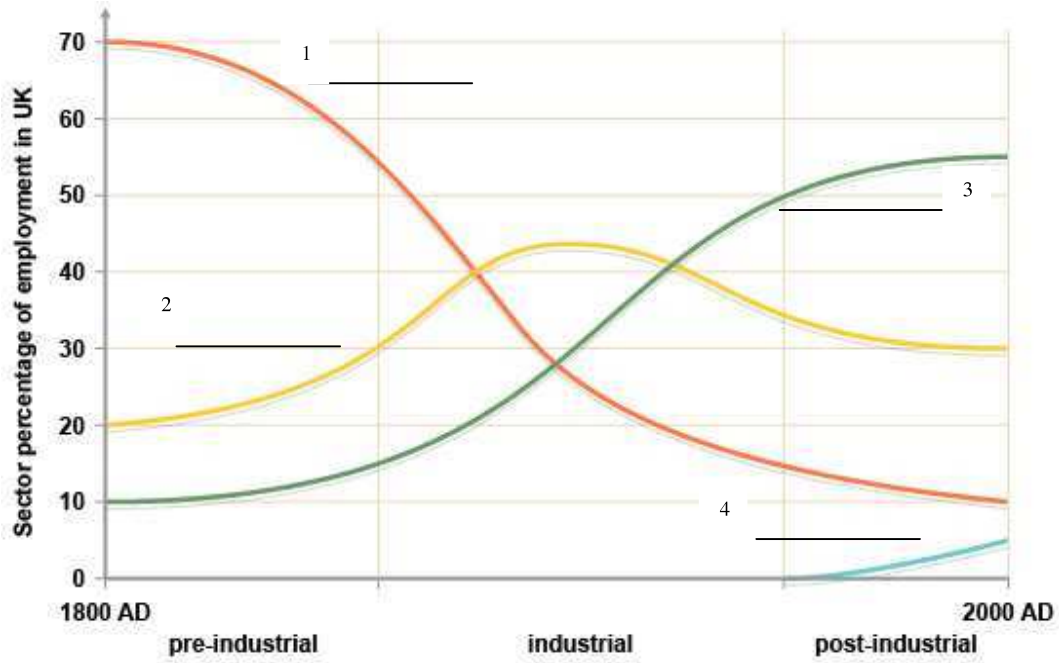
(iv) River bank ☐

(v) Channel flow ☐

(v) River bed. ☐ (6 marks)

8. The graph in Figure 6 shows the changing employment structure of the four types of industry over time, namely: the primary, secondary, tertiary and quaternary.

Figure 6: Line graph to show the UK employment structure from 1800 – 2000



Source: Acemoglu, D. (2007)

(a). Indicate in the spaces provided on the graph, which industry **EACH** line represents. (4 marks)

The employment structure of a country can be divided into four main categories.

(b) Give an example of:

(i) A primary type of industry _____ (1 mark)

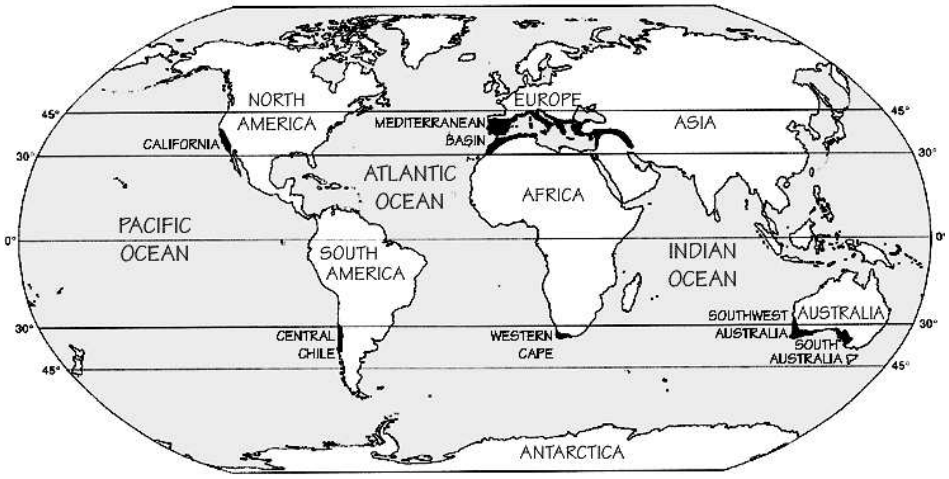
(ii) A secondary type of industry _____ (1 mark)

(iii) A tertiary type of industry _____ (1 mark)

(iv) A quaternary type of industry _____ (1 mark)

9. **Figure 7** shows the distribution of Mediterranean climate around the world, marked in black shading.

Figure 7: Distribution of Mediterranean Climate around the World



Source: Grove, A.T. and Rackham, O. (2001)

(a) Give **THREE** reasons for the world's distribution of Mediterranean climate. (3 marks)

_____

_____

_____

(b). Name **THREE** physical processes that are responsible for the distribution described in (a). (3 marks)

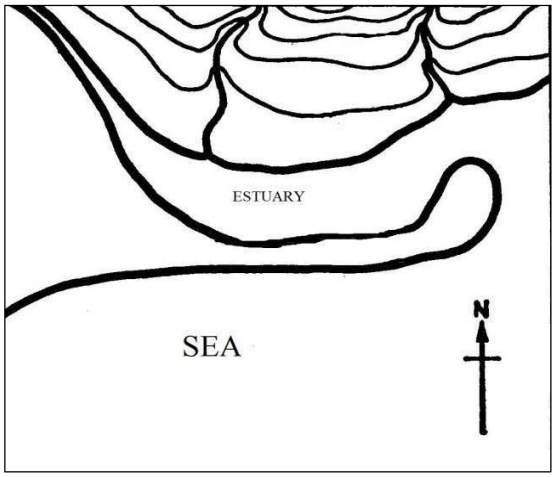
_____

_____

_____

10. Figure 8 shows a sketch of a sandspit.

Figure 8: Sketch of a Sandspit



(a) Briefly explain the process by which a sandspit is formed. (2 marks)

(b) Use the sketch in **Figure 8** to:

(i) Mark with an arrow, the compass direction of the longshore drift (1 mark)

(ii) Mark with a cross (X) the location of a probable marsh land (1 mark)

(iii) Mark with a circle, the location of that part of the spit which is called the hook (1 mark)

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MATRICULATION AND SECONDARY EDUCATION CERTIFICATE EXAMINATIONS BOARD
UNIVERSITY OF MALTA, MSIDA

SECONDARY EDUCATION CERTIFICATE LEVEL

MAY 2012 SESSION

SUBJECT:	**Geography**
PAPER NUMBER:	IIA
DATE:	2nd May 2012
TIME:	9:00 a.m. to 11:00 a.m.

Answer any two (2) Questions from Section A and any other two (2) questions from Section B.

ANSWER FOUR QUESTIONS IN ALL

Answers are to be written on the booklet provided.

Each question carries a total of 25 marks. Marks allocated to parts of questions are indicated.

Good use of language and orderly presentation are important. Credit will be given for relevant illustrations.

The use of non-programmable calculators and geometric instruments is permitted.

SECTION A: Answer two (2) questions from this Section.

1. Study **Figure 1**, which shows an area of limestone landscape and answer the following questions.

Figure 1: A type of limestone landscape

(a) Explain the term weathering. (5 marks)

(b) Describe the difference between physical weathering and chemical weathering. Provide **ONE** example of each. (5 marks)

(c) Name and describe the type of limestone landscape shown in **Figure 1** and explain the physical processes that are responsible for its formation. (10 marks)

(d) Name and briefly describe **TWO** advantages of using this limestone in Malta. (5 marks)

2. *'A drainage basin forms part of the hydrological cycle but unlike the hydrological cycle, it is an open system.'* (D.Waugh, 2003)

(a) With reference to the hydrological cycle and drainage basin as 'systems', explain the difference between a closed system and an open system. (10 marks)

(b) Explain how the following may affect the hydrological cycle:

(i) Urbanisation

(ii) Deforestation

(iii) Arable farming (15 marks)

3. (a) Explain the difference between continental crust and oceanic crust (10 marks)

(b) With the help of a labelled sketch for each, describe the changes in the earth structures caused by the movements of plate boundaries at:

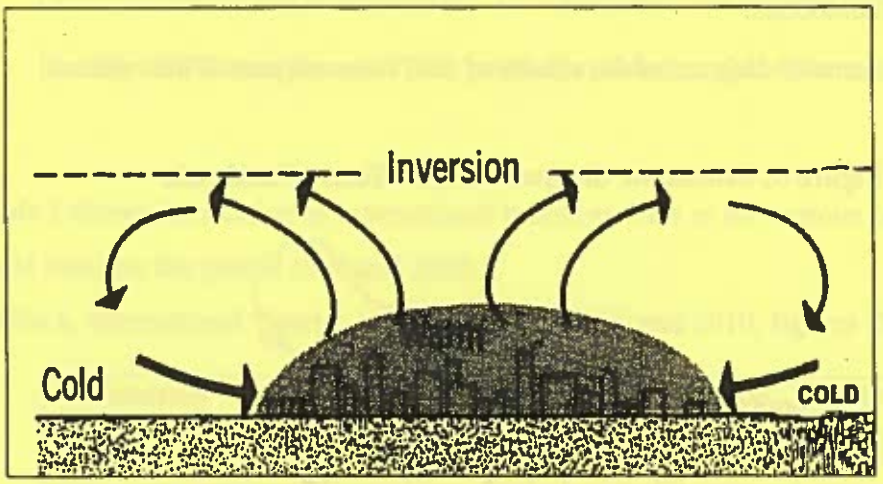
(i) Constructive margins

(ii) Destructive margins

(iii) Conservative margins (15 marks)

4. Figure 2 shows an urban heat island effect over an urban area.

Figure 2: Heat Island over urban area



Source: Gill (2007)

(a) Define the term " urban heat island" (6 marks)

(b) With reference to the sketch above, describe **THREE** causes and **THREE** consequences of heat islands when they form over urban areas. (10 marks)

(c) State and discuss **THREE** ways in which the negative effects of urban heat islands can be controlled and possibly decreased. (9 marks)

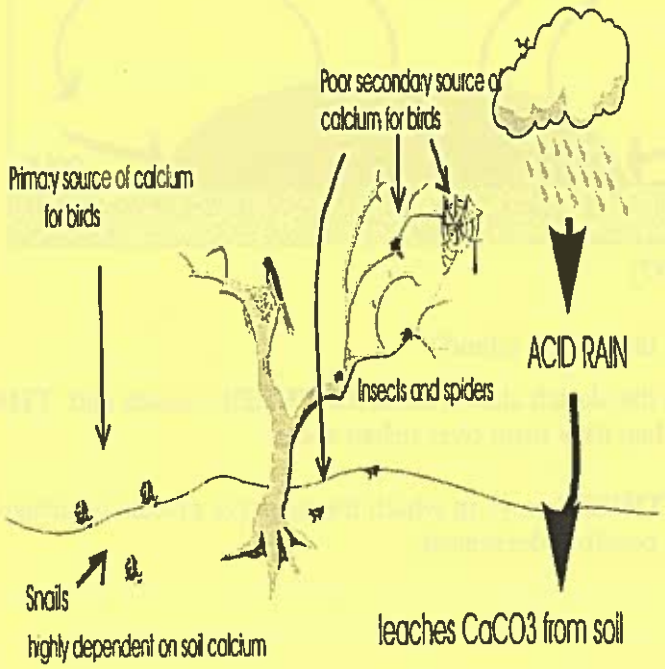
Question 4 Section B is on the next page.

SECTION B: Answer two (2) questions from this Section.

5. Acid rain is the result of the use of fossil fuels and non-renewable energy resources in homes, industries and automobiles.

Figure 3 shows a schematic diagram of the effects of acid rain on a part of the outdoor environment.

Figure 3: Schematic diagram of the effects of acid rain



Source: http://faculty.plattsburgh.edu/thomas.wolosz/acid_rain.htm

With reference to the factors that can be considered as sources of acid rain answer the following questions:

(a) Why are some energy resources termed as non-renewable? (5 marks)

(b) Name **FIVE** non-renewable energy resources. (5 marks)

(c) How were the non-renewable energy resources mentioned in (b) formed? (5 marks)

(d) Explain how acid rain can affect countries other than those from where it originates. (10 marks)

6. (a) List **FIVE** indicators of human development. (5 marks)

   (b) Define emergency and multilateral aid. Give examples from different countries. (5 marks)

   (c) Identify **FIVE** benefits and **FIVE** problems related to aid. Give examples from LEDCs. (15 marks)

7. **Table 1** shows the number of international tourist arrivals in the various continents around the world between the period 1990 and 2010.

   Table 1. International Tourist Arrivals between 1990 and 2010, figures shown in millions.

Destination	1990	1995	2000	2005	2008	2009	2010
Europe	261.5	304.1	385.6	439.4	485.2	461.5	476.6
Asia and the pacific	55.8	82.0	110.1	153.6	184.1	180.9	203.8
Americas	92.8	109.0	128.2	133.3	147.8	140.6	149.8
Africa	14.8	18.9	26.5	35.4	44.4	46.0	49.5
Middle East	9.6	13.7	24.1	36.3	55.2	52.9	60.3

   (a) From the statistics in **Table 1**, define **FIVE** factors that affect these trends in tourism and with the help of examples explain how these trends occur. (15 marks)

   (b) Transport in major tourist cities is a crucial infrastructure. List **THREE** major problems related to urban transport that can affect tourism, giving examples of each. (10 marks)

8. HighTech industries

   (a) What does the term high-technology industry mean? (10 marks)

   (b) What are the advantages of the location of high-tech industries along the M4 corridor in the United Kingdom? (15 marks)

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SECONDARY EDUCATION CERTIFICATE LEVEL

MAY 2012 SESSION

SUBJECT:	**Geography**
PAPER NUMBER:	IIB
DATE:	2nd May 2012
TIME:	9:00 a.m. to 11:00 a.m.

Answer any two (2) Questions from Section A and any two (2) questions from Section B.

ANSWER FOUR QUESTIONS IN ALL.

Answers are to be written on the booklet provided.

Each question carries a total of 25 marks. Marks allocated to parts of questions are indicated.

Good use of language and orderly presentation are important. Credit will be given for relevant illustrations.

The use of non-programmable calculators and geometric instruments is permitted.

Section A: Answer two (2) questions from this Section.

1. (a) With the help of a labelled sketch, illustrate the layers that make up the geology of the Maltese Islands. (10 marks)

   (b) Explain how some of these rocks are responsible for the formation of the following:

   (i) Perched aquifer

   (ii) Plateau hills

   (iii) Scree slope (*rdum*). (15 marks)

2. The eight statements or keywords below correspond to either a process of input into the hydrological cycle, or a storage process, or a transfer process within the hydrological cycle:

   (i) Water as groundwater

   (ii) Precipitation (snow or rain)

   (iii) Evaporation

(iv) Transpiration

(v) Surface run-off by rivers

(vi) Groundwater run-off

(vii) Water in lakes and rivers

(viii) Water in oceans and seas

(a) Define the terms *'input'*, *'storage'* and *'transfer'*. (6 marks)

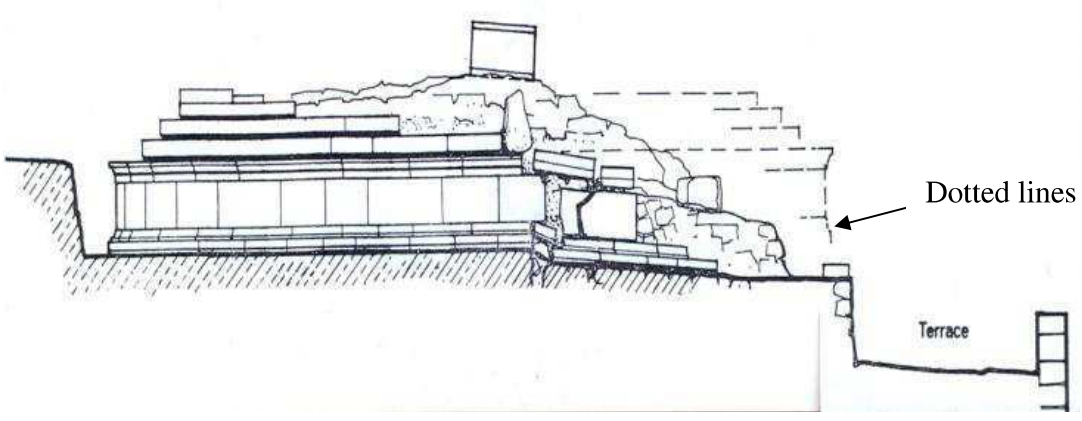
(b) Copy the grid below and insert the keywords/statements mentioned above and identified as (i) to (viii) in the relevant column.

Input	Storage	Transfer

(c). Name and discuss briefly **TWO** ways by which human actions upon the environment may disrupt the hydrological cycle. (10 marks)

3. The Aphrodite Temple at Knidos, an ancient Greek city in Turkey, was destroyed in 344 AD. **Figure 1** shows how the temple looked after the earthquake. The dotted lines in **Figure 1** indicate the extent of the structure before the earthquake took place.

Figure 1: The Aphrodite Temple after the earthquake.



Source: Erell,T.L.and Adatepe, F (2007)

(a) Explain briefly how earthquakes are caused. (4 marks)

(b) Studies of earthquakes show that each one has a focus, an epicentre and seismic waves. **DRAW** a simple labelled sketch to show these three characteristics of an earthquake. (6 marks)

(c) Name and briefly describe the scale which reflects the strength of an earthquake. (3 marks)

(d) Name the instrument which measures the strength of an earthquake. (2 marks)

(e) Describe in one sentence the probable effects of a very strong earthquake on **FIVE** of the following active sectors of a country:

(i) Living in a large city

(ii) Travelling by car from place to place

(iii) Use of electricity

(iv) Use of the water supply

(v) Going to school

(vi) Use of a hospital

(vii) Supply of food from shops

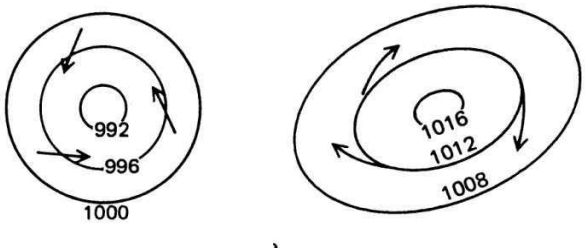
(viii) People living on the coast

(ix) Tourists to visit the country

(x) Collection of city waste (10 marks)

4. In weather forecasts, some air masses over the Mediterranean Sea are many times represented as in the diagrams below. Study these diagrams and then answer the questions given:

Figure 2: Air masses over the Mediterranean Sea



(A) (B)

(a) Identify which diagram (A or B) represents an anticyclone and which one an atmospheric depression. (2 marks)

(b) Which air mass (A or B) has fronts? (1 mark)

(c) Copy the grid below and write out the terms in the appropriate columns (as indicated by the relevant title):

DRY, CLOUDY, 992 MIILLIBARS, HIGH PRESSURE, RAINY, ROTATES CLOCKWISE, VERY WINDY, USUALLY CALM, SUNNY, LOW PRESSURE, ROTATES ANTICLOCKWISE, 1016 MILLIBARS

ATMOSPHERIC DEPRESSION	ANTICYCLONE

(12 marks)

(d) With reference to the Mediterranean Climate, describe how these different air masses affect this climate in winter and in summer. (10 marks)

5. (a) Define 'renewable energy resources'. (5 marks)

(b) Name **FIVE** types of renewable energy resources. (5 marks)

(c) Name and describe **ONE** advantage and **ONE** disadvantage of the Aswan High Dam. (10 marks)

(d) Explain briefly why it is difficult to obtain energy in Malta through hydroelectric power. (5 marks)

6. Settlements developed in different sites and situations.

(a) Define 'site' and 'situation'. (4 marks)

(b) List **FIVE** factors affecting site of a settlement. (5 marks)

(c) Define the rural-urban fringe. (2 marks)

(d) List and explain **FIVE** benefits of the rural-urban fringe. (10 marks)

(e) List and explain **TWO** conflicts in the rural-urban fringe. (4 marks)

7. The processes of urbanisation evolve along the same patterns in all cities around the world. The fastest growing cities however are found in LEDCs. **Table 1** shows the 10, most populated cities in the world in 2010.

Table 1. The ten most populated cities in the world (2010).

Cities	**Population**
Tokyo, Japan	32,450,000
Seóul, South Korea	20,550,000
Mexico City, Mexico	20,450,000
New York City, USA	19,750,000
Mumbai, India	19,200,000
Jakarta, Indonesia	18,900,000
Sáo Paulo, Brazil	18,850,000
Delhi, India	18,680,000
Õsaka/Kobe, Japan	17,350,000
Shanghai, China	16,650,000

(a) Study **Table 1** and state **FOUR** reasons why such urban areas experience growth. (8 marks)

(b) Shanty towns are characteristic of cities in LEDCs. Name **ONE** example of a city having a shanty town and list **SIX** problems that exist in shanty towns. (7 marks)

(c) Explain the means by which rural depopulation could decrease and shanty towns improve. Give **ONE** example. (10 marks)

8. (a) Name **FIVE** types of farming practices. (5 marks)

(b) What are the physical inputs required in farming? (10 marks)

(c) What are the human inputs required in farming? (10 marks)