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SUBJECT: **Geography**  
DATE: 12<sup>th</sup> December 2020  
TIME: 9:00 a.m. to 12:05 p.m.

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### Directions to Candidates

Answer a total of **FOUR** questions: **TWO** questions from **EACH** of the two Sections.  
The use of non-programmable calculators is permitted. **ALL** questions carry equal marks.

### SECTION A: PHYSICAL GEOGRAPHICAL PROCESSES

1. Figure 1 shows the tectonic landscape in the central and eastern Mediterranean region.

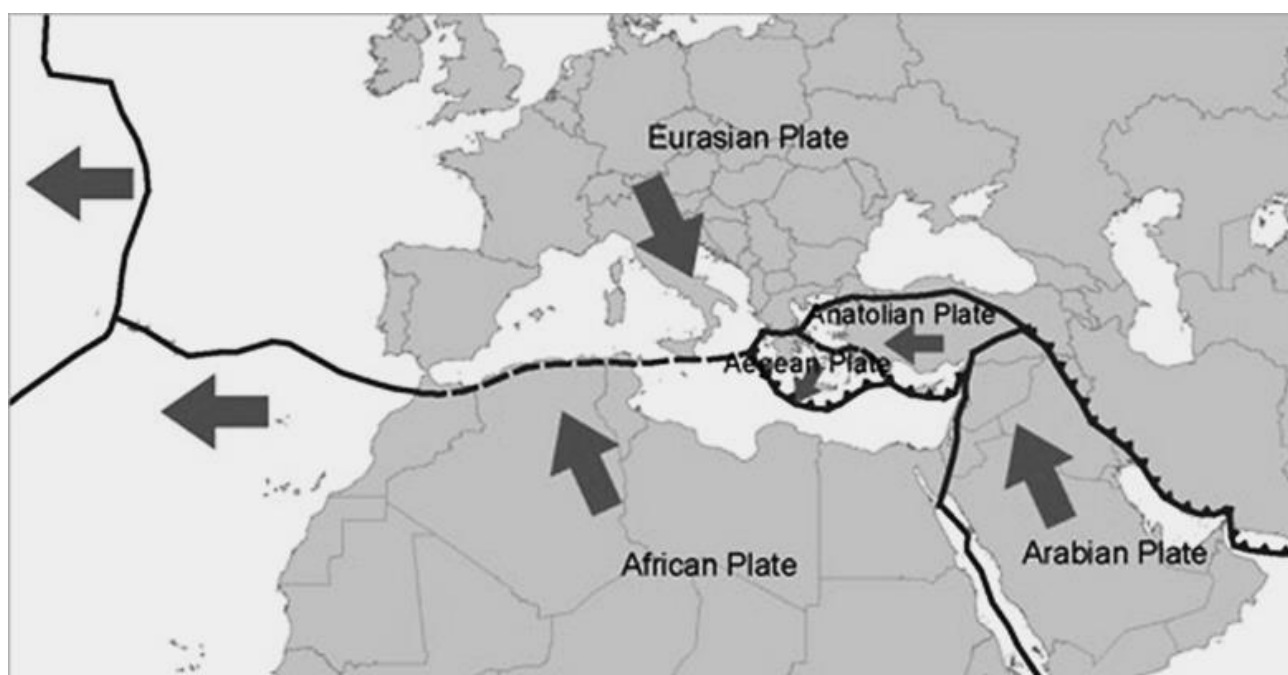


Figure 1: Plate tectonics in the Mediterranean region.

(Source: The name of the two smallest plates read as 'Anatolian Plate' and 'Aegean Plate')

- (a) With reference to the named plates illustrated in Figure 1,
- describe their movement, and
  - discuss how their position and movement is influencing the tectonic activity present in the Mediterranean region. Include annotated diagrams where required. (10)
- (b) With reference to places in the Mediterranean region, explain what types of tectonic landforms have formed as a result of such tectonic processes. (10)
- (c) Briefly explain the effect of plate tectonics on the landscape of the Maltese Islands. (5)

**(Total: 25 marks)**

2. Figure 2 shows the surface geology of the Maltese Islands.

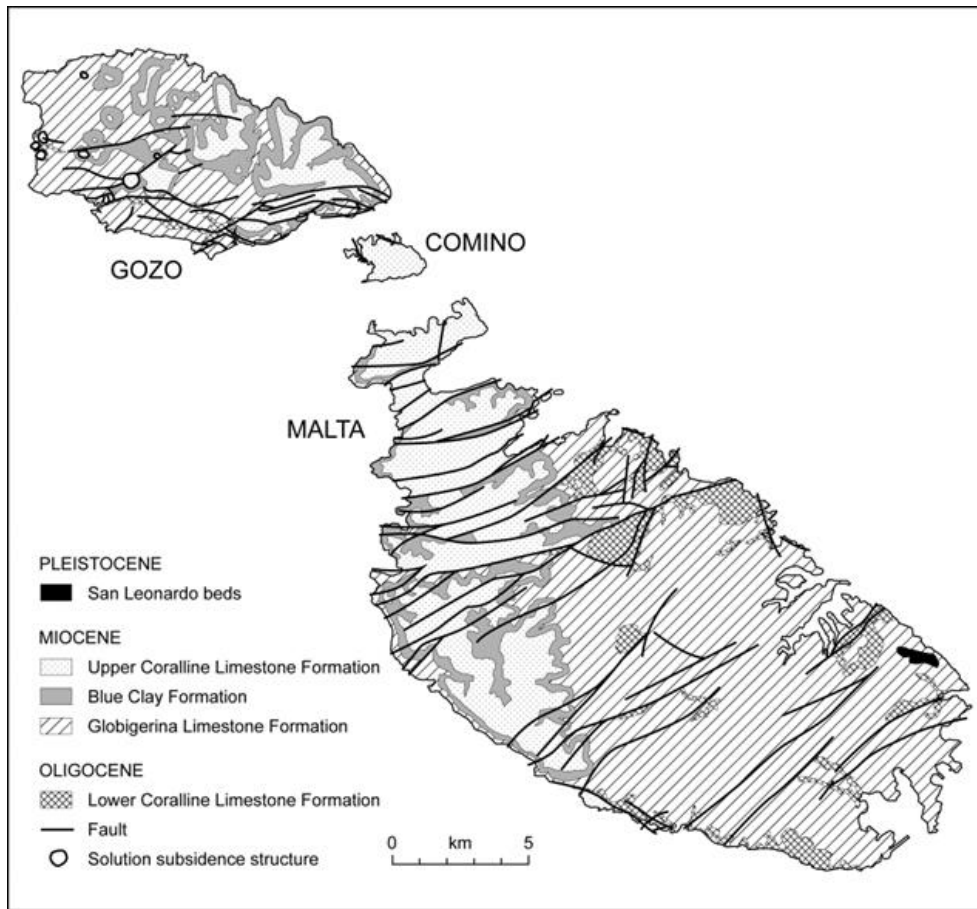


Figure 2: Surface geology of the Maltese Islands  
(Source: Main et al. 2018)

- (a) Describe the properties of three rock formations found on the surface of the Maltese islands. (9)
- (b) Describe how geology and geomorphology led to the development of the following coastal landforms in Malta:
  - i. coastal scree slopes ('rdum') in the northwestern part of Malta;
  - ii. a sequence of headlands and bays north of the Great Fault. (16)

**(Total: 25 marks)**

3. With the help of annotated diagrams (where needed), explain the following statements about airmasses and front formation:

- (a) The longer an air mass stays over its source region, the more likely it will acquire the properties of the Earth's surface below it. (5)
- (b) Air masses can control the weather for a relatively long period of time. (5)
- (c) A front is the boundary zone between air masses with distinctly different properties. (5)
- (d) Specific symbols are used on weather charts to identify the type of front moving over a particular stretch of the Earth's surface. (5)
- (e) The movement and collision of fronts cause distinct weather patterns. (5)

**(Total: 25 marks)**

4. "In 2019, the UN Convention to Combat Desertification stated that there are only three things all people need to know about desertification:
1. It is not just about sand;
  2. It is not an isolated issue that will quietly disappear; and
  3. It is not someone else's problem."

(Source: <http://news.un.org>)

With reference to the above statement, discuss further with relevant arguments the following issues:

- (a) The process of desertification also affects large areas which may not be immediately threatened by advancing sand dunes; (9)
- (b) It is caused by physical and human factors; and (9)
- (c) The effects of desertification are a global concern. (7)

**(Total: 25 marks)**

**SECTION B: HUMAN GEOGRAPHICAL PROCESSES**

5. Figure 3 shows the migration routes that influence the Mediterranean countries.

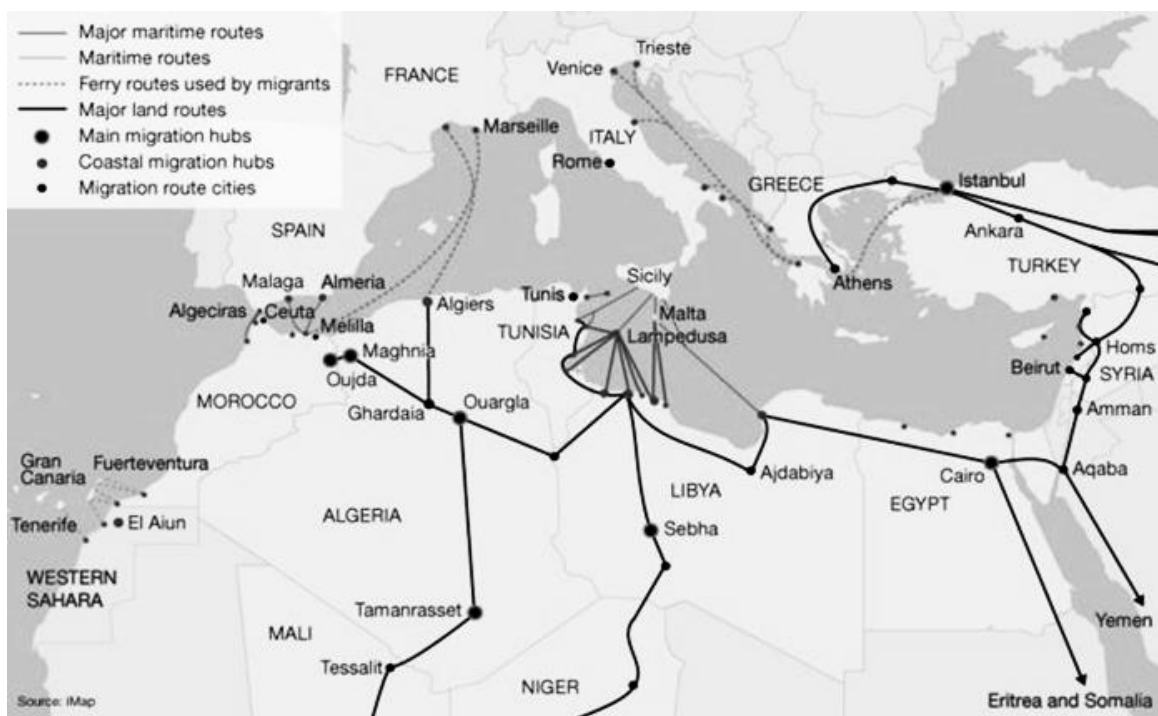


Figure 3: Migration routes around the Mediterranean  
(Source: BBC 2014)

- (a) Use the information provided by Figure 3 and discuss **TWO** reasons why the Mediterranean region is effected by migration. (10)
- (b) Describe **TWO** issues that migrants face in host countries of the Mediterranean region. (10)
- (c) Briefly explain what can be done to address the problem of migration in the Mediterranean region. (5)

**(Total: 25 marks)**  
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6. Figure 4 shows the population pyramid of Malta for the year 2019.

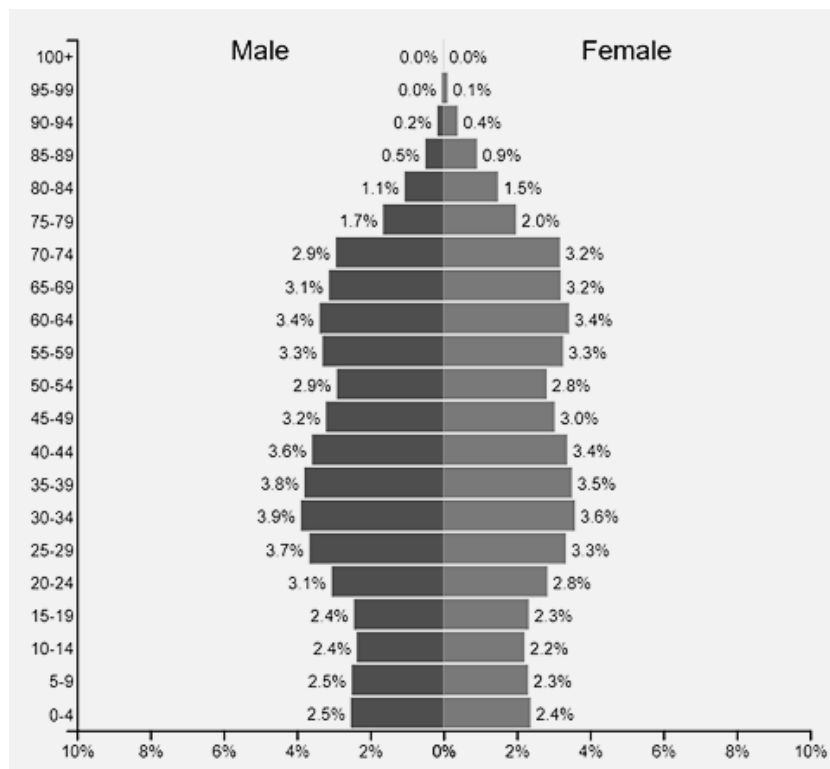


Figure 4: The population pyramid of Malta for the year 2019  
 (Source: <https://www.populationpyramid.net/malta/2019/>)

- (a) Describe the population structure shown in Figure 4. (5)
- (b) Explain **TWO** reasons for the shape of the population pyramid in Figure 4. (5, 5)
- (c) Explain **TWO** negative impacts of an increase in population for Malta. (5, 5)

**(Total: 25 marks)**

7. Malta's only mineral resource is quarrying limestone. Figure 5 shows location of quarries around Malta.

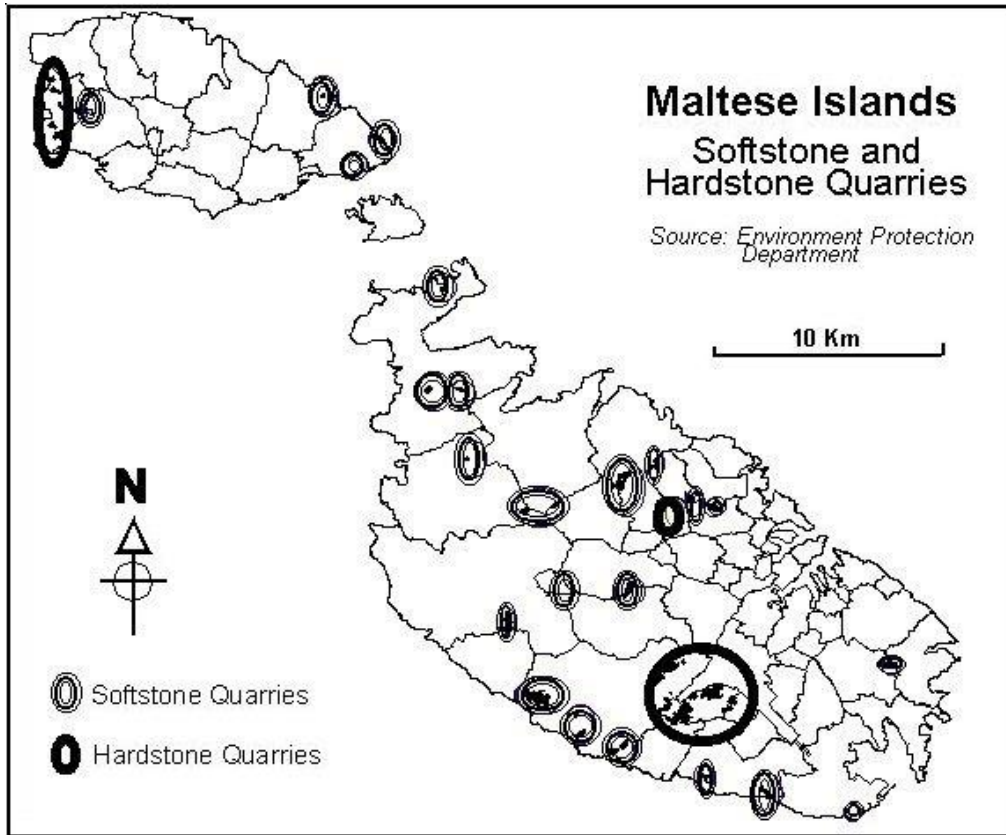


Figure 5: Quarries around Malta.  
(Source: EPD 2005)

- (a) Describe **TWO** characteristics of hard stone and **TWO** characteristics of soft stone quarrying. Give examples for each answer. (4, 4)
- (b) Briefly explain **TWO** negative impacts of quarrying in Malta. (7)
- (c) Discuss **TWO** rehabilitation measures that can be taken after a quarry becomes redundant. (5, 5)

**(Total: 25 marks)**

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8. Figure 6 shows a simplified version of the Burgess Concentric Ring Model of Urban Structure developed in 1925 and based on the American city of Chicago.

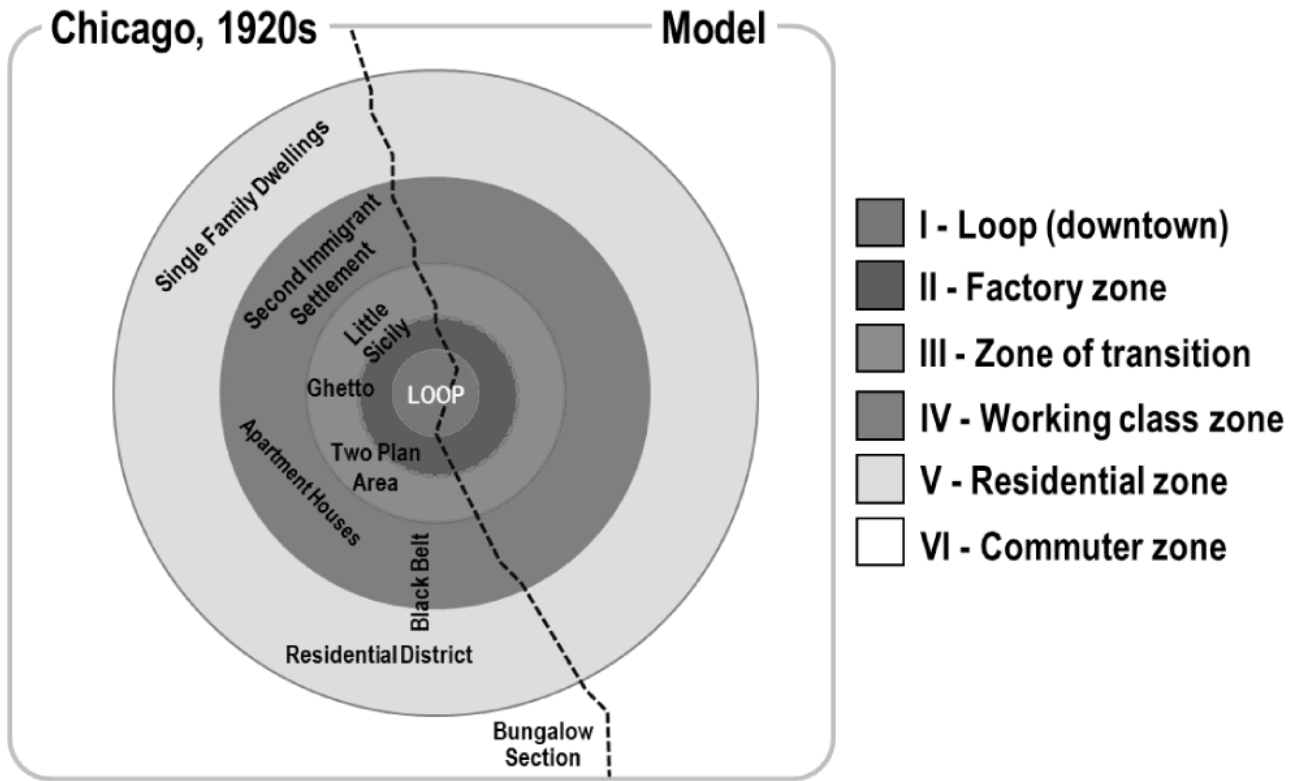


Figure 6: The Burgess Urban Land Use model  
(Source: [transportgeography.org](http://transportgeography.org))

- Discuss the basic reasoning behind this model and show how it is different from Hoyt's Sector Model. Use diagrams to support your explanation. (13)
- List **THREE** limitations of the Burgess model. (3)
- How do the Hoyt and Burgess models explain the current land use pattern in the island of Malta? (9)

**(Total: 25 marks)**