



SUBJECT: **Geography**
DATE: 1st September 2020
TIME: 9:00 a.m. to 12:05 p.m.

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

- Volcanic activity often catches the attention of international media, especially when explosive eruptions cause negative and catastrophic consequences, such as the recent volcanic eruption on White Island in New Zealand (Figure 1).

White Island volcano eruption: 13 victims still in hospital a month on

Four remain in critical condition while two people still missing after 17 killed in New Zealand disaster



Figure 1: Part of a media feature from The Guardian®, a month after the eruption of White Island volcano in New Zealand on 9th December 2019.

- With the help of an annotated diagram, explain the physical tectonic processes which are responsible for the occurrence of volcanic eruptions. (9)
- Discuss **FOUR** hazards as well as **FOUR** benefits associated with volcanic activity. (16)

(Total: 25 marks)
Please turn the page.

2. Figure 2 illustrates one storm event and the response of two different rivers to storm precipitation. Study the two storm hydrographs and answer the following questions:

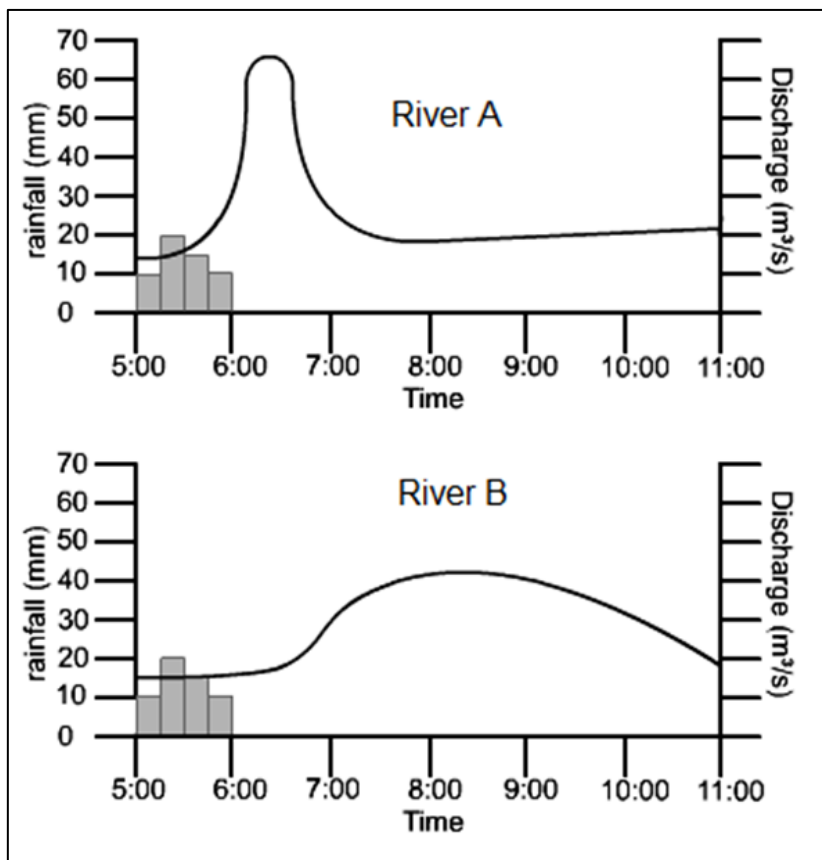


Figure 2: Storm Hydrographs for River A and B

- (a) Storm hydrographs show two elements in drainage basins. Describe, in brief, the **TWO** elements as illustrated in Figure 2. (4)

- (b) Discuss how river discharge, as shown on the hydrographs, may have been influenced by the following:
 - (i) geology;
 - (ii) valley side steepness;
 - (iii) soil type. (4, 4, 4)

- (c) Briefly explain **THREE** human activities which may influence the shorter lag time in the catchment area of River A. (9)

(Total: 25 marks)

3. According to the United Nations (2019), climate crisis disasters are happening at the rate of one a week and work is urgently needed to prepare least developed countries for the impacts of climate change (Figure 3).



Figure 3: Massai protesters, Kenya, calling for urgent action to fight the effects of climate change
(Source: <http://www.rfi.fr/en/africa>)

- (a) Define the term 'climate change'. (4)
- (b) Briefly describe **THREE** physical hazards which are a result of extreme climatic instability. (12)
- (c) With the help of examples from the least developed world, explain **THREE** reasons why least developed countries are more vulnerable to the impacts of climate change. (9)

(Total: 25 marks)

4. (a) With the help of an annotated diagram, describe the atmospheric processes that are responsible for the formation of the following **THREE** global atmospheric cells:
(i) Hadley cell;
(ii) Ferrel cell;
(iii) Polar cell. (6, 6, 6)
- (b) With reference to the Mediterranean climate, explain how the global atmospheric circulation explained in (a) affects the climate pattern over the Mediterranean region. (7)

(Total: 25 marks)

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SECTION B: HUMAN GEOGRAPHICAL PROCESSES

5. Figure 4 shows a map of the Malta Railway in 1921.

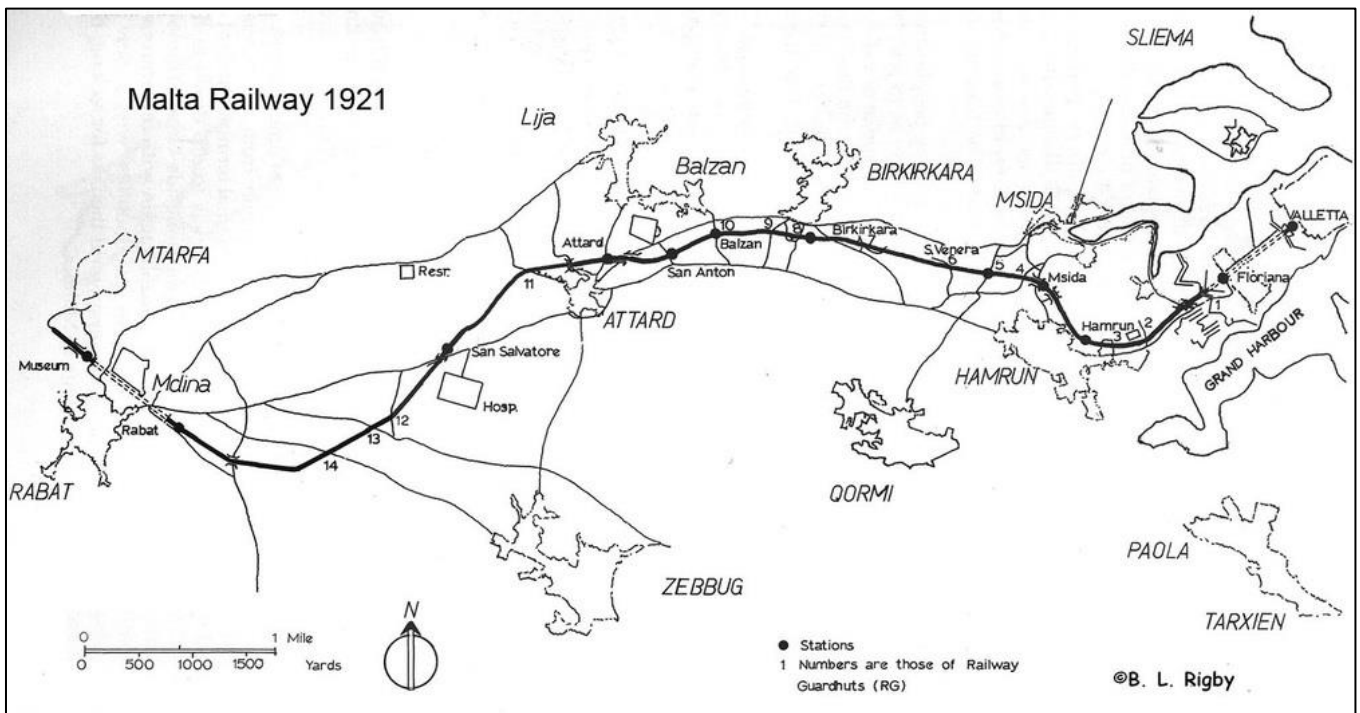


Figure 4: A map of the Malta Railway in 1921

(Source: Vassallo 2016)

- (a) Discuss the settlement patterns that developed along the railway line in Figure 4. (10)
- (b) Settlements have a function, explain the function of Mġina and Valletta in Figure 4. (10)
- (c) When human geographers describe settlements, they do so by referring to 'site and situation'. Describe the situation of Hamrun in Figure 4. (5)

(Total: 25 marks)

- 6. (a) Explain the use of the Demographic Transition Model (DTM). (5)
- (b) Draw a sketch of the DTM and briefly describe it. Use examples to support your answer. (10)
- (c) What are **TWO** criticisms of the DTM? (10)

(Total: 25 marks)

7. "Total cruise passengers for 2018 stood at 632,739, a drop of 5.6 per cent over 2017." (NSO 2019).



Figure 5: A cruise liner docked at the Valletta Grand Harbour.

(Source: CrewCenter 2020)

- (a) Briefly discuss **TWO** possible reasons for the drop in cruise passengers between 2017 and 2018. (6)
- (b) Briefly describe **THREE** benefits of having a cruise liner industry. (9)
- (c) Describe **TWO** negative impacts of the cruise liner industry (10)

(Total: 25 marks)

Please turn the page.

8. Table 1 shows the total number of persons employed in agriculture by type of employment.

Number of persons	Year			
	2005	2007	2010	2013
MALTA				
Full-time	1,546	1,764	1,301	1,372
Part-time	16,422	15,384	17,238	17,693
Total	17,968	17,148	18,539	19,066
Malta				
Full-time	1,270	1,448	1,116	1,100
Part-time	13,131	12,175	13,446	13,895
Total	14,401	13,623	14,562	14,995
Gozo and Comino				
Full-time	276	316	185	272
Part-time	3,291	3,209	3,792	3,799
Total	3,567	3,525	3,977	4,071

Source: Farm Structure Survey.

Table 1: Total employment (number of persons) in agriculture by type of employment.

(Source: NSO 2016)

- (a) Describe the data shown in Table 1 and discuss the reasons for the data it shows. (15)
- (b) Briefly discuss **TWO** reasons why Malta imports agricultural produce. (6)
- (c) Define the **TWO** types of agricultural land in Malta. (4)

(Total: 25 marks)