



L-Università  
ta' Malta

MATSEC  
Examinations Board



## **Marking Scheme**

### SEC Environmental Studies

**Main Session 2023**

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In the case of marking schemes that include model solutions or answers, it should be noted that these are not intended to be exhaustive. Variations and alternatives may also be acceptable. Examiners must consider all answers on their merits, and will have consulted with the MATSEC Examinations Board when in doubt.

## A. PAPER I

### SECTION A

#### Question 1

**a. Name the THREE families of rocks.**

Candidates need to identify the three families as: igneous; sedimentary; metamorphic (3)

**b. Name the family of rocks belonging to those found on the Maltese Islands.**

The Maltese Islands are composed entirely of sedimentary rocks. (1)

#### Question 2

**a. Why is the Mediterranean region such an active seismic region?**

The Mediterranean is a zone of collision between a northward moving African Plate subducted under a southward moving Eurasian Plate. More simple statements indicating that the Mediterranean is a boundary between continental plates are also acceptable. (2)

**b. Name TWO countries in the Mediterranean region where volcanic activity is particularly high.**

Give one mark for each country mentioned: Italy, Greece, Turkey (2)

#### Question 3

**a. Study the diagram in Figure 1 above and name TWO benefits of rubble walls on agriculture.**

The main benefits are:

- Rubble walls reduce the slope gradient providing a level surface for cultivation of crops.
- Rubble walls prevent soil erosion along slopes by stormwater runoff.
- Deeper soils form just behind the rubble wall allowing more moisture in the soil for crops.
- Rubble walls allow rainwater infiltration in the soil body by slowing surface water runoff.
- Rubble walls allow excess rainwater to drain through the wall when such walls are properly constructed and maintained.

(2)

**b. Give ONE reason why rubble walls are important for the Maltese natural environment.**

These include:

- Rubble walls provide refuge for a wide variety of wild animals: skinks, snakes, and other reptiles; hedgehogs, rodents; molluscs, insects, etc.
- Rubble walls are also colonised by a variety of wild plants.

(1)

#### Question 4

**a. Which of the living organisms in Figure 2 can be called producers?**

Give one mark for the correct identification of grass or plants. (1)

**b. Which of the living organisms in Figure 2 can be called consumers?**

Give one mark for the correct identification of: grasshopper, mouse, or owl. (1)

**c. Which organisms play a crucial role in the recycling of dead organisms and releasing nutrients to the soil?**

Give one mark for any one of the correct answers below:

- bacteria
- Fungi
- other acceptable terms include: decomposers, saprotrophs, detritivores. (1)

*Question 5*

**a. What does 'suburb' mean?**

Suburbs are settlements that developed near cities or important towns. (2)

**b. Name ONE suburb that developed in Malta and ONE that developed in Gozo.**

- suburbs in Malta: Rabat near Mdina, Floriana near Valletta, Gżira near Sliema,
- suburb in Gozo: Rabat (Victoria) near the Citadella. (2)

*Question 6*

**Briefly explain why the *Manderaggio* in Valletta had, after a while, developed into a problem.**

The Manderaggio, on the side of Valletta facing Marsamxett harbour, was a run-down quarry-like area that developed into a slum area (kerrejja, narrow streets) inhabited by poor people during the days of the Knights of St. John. The inhabitants lacked many amenities (water and sewage disposal). Its situation remained appalling during British rule and it was only in the 1950s that the slums were demolished and replaced by a modern housing estate. (3)

*Question 7*

**Why are social institutions important for society?**

Social Institutions are groups or organisations which are formed to preserve the basic function and structure of society. They contribute towards the protection and development of civic rights and fulfil functions to meet the social needs of society. (3)

*Question 8*

**Indicate the historical period to which each of the following remains belong:**

- Ġgantija - Prehistoric
- Cippus Pillar - Punic
- Domus Romana - Roman
- Hal Millieri Chapel - Medieval (4)

*Question 9*

**Explain the difference between a fortress economy and a diversified economy in the context of Malta under the British.**

Fortress economy in the Maltese colonial context is when the economy was geared to satisfy the needs of the British Empire or colonial government. A diversified economy is an economy that includes various players in the system, namely government entities whose aim is to provide necessary public services; and profit-seeking private companies, cooperatives and business consortia. (4)

*Question 10*

**What is ecotourism? How can ecotourism help society?**

Ecotourism is a form of tourism involving responsible travel to natural areas while conserving the natural environment and improving the well-being of the local people. Its purpose may be to educate the traveller; to provide funds for ecological conservation; to directly benefit the economic development and political empowerment of local communities; or to foster respect for different cultures and human rights. (3)

*Question 11*

**In recent years, accidents on the workplace have become quite frequent. Mention THREE measures that can be taken to reduce these accidents.**

Candidates may mention any THREE from the following examples of answers as well as others deemed by the examiner as correct:

- Wear safety equipment;
- Provide necessary training to avoid injuries on the work place;
- Impose fines to people not using the safety equipment provided;
- Company policies to promote safety procedures;
- Unannounced inspections by safety officials.

(3)

*Question 12*

**Sixteen-year-old youths can vote in Malta for various elections. What is the message given by society when securing voting rights to these young citizens?**

Society is showing that 16-year olds are mature enough to be part of the group of citizens deciding for the best of the country. It means that their opinion counts as well; they are adult enough to vote but not to drive or sign for contracts. (3)

## SECTION B

### Source Question 1

#### Question 13

**a. Choose THREE locations which are associated with quarrying from the list below:**

The three correct answers are: Mosta; Mqabba; Sigġiewi.

(3)

**b. What is the difference between soft and hardstone quarries?**

Lower Globigerina Limestone quarries consist of soft stone that provides stone blocks (locally known as *tal-Franka*) for the construction industry. Upper Coralline Limestone quarries consist of hard rock used to extract sand, gravel and crushed stone. (3)

**c. Which rock layer is quarried to obtain the building stone mostly used for Maltese residences?**

The correct answer is Globigerina limestone also known as Franka in Maltese. A more precise answer is the Lower Globigerina member of this formation but the first answer is enough. (2)

**d. Quarries have a considerable impact on the environment of the Maltese islands. Name TWO of these impacts.**

Give two marks for each identified impact listed below:

- the visual impact of quarries spoils natural landscapes and diminishes the value of such landscapes;
- noise pollution from the operation of machinery;
- shock waves from explosives used in hardstone quarries damage buildings and wildlife;
- dust pollution covers vegetation in close proximity and poses a threat to human respiratory systems;
- the excavation of rock poses a threat to groundwater quality especially if refuse and hydrocarbons accumulate in the quarry;
- the closure of the quarry still leaves a gaping hole in the ground. (4)

**e. Name and explain TWO ways in which quarries can be rehabilitated.**

Give one mark for each correct answer from the following:

- infilling quarries with clean construction waste;
- developing of the quarry as a tourist attraction;
- partial filling of the quarry and spreading of soil to create arable fields;
- location of industrial garages in disused quarries but this has to be closely regulated to ensure that groundwater does not get contaminated. (4)

**f. Why did the British Colonial Government build the Victoria Lines?**

Originally known as the North-West-Front, this line of fortifications was built late in the 19th century to cut across Malta to form a barrier to invading forces landing in the north of the island. They were meant to protect the central/southern part of the Malta – harbour area and dockyard facilities essential for the British naval base. (3)

**g. Give the name of TWO forts constructed along the Victoria Lines.**

Fort Mosta; Fort Madliena; Fort Bingemma

(2)

**h. Briefly explain the structure and strategic importance of the forts built along the Victoria Lines.**

Fort Mosta and Fort Madliena were built between 1878-1880s. They have a polygonal form surrounded by a polygonal ditch, and an artillery battery on the outside. These were linked by a sally port. It was armed by hydrolically operated rotational guns. At first it was armed by muzzle-loading guns until these were replaced by breech-loading ones. The Victoria Lines were abandoned in 1907, just eight years after they were completed, as they were deemed to be of little defensive value, especially with the invention of the aircraft. While Fort Bingemma and Fort Madliena remained in use for coastal defence, Fort Mosta lost most of its military value. During and after the Second World War it was used as an ammunition depot. Fort Madliena and Fort Bingemma were used by the RAF as a communications post, and as a radar station during and after the Second World War. (4)

**Source Question 2**

**Question 14**

**a. Mention TWO mode of public transport that were used in Malta before 1900.**

- The omnibus was introduced in 1856
- The railway was introduced in 1883

(2)

**b. From the list below, choose the THREE towns which were served by the tram from its terminus in Valletta between 1903 and 1929.**

The Malta Tramways provided connections between:

- Valletta and Haż-Żebbuġ (through Hamrun and Qormi)
- Valletta and Cospicua (through Marsa and Paola)
- Valletta and Birkirkara (through Hamrun)

(3)

**c. With reference to Source B and Source C, briefly explain how the public bus transport service in Malta started and developed during the twentieth century.**

Public Bus Transport started in 1905: private companies were set up, eg. Malta Motor Omnibus and Cottonera Motor Bus Company. They provided service between Valletta and St. Julian's/Sliema and Cottonera and gradually other towns and villages. In 1921 a Public Transport Company was set up and in 1931 a Traffic Control Board was set up to ensure an organised service. Buses were built locally. They had different colours and other decorations to identify their destinations. The system remained largely so for many years. (4)

**d. Mention THREE modes of transportation that can be used in Malta nowadays.**

Give one mark for each of these examples of answers mentioned: private cars; buses; bikes, taxis, scooters, motorbikes. (3)

**e. With reference to Source C, explain THREE negative effects on the way of life of the citizens, caused by frequent traffic jams.**

Give one mark for each of these examples of answers mentioned: stress; waste of time; arriving late for appointments; less quality of life; more air and noise pollution. (3)

**f. Suggest THREE ways how the flow of traffic can be made more efficient.**

Accept as correct any THREE from the following examples of answers and/or others deemed relevant: effective traffic management; clear traffic signage; traffic policemen or enforcement officials; efficient cars not breaking down, upgraded roads, more people using bikes and/or public transport; car-pooling to reduce the number of cars on the road. (3)

**g. How is the recent increase in Malta's population affecting the road networks and transport locally?**

Accept any THREE from the following and other responses deemed correct by the examiner:

- Extension or building of new roads in the outskirts of most towns and villages;
- Widening of the main roads to improve the flow of traffic;
- Many foreign workers opt to use the free of charge Tal-Linja public transport;
- Building of residential apartments blocks in many localities in Malta and Gozo;
- Building car parks and park and ride centres due to a constant increase in automobiles;
- More people travelling especially during morning and afternoon rush hour; (3)

**h. i. How was transport between Malta and Gozo improved since the late nineteenth, and the twentieth century?**

The first regular passenger and mail service between Gozo and Malta was inaugurated in 1885 and operated concurrently by the Gleneagle Company and the Malta Steamship Company. This ferry service continued to be operated from Marfa in Malta to Mgarr Gozo by other private companies during most of the twentieth century. In 1979 the Gozo Channel Company was inaugurated to maintain, develop, and operate a sea transport service to and from Malta, Gozo and elsewhere. As the traffic between Malta and Gozo increased, more vessels were introduced into the service to cope with the demand. In the mid-1990s, the Company constructed three ro-ro vessels at the Malta Shipbuilding which were introduced into service between 2000–2002. (2)

**ii. Mention TWO impacts of this improvement.**

Accept any TWO from the following and from other responses deemed correct by the examiner:

- Travel between Malta and Gozo became more regular and efficiently run;
- Gozo became more frequently by tourists visiting Malta;
- More Maltese bought a summer residence in Gozo;
- A building boom in Gozo – construction of apartments for short and long lets; building of hotels and catering establishments; modernization of farmhouses;
- An significant increase in traffic and parking difficulty, especially at Victoria and the nearby villages. (2)

## B. PAPER 2A

### *SECTION A: The World – Our Home Management of Resources*

#### *Question 1*

**a. Name a Nature Reserve in the Maltese Islands that you have studied, and discuss the reasons why this reserve was created.**

The first four marks are given for a simple identification of these reasons/roles while progressively higher marks are awarded for a discussion of the benefits accrued from such designations. These include:

- Protection of specific habitats in which such organisms live;
- Protection to migratory birds – especially waterfowl;
- Protection and conservation of endangered species;
- The role of education and appreciation of nature by society as a whole;
- The facilitation of scientific investigation in such habitats;
- Preserving the possibility that some of the flora and fauna of these sites may be of additional future benefit – e.g. pharmaceutical potential;
- Fulfilling our legal and moral/ethical obligation to ensure that we hand over these sites to future generations;
- Acknowledging our obligation that nature has an intrinsic right to exist without it having to be of some use to humanity.

(8)

**b. Discuss the major threats endangering the biodiversity of a valley on the Maltese Islands.**

A simple identification of three of the more obvious threats listed below gains half the marks. The other six marks are allocated to a well-argued discussion regarding such threats:

- Collecting of endangered species for the pet trade;
- Unsustainable hunting or fishing activity;
- Dumping of waste and building spoil;
- Habitat destruction;
- Importation of alien species;
- Soil sealing and accelerated storm water runoff in the valley;
- Pollution of watercourses;
- Drawing water from watercourses for irrigation leaving nothing for wildlife;
- Any other response deemed relevant by the examiner.

(12)

**(Total marks: 20)**

**Question 2**

**Climatologists have recorded ever increasing global temperatures which confirm that Global Warming is an undeniable fact.**

**a. What is the difference between weather and climate?**

A simple answer is that weather refers to short-term changes in the atmosphere usually over a few days while climate is the pattern of atmospheric processes in a specific region, including seasonal variations, averaged over much longer time spans. Thirty years is often used as a benchmark for climate studies. (2)

**b. Discuss what is causing global warming.**

Global warming is a phenomenon of climate change characterized by a general increase in average temperatures of the Earth, which modifies the weather balances and ecosystems for a long time. It is directly linked to the increase of greenhouse gases in our atmosphere, worsening the greenhouse effect.

**Causes**

The average temperature of the planet has increased by 0.8°C compared to the end of the 19th century. Each of the last three decades has been warmer than all previous decades since the beginning of statistical surveys in 1850.

The greenhouse effect is a natural phenomenon. However, the increase in greenhouse gases is linked to human activities. Climate scientists believe that human activities are very likely the main cause of global warming since the mid-twentieth century, mostly because of:

- Fossil fuels: The massive use of fossil fuels as burning coal, oil and gas produces carbon dioxide and nitrous oxide greenhouse gases in the atmosphere.
- Deforestation: Forest trees help regulate the climate by absorbing CO<sub>2</sub> from the atmosphere. When they are cut down, this positive effect is lost and the carbon stored in the trees is released into the atmosphere.
- Intensive farming: The ever-increasing livestock (cattle and sheep) and plant protection products and fertilizers produce large amounts of methane when digesting their food, while fertilizers produce nitrous oxide emissions.
- Waste disposal: Landfills and incineration plants emit greenhouse and toxic gases - including methane into the atmosphere, soil and waterways, contributing to the increase of the greenhouse effect.

- Mining: Metals and minerals are the raw materials used in the construction, transportation and manufacturing of goods. From extraction to delivery, this market accounts for 5% of all greenhouse gas emissions.
- Overconsumption: Mass consumption is responsible for the overexploitation of natural resources and emissions from international freight transport, which both contribute to global warming. (10)

**c. How can the process of global warming be slowed down?**

Give TWO marks for each of the following responses mentioned:

- Renewable energies: The first way to prevent further climate change is to move away from fossil fuels in favour of solar, wind, biomass and geothermal energy sources.
- Energy and water efficiency: Reduce consumption of energy and water by using more efficient devices (e.g. LED light bulbs, innovative shower systems, eco-friendly appliances).
- Sustainable transportation: Promoting public transport, carpooling and electric and hydrogen mobility can reduce CO<sub>2</sub> emissions and slow down global warming.
- Sustainable infrastructure: To reduce CO<sub>2</sub> emissions from buildings caused by heating, air conditioning, hot water or lighting, it is necessary to construct low energy buildings and to renovate existing ones.
- Sustainable agriculture and afforestation: Encourage better use of natural resources, stopping massive deforestation and make agriculture greener and more efficient.
- Responsible consumption and recycling: Responsible consumption habits are crucial, be it regarding food, clothing, cosmetics and cleaning products. Recycling is an absolute necessity to minimise waste. (8)

**(Total marks: 20)**

*SECTION B: Human Population Human Communities*

*Question 3*

**Important milestones in education in Malta, reflect the influence of the Language Question in the development of the educational system.**

**a. How did Canon Paolo Pullicino try to improve the educational system?**

Candidates may mention and comment on any of the points below and/or on others deemed relevant by the examiner: Canon Paolo Pullicino was appointed Director of Primary Schools in 1850 and remained in office till 1880. He did a lot to develop the educational system. He wrote about educational development in Europe, and visited England, Ireland, France, Germany, Spain and Italy to gather

information on methodology an educational systems. He issued Reports on the situation in Malta. In 1850 there were just a few schools. He introduced teacher training by setting up a training centre at Valletta School. He sought to develop the educational curriculum, got textbooks from abroad and encouraged the inclusion of various subjects as geography, history, nature study, drama and other activities and also music and navigation in certain schools. He got the support of some Maltese scholars to have textbooks in Maltese, but he preferred to teach Italian rather than English. In 1878, Patrick Keenan criticised him and this led to his resignation. He was succeeded by Sigismondo Savona. (6)

**b. Discuss the effects of the Keenan Report on the Language Question and the educational system up till 1940.**

Candidates may mention any of the following effects of the Keenan Report and any others deemed relevant by the examiner:

- Patrick J. Keenan was member of Royal Commission which visited Malta in 1878. He wrote an extensive report in which he made several proposals: the teaching of English and Maltese at elementary schools and Italian after school hours; At secondary level teaching of English and Italian as an optional subject; introduction of compulsory primary education; setting up of Management Committee for Primary Schools; teacher training colleges and recognition of teachers and better salaries; changes in the curriculum – syllabi, textbooks, teaching methods. Also changes in University and Lyceum and a new system of administration – having a Director of Education and a Board of Education for all system. (3)
- Government appointed Sigismondo Savona, leader of pro-English, Reform Party, as Director of Education. He sought to introduce Keenan's proposals: improved the situation at the Lyceum, increased teachers' salaries; introduced system of examination for entrance into the Lyceum; removed Italian from the primary schools and replaced it with Maltese; introduced pari passu approach. Anti-Reform Party led by Fortunato Mizzi opposed such reforms and preferred the Italian language. The situation became political and hindered development. (3)
- Gerald Strickland, Chief Secretary, pushed forward Keenan's reforms and proposed free choice (1902) – parents had to choose language of education for their children. He wanted to phase out Italian from University (and Law Courts). Following 1889 Constitution, Council of Government had right of veto on money matters – this gave Anti-Reform Party members opportunity to oppose money vote on education. To appease them, the British Governor removed Strickland from Malta and in 1903 the Constitution was suspended. (4)
- In 1920 Strickland returned to Malta, set up the Constitutional Party. In 1924 Compulsory Attendance Act was introduced (first until age 12, then 14 in 1928). Strickland became Prime Minister in 1927 and reintroduced free choice. The situation became complicated when he quarrelled with the Church and lost election in 1932. The Nationalist Party tried to revoke Strickland's reforms but the Governor suspended the Constitution. A Royal Commission (1931) had proposed introduction of Maltese as language of study in elementary schools. Meanwhile Italian started to lose popularity as relations between England and Fascist Italy led to the war. In 1934 British

Government declared Italian no longer an official language of administration and in schools it was replaced by Maltese. English and Maltese became official languages of Malta and law courts. New Maltese orthography of Akademja tal-Malti was introduced. World War II brought about end of Language Question. Maltese became compulsory in public exams and in schools. (4)

**(Total marks: 20)**

*Question 4*

**The Knights of St John sought to protect the Maltese coast by building various forts, towers and other fortifications.**

**a. Why and how did various Grand Masters seek to ensure the protection of the coast of the Maltese islands?**

Introduction:

Knights established in Malta following the Great Siege. They wanted to ensure the security of Islands. So strengthened naval activities in the Mediterranean. By 16th century, Grand Masters and knights sought to strengthen the defences of the Islands by building various types of fortifications. (2)

Why: Candidates may mention the points below and/or others deemed relevant by the examiner:

The Knights wanted to protect the Islands from any threat of invasion – a Turkish incursion in 1614 and raid on the village of Zejtun and the surrounding countryside and later fears especially during War of Candia, made several Grand Masters seek to ensure stability in the Maltese Islands by developing a chain of fortifications. These included towers, and other such defences such as batteries, redoubts, entrenchments. (2)

How: Candidates may mention the points below and/or others deemed relevant by the examiner:

- Several Grand Masters and knights funded the building of such fortifications. Maltese and foreign architects/engineers were tasked with their building. Grand Master Garzes built a tower in Mgarr, Gozo. Grand Masters Alof de Wignacourt, Jean Paul Lascaris-Castellar and Martin de Redin built various towers to protect the coast:
- Massive squarish towers: built to protect the principal bays, to reconnoitre the area and to engage disembarking enemy. Such towers had thick walls and some also rock hewn ditches to protect them. Grand Master Wignacourt built Wignacourt Tower (1609) in St. Paul's Bay, St. Mary's Tower (1615) on Comino, St. Lucian (1610) at Marsaxlokk, St. Thomas (1614) at St. Thomas Bay Marsascala, Delle Grazie (1620) at Xaghra Zabbar – designed by Vitor Cassar; Grand Master Lascaris built St. Agatha's Tower/Red Tower overlooking Mellieħa Bay designed by Antonio Garsin. (5)
- Small watch towers – two single-room floors, built close to the shore in gaps between existing fortifications. These served to relay signals to the nearest garrison as soon as they noticed the enemy approaching. Grand Master Lascaris built a number of these including Lippja in Ĝnejna and

Ta' Xuta near Wied iz-Zurrieq which served as model to the thirteen towers built by Grand Master De Redin, e.g. San Ġiljan, I-Abjad facing Comino, L-Għallis. (5)

- Other defences: a number of Grand Masters were more concerned with the Grand Harbour area: e.g. Nicholas Cotoner built Cottonera Lines, Zondadari and De Vilhena strengthened the Harbour area with other fortifications, e.g. Floriana, Santa Margerita, Manoel Island. Other defences included batteries – gun platforms ringed by semicircular parapets; redoubts – infantry strongholds built in middle of bays to obstruct any enemy landing; entrenchements – detached walls near bays; they *fougasse* as explosive traps dug in the surface rock. (3)

**b. Name and comment on the role of ONE Maltese voluntary organisation that strives to conserve, restore and care for such defence structures.**

Candidates are to mention ONE organisation – e.g. *Din l-Art Helwa, Wirt Ĝawdex, Fondazzjoni Wirt Artna, etc.* and indicate some of its activities, e.g. *Din l-Art Helwa* IS raising awareness of national heritage, restoration and care of Red Tower, Wignacourt Tower and others, fund raising activities, awareness campaigns, lectures on Maltese heritage, visits. (1+5)

**(Total marks: 20)**

*SECTION C: Work and Leisure Managing a Nation*

*Question 5*

**Media, tourism, and immigration are influencing the Maltese culture and lifestyle.**

**a. Use examples to explain how media, tourism and immigration have impacted local culture and lifestyle.**

Candidates may mention and comment on any of the points below and/or on others deemed relevant by the examiner:

- Media: influx of ideas; of different ways of living; of trends; more flexibility in working from home; more job opportunities; more up to date ideas; better communication;
- Tourism: greater influx of tourists; better facilities to attract tourists (which attract Maltese tourists as well); meeting with people from different cultures; travelling more; new ideas introduced by tourists;
- Foreign workers: different cultures; take up jobs which Maltese workers refuse to do; open retail outlets; provide new services. (15)

**b. Comment on the differences between the present and earlier lifestyles.**

Candidates may mention and comment on any of the points below and/or on others deemed relevant by the examiner:

- Maltese population has become more heterogeneous than in earlier times;
- Some jobs ceased to be attractive to native Maltese and have been taken over by foreign workers, e.g. public transport, public cleansing, supermarket attendants, catering establishments, etc.;

- Foreign types of cuisine have become popular among the Maltese - Asian, Indian, Turkish, Greek, Chinese restaurants have opened self-service outlets, take-aways and restaurant establishments;
- The widespread use of the social media across all ages from young teenagers to senior citizens. (5)

*Question 6*

**From a union of six countries, the European Union (EU) evolved in a group of 27 countries. Malta joined in 2004.**

**a. Briefly describe the THREE main institutions of the EU.**

Candidates are to provide some brief information about the three main institutions of the EU: the European Parliament; the European Commission; the European Council of Ministers. Two marks are to be allocated to each institution mentioned. (6)

**b. Discuss how Malta was affected since joining the EU in 2004.**

Candidates may mention and comment on any of the points below and/or on others deemed relevant by the examiner:

- EU membership means young people have the right to train and study in any EU country under the same conditions as that country's nationals through the EU's Erasmus scheme;
- EU membership supports jobs, meaning more opportunities;
- The EU is the top destination for Malta's exports;
- The EU shares the commitment to tackle youth unemployment. Efforts are made to get more young people into work through funding from the European Commission's Youth Employment Initiative;
- University and educational facilities or institutes benefitted from EU funding for training, research and innovation;
- Freedom of movement gives young people the right to travel and work anywhere within the EU, visa free;
- Better road networks and traffic management;
- Upgrading of the national museums; restoration and conservation of cultural and historical buildings and sites (e.g. MUŽA);
- Sustainable tourism for *Wied il-Mielah*;
- Text-to-speech technology for the Maltese language;
- Improvement of mental healthcare into practice;
- Holistic training for healthcare professionals;
- Promoting Chadwick Lakes as a site for eco-tourism;
- Reimagining the Ta' Qali Crafts Village;

- Embracing inclusivity and diversity in the workplace;
- Adoption of the Euro currency and Malta joining the Eurozone.

(14)

**(Total marks: 20)**

## **C. PAPER 2B**

### *SECTION A: The World – Our Home Management of Resources*

#### *Question 1*

**The natural environment of the Maltese Islands has diminished considerably as a result of the constant growth in human population, which is why it is becoming more important to safeguard it.**

**a. Name a Nature Reserve on the Maltese Islands that you have studied, and discuss TWO reasons why the Reserve was created.**

Marks for a reasonable identification of these two reasons/roles while progressively higher marks are awarded for a discussion of the benefits accrued from such designations. These include:

- Protection of specific habitats in which such organisms live;
- Protection to migratory birds – especially waterfowl;
- Protection and conservation of endangered species;
- The role of education and appreciation of nature by society as a whole;
- The facilitation of scientific investigation in such habitats;
- Preserving the possibility that some of the flora and fauna of these sites may be of additional future benefit – e.g. pharmaceutical potential;
- fulfilling our legal and moral/ethical obligation to ensure that we hand over these sites to future generations;
- Acknowledging our obligation that nature has an intrinsic right to exist without it having to be of some use to humanity.

(8)

**(Total marks: 20)**

**b. Choose and discuss any TWO of the following threats to the biodiversity of a valley on the Maltese Islands:**

- Dumping of general and construction waste;
- Habitat destruction;
- Introduction of alien species to the valley and/or watercourse;
- Soil sealing and accelerated storm water runoff in the valley;
- Trapping of endangered and endemic species;
- Pollution of watercourses.

(12)

The discussion needs to be more than a simple reformulation of the threats mentioned above. Such answers should only be awarded less than half the marks. Progressively higher marks are gained by the identification of processes and their consequences.

**(Total marks: 20)**

*Question 2*

**Climatologists have recorded ever increasing global temperatures which confirm that Global Warming is an undeniable fact.**

**a. What is the difference between weather and climate?**

A simple answer is that weather refers to short-term changes in the atmosphere usually over a few days while climate is the pattern of atmospheric processes in a specific region, including seasonal variations, averaged over much longer time spans. Thirty years is often used as a benchmark for climate studies. (2)

**b. Choose and discuss TWO of the following human activities that are contributing to global warming.**

Accept as correct from the following examples of responses:

- Burning of fossil fuels;
- Deforestation;
- Industrialisation and urbanisation;
- Global population rise;
- Political inaction in some countries.

(10)

**c. Discuss TWO measures that you and your family can adopt to help slow down the global warming.**

The discussion needs to be more than a simple reformulation of the activities identified above. Such answers should only be awarded less than half the marks. Progressively higher marks are gained by the elaboration of processes and their consequences.

- Reduce our personal carbon footprint through energy conservation and efficiency;
- Switch off unnecessary lights and energy consuming appliances like air conditioners;
- Wear warmer clothes indoor during winter to reduce home heating temperature;
- Use public transport or cycling instead of the family car;
- Advise parents to insulate homes – double glazing, reflective glazing and paints; thermal roof insulation;
- Advise parents to purchase solar hot water systems and photovoltaic panels. (8)

**(Total marks: 20)**

*SECTION B: Human Population Human Communities*

*Question 3*

**The Language Question had a great influence on the development of Malta's educational system.**

**a. Who were the members of the Royal Commission that visited Malta in 1836?**

John Austin, George Cornwall Lewis.

(2)

**b. What did the Keenan Report propose and what were its immediate effects?**

Points which candidates may include in their answer: Patrick J. Keenan was a member of the Royal Commission that visited Malta in 1878 and reported on its economic affairs and on education. Keenan recommended several reforms in the educational system: emphasized the teaching of English and Maltese in schools, and Italian after school hours; compulsory primary education; training of teachers by opening training colleges; changes in the curriculum, syllabi, textbooks and teaching methods; changes in University and Lyceum and a new system of administration under a Director of Education and a Board of Education for all system.

The immediate effect was that the situation became political: Reform Party led by Sigismondo Savona favoured English, while the Anti-Reform Party led by Fortunato Mizzi favoured Italian. Savona was appointed Director of Education and proposed a pari passu approach, teaching of English and Italian in primary schools. This hindered much progress in the development of education. Savona resigned and Italian was reintroduced for some time. (8)

**c. What did Gerald Strickland propose to push forward language reforms in favour of English?**

Points which candidates may include in their answer: Gerald Strickland sought to push forward Keenan's proposal in favour of the English Language. When he became Chief Secretary he proposed free choice, parents had to choose the language of instruction of their children; remove Italian from the law courts and from University; make English compulsory for jobs in the civil service. (2)

**d. Explain what led to the end of the Language Question by 1940?**

Points which candidates may include in their answer: The end of the Language Question came about by 1940: Opposition against Strickland led to his being sent away from Malta as Governor in the West Indies. In 1903 the Constitution was suspended. In the 1921 Constitution, English and Italian were the official languages and Italian remained the language of the law courts. Compulsory Attendance Act was introduced in 1924. In 1927 Strickland was elected Prime Minister and sought to give more importance to English and reintroduced free choice. Political clashes followed, a Royal Commission (1931) proposed the introduction of Maltese as language of study at elementary schools. The pro-Italian party led by Enrico Mizzi opposition led to the suspension of the Constitution. In 1934, the British Government declared Italian no longer an official language of administration and replaced it by English and Maltese which became the official languages. Italian lost its popularity especially as relations between England and Fascist Italy led to War. In 1934 English and Maltese were declared official languages of Malta. The Maltese orthography of the Akademja tal-Malti was also declared the official orthography of the Maltese Language. Eventually World War II brought about end of Language Question. (8)

**Question 4**

**The Knights of St John built various forts, towers and other fortifications to protect the Maltese coast.**

**a. Why did the Knights feel the need to protect the coast of the Maltese Islands?**

Following the Great Siege the Knights wanted to ensure the security of the Maltese Islands and to protect them from any invasion. Their fear of any incursion increased as events developed in the Mediterranean – there was a Turkish raid in 1614 and especially during the war of Candia. They wanted to ensure stability in the Islands so they sought to protect them by building a chain of fortifications round the Grand Harbour and other defences along the coast. These included towers, batteries, redoubts and entrenchments. (4)

**b. Explain how Grand Master Alof de Wignacourt sought to strengthen the defences of the Maltese coast.**

Grand Master Wignacourt built massive squarish towers to protect the principal bays. Such towers were armed with guns to protect the bays from invasion, to have soldiers stationed in them to reconnaître the area and to be ready to engage any disembarking enemy. These towers, said to be built according to the design of Vitor Cassar, include Wignacourt Tower (1604) in St. Paul's Bay, Santa Marija Tower (1618) on Comino, St. Lucian (1610) in Marsaxlokk, St. Thomas (1614) in St. Thomas Bay, Marsascala, and Delle Grazie (1620) at Xgħajra, Żabbar. These towers were meant to withstand a heavy attack. They were almost similar in shape, having turrets at each corner and some of them had dry moat around them. (4)

**c. How were the thirteen coastal watch towers built by Grand Master Martin de Redin expected to operate in the event of an enemy attack from the sea?**

De Redhin's thirteen watch towers were added to the other seven built by his predecessor Lascaris in the 1640s. They were located in different sites along the coast of the island easily accessible by the enemy from the sea. They were built on high ground or on the tip of a hill overlooking sandy or rocky bays and beaches visible from one another so that they could send a signal using a cannon shot or a bonfire in case enemy ships were sighted approaching the coast. In such an eventuality a chain of signals from one tower to another would end up being sighted by the dejma militia stationed on the fortifications of Mdina. When this happened, the church bells of Mdina and the villages would ring as a general alarm for the population to resort to shelter within the walls of the town and the dejma militia to regroup in their respective village square. (6)

**d. Write about the work of ONE voluntary organisation that strives to conserve, restore and care for the defense structures mentioned in question 4.**

One voluntary organisation (eg. Din l-Art Ħelwa, Wirt Għawdex, Fondazzjoni Wirt Artna, etc.) Information on its role to raise awareness about our national heritage and its activities, eg. care of Wignacourt Tower, restoration and care of such places, publication of information about them, organisation of various activities (tours, exhibitions, lectures, etc.) (6)

*SECTION C: Work and Leisure, Managing a Nation*

Managing a Nation

*Question 5*

**The media, tourism, and immigration are influencing the Maltese culture and lifestyle.**

**a. Explain THREE pull factors Malta offers to foreign workers.**

Candidates may mention and comment on any THREE from the following examples and/or any other deemed relevant by the examiner:

- Stable government;
- Stable economy;
- Moderate climate;
- No wars;
- Membership in the European Union;
- Work opportunities available.

(6)

**b. Which type of media is most popular with youths? How is this media affecting their lifestyle?**

Candidates may mention and comment on the following points and on any other deemed relevant by the examiner:

- The social media: *e.g.* Facebook; Twitter; Instagram; Tik Tok; *etc.*;
- Many believe that what they see on these social media is real and are not satisfied with what they have;
- Many waste their time to imitate influencers instead of being themselves;
- New trends are introduced in society;
- New words and ideas are influencing what is cool, trendy, acceptable or not.

(6)

**c. Maltese society is becoming more multicultural. Explain how multiculturalism is positively affecting Malta.**

Candidates may mention and comment on the following points and/or on any other deemed relevant by the examiner:

- More open to foreign ideas, markets and economy;
- More different products and services available;
- More tolerance towards minorities;
- Learn from different cultures;
- Interact with people from different cultures.

(8)

**(Total: 20 marks)**

*Question 6*

**From a union of six countries, the European Union evolved in a group of 27 countries.**

**a. Apart from Malta, list FOUR other members of the European Union.**

Candidates are to mention any FOUR from the following countries: Austria; Belgium; Bulgaria; Croatia; Cyprus; Czech Republic; Denmark; Estonia; Finland; France; Germany; Greece; Ireland; Italy; Hungary; Latvia; Lithuania; Luxemburg; Netherlands; Poland; Portugal; Romania; Slovakia; Spain; Sweden; Slovenia.

(4)

**b. Explain FOUR ways how Maltese youths benefitted from the European Union.**

Candidates may mention any FOUR from the following points and/or any other deemed relevant by the examiner:

- EU membership means young people have the right to train and study in any EU country – under the same conditions as that country's nationals - advantage of this right through the European Union's Erasmus scheme;
- EU membership supports jobs, meaning more opportunities. The EU is the top destination for our exports;
- The EU shares commitment to tackling youth unemployment. Efforts to get more young people into work through funding from the European Commission's Youth Employment Initiative;
- University and educational facilities /institutes benefitted from EU funding for research and innovation;
- Freedom of movement gives young people the right to travel and work anywhere within the EU, visa free.

(8)

**c. Many European Union projects help the Member States. Mention and explain, TWO projects Malta benefitted from since joining the European Union in 2004.**

Candidates may mention and elaborate on any TWO from the following examples of answers and/or any other deemed relevant by the examiner:

- Better road networks and traffic management;
- Upgrading of the national museums; restoration and conservation of cultural and historical buildings and sites (e.g. MUŻA);
- Sustainable tourism for Wied il-Mielaħ;
- Text-to-speech technology for the Maltese language;
- Improvement of mental healthcare into practice;
- Holistic training for healthcare professionals;
- Promoting Chadwick Lakes as a site for eco-tourism;
- Reimagining the Ta' Qali Crafts Village;
- Embracing inclusivity and diversity in the workplace.

(8)

**(Total: 20 marks)**