

# CONTEMPORARY ECONOMIC ISSUES

According to Examination Guidelines for 2021

## ECONOMICS PAPER 2 ESSAYS 2021

Advise learners NOT TO FOCUS on essays only since essay consist **27%** and section **B 53%** and Section A **20 %** per paper

Compiled by Noel

TOPIC	CONTEMPORARY ECONOMIC ISSUES	PAGE	
12	INFLATION	2-6	Q6
13	TOURISM	7-12	
14	ENVIRONMENTAL SUSTAINABILITY	13-18	

All the best to all matriculants for your *trial's* examinations and *national senior certificate* examinations.

May the almighty give you wisdom, knowledge and understanding.

**JOHANNESBURG SOUTH DISTRICT-GAUTENG**

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## TOPIC 12: INFLATION

### Question 1

Discuss in detail the consequences of inflation under the headings

- industrial stability
- unemployment/poverty
- investors and savers
- wage and salary earners (26 marks)

Evaluate the effectiveness of inflation targeting in South Africa (10 marks)

#### INTRODUCTION

- This is a constant and significant increase in the general price level of goods and services in the country over a certain period of time, e.g. a year ✓✓  
(Max. 2)  
(Accept any other relevant response)

#### Salary and wage earners

- Price increases affect people whose incomes are relatively fixed (in other words, people whose incomes remain constant or do not increase at the same rate as prices do) ✓✓
- This group includes retired people, pensioners and the poor ✓✓
- As prices increase, their almost fixed incomes purchase less and less ✓✓
- However, there are individuals and entrepreneurs whose incomes often increase at a rate that is higher than the inflation rate and they do not suffer but gain from inflation ✓✓
- Globalization results in increased employment opportunities in the economy due to increased productivity, the need to produce more goods both for local and international markets rises in globalised economies ✓✓
- The demand for increased skilled labour becomes a need as a result, this demand for labour benefits the local labour market in increased employment opportunities and growth ✓✓

#### Investors and savers

- Different types of investments are affected by inflation: Assets with fixed nominal values ✓✓
- These assets have a fixed nominal value and give a return if they are held until maturity ✓✓
- When they are paid, because their nominal values remain constant, the purchasing power of the nominal values decreases as prices increase (that is, their real value decreases) ✓✓

#### Assets with flexible market values

- The holders of shares and fixed property usually gain by price increases because the nominal values of these assets tend to increase at least proportionately to the rate of inflation (that is, their market values are flexible) ✓✓
- Often the prices of these assets increase more rapidly than increases in the general price level ✓✓

- In this case, inflation creates wealth to the advantage of those holding such assets ✓✓

### **Tax payers**

- South Africa has a progressive personal income tax system ✓✓
- This means that marginal and average tax rates increase in harmony with the income level ✓✓
- The higher an individual's income, the greater the percentage of income he or she has to pay in tax ✓✓
- With inflation, taxpayers' nominal income (wages and salaries) rise even when their real income remain unchanged ✓✓
- Taxes are levied on nominal income and not on real income ✓✓
- Therefore, if the income tax schedule remains unchanged, inflation increases the average rate of personal income tax ✓✓
- Individuals will have to pay higher taxes even if they are actually no better off than before ✓✓
- This phenomenon, known as bracket creep, leads to a redistribution of income from taxpayers to the government ✓✓
- Bracket creep results from a combination of inflation and progressive income tax ✓✓
- It has the same effect as an increase in the tax rate ✓✓

### **Industrial peace**

- Wage bargaining is often accompanied by strikes and mass action ✓✓
- These actions can sometimes spill over into violence, which affects society at large ✓✓
- In extreme situations, in the presence of exceptionally high inflation together with a government that is determined not to yield to wage increase demands (which can push inflation to even higher levels), widespread civil unrest follows ✓✓

### **Inflation has a negative effect on economic growth**

- Inflation leads to increased uncertainty in the economy ✓✓
- This uncertainty discourages savings and investments especially in the long term ✓✓
- Which are necessary for economic growth – result: reduced economic growth ✓✓

### **Inflation affects the real money value and savings**

- Because inflation reduces the real value of money, it affects the real value of money saved in particular ✓✓
- This means that inflation, the rand buys fewer goods and services than before
- It also means that the real money value saved is worth less at the end of the savings period than when the money was saved ✓✓
- e.g. if a consumer receives 5% interest on his/her savings account while the inflation rate is 8%, then the real rate of interest on the consumer's savings is -3% ✓✓

### **Inflation has an adverse effect on a country's balance of payments (BOP)**

- If a country's rate of inflation is higher than that of its trading partners, the prices of exported goods increase while the prices of imported goods decrease ✓✓
- This leads to loss of competitiveness in the export market, which in turn leads to decreased exports ✓✓
- This has a negative effect on the country's balance of payments (BOP) ✓✓
- The loss of export competitiveness can also increase unemployment
- Inflation affects the redistribution of income in a country ✓✓
- The effects of inflation are uneven ✓✓
- While it does not clearly benefit anyone and certainly harms most, it also harms some less than others ✓✓
- Inflation also tends to redistribute income from low-income groups to higher income groups ✓✓
- This is because people in the low income groups do not have assets that can rise in value faster than the rate of inflation to help them overcome the effects of inflation ✓✓
- Powerful groups such as trade unions large companies and the wealthy people, are able to increase their share of national income at the expense of disadvantaged people such as pensioners, the unemployed and the welfare recipients ✓✓

(Allocate a maximum of 8 marks for headings / sub-headings)

(Max. 26)

### Evaluate the effectiveness of inflation targeting in South Africa

Inflation targeting is when a particular percentage is set as an acceptable level for an increase in general price levels. ✓✓

- The SARB's inflation target is a range of 3% and 6%. ✓✓
- The aim of inflation targeting policy is to achieve and maintain price stability. ✓✓
- The SARB make use of monetary policy, specifically the repo rate to keep the inflation within the target range. ✓✓

#### Positive effects

- Where demand is higher than supply an increase in interest rates help to bring the demand down. ✓✓
- The policy can help businesses to make economic plans without worrying about the effects of high inflation. ✓✓
- South Africa's price level has been fairly stable since the introduction of the inflation targeting policy in 2000. ✓✓

#### Negative effects

- Inflation targeting can cause a reduction in economic growth. ✓✓
- This is because the raising of interest rates, result in a decrease in total spending which is needed for production to increase. ✓✓
- Decreased economic growth can increase unemployment. ✓✓
- South Africa has been experiencing an increase in unemployment since the implementation of the policy in 2000. ✓✓ Inflation targeting is difficult to implement when the cause of inflation is supply shocks. ✓✓

#### Conclusion

Inflation can be a threat to the normal functioning of the economy; therefore measures like monetary and fiscal are vital to keep the phenomenon under control. ✓✓

### Question 2

- Discuss in detail the measures to combat demand-pull inflation
- Evaluate the impact of inflation on individual taxpayer in the economy

### INTRODUCTION

- Demand pull inflation occurs when aggregate demand in an economy outpaces aggregate supply, even though gross domestic product rises and unemployment falls. ✓✓

### Main body:

- Policy makers can use various policy measures to fight inflation when it gets too high. ✓✓

### Fiscal measures

Fiscal measures are measures taken by the Minister of Finance regarding taxation and expenditure. Examples of measures that can be taken include:

- An increase in direct taxation (personal income tax) which will help to decrease demand.
- An increase in indirect taxation (VAT) causes spending to decrease because goods become more expensive. ✓✓
- A loan levy. Reduces the disposable income of consumers. ✓✓
- The state cuts back on expenditure by cancelling government projects like roads, hospitals and schools. ✓✓
- The country's finance budget deficit is non-inflationary (the government uses loans from the non-banking sector to limit inflation). ✓✓
- The state imposes surcharges on imported goods. This increases the price of these imported goods, resulting in many people being unable to afford to buy these goods. ✓✓

### Monetary measures

The South African Reserve Bank (SARB) and the government apply certain monetary measures to curb inflation:

- The SARB adjusts the quantity of money to the needs of the economy, (e.g. through open-market policy, thus maintaining a fine balance) between the supply of goods and services and money supply. ✓✓
- The SARB curbs inflation caused by excess demand by reducing the money supply. ✓✓
- The bank rate of the central bank (SARB) affects the interest rates in the economy (repo rate). The bank rate can be raised to encourage savings. ✓✓

- Excessive credit can be reduced by restricting the granting of credit by banks. ✓✓
- The SARB can apply moral pressure (moral suasion) on financial institutions to be more careful when granting credit ✓✓

### Other measures

Additional measures that can be taken to combat inflation include:

- Increase productivity: This is a long-term measure generated through improved education and training which allows more people to be employed and ensures they are more productive. ✓✓
- Price control: By fixing the price of certain essential goods, the government assures they remain affordable. ✓✓
- Wage policy: The government takes a decision to break the inflationary spiral of increased wages and prices by keeping the increase in wages below or at the level of inflation. ✓✓
- Stricter conditions for consumer credit: The government makes it harder for consumers to get credit in order to restrict their spending. ✓✓
- Encourage personal savings: The government implements measures to encourage savings, e.g. by cutting taxes on savings. The imbalance between demand and supply is corrected by increased savings, as people save more and spend less.
- Import controls are relaxed. ✓✓
- Floating exchange rate: Prices are automatically adjusted to international conditions. ✓✓
- Indexation: A policy of linking prices of items such as wages, pensions and mortgage bond interest rates to price indices to eliminate the effects of inflation. ✓✓

### Evaluate the impact of inflation on individual taxpayer in the economy

- Inflation increases the marginal and average tax rates of the individual taxpayer ✓✓
- The progressive income tax system, where the individual with a higher income will be taxed at a higher tax rate, leaves this consumer with less spending money ✓✓
- Tax is levied on nominal income and not on real income – therefore the average rate of personal income tax increases and disadvantages the individual taxpayer even more ✓✓
- Individuals end up paying higher taxes even when they are not actually better off ✓✓
- Bracket creeping has the same effect as an increase in the tax rate, thereby reducing the purchasing power of the tax payer ✓✓

### Conclusion

- While the resources are not being fully used, production and income will increase. However, when there is no excess capacity, the prices will increase. As long as consumers are able to borrow from commercial banks, they are able to increase their demand output. Demand inflation is often described as 'too much money chasing too few goods.' ✓✓

## TOPIC 13: TOURISM

### Question 1

- Discuss in detail the effects of tourism on the South African economy. (26 marks)
- What factors have contributed to a growth in global tourism? (10 marks)

#### Introduction

- Tourism is the activities of people travelling to and staying in places outside their usual environment for no more than one consecutive year for leisure, business and other purposes not related to an activity remunerated from within the place visited. √√ (2)

#### Body: Main part

##### Gross Domestic Profit (GDP) √

- Tourism impacts more on the services industry than on agriculture or manufacturing.
- Travel and Tourism contributes both directly and indirectly to the GDP. √√
- The direct contribution of travel and tourism reflects the internal spending of travel and tourism by residents and non-residents for business and leisure purposes as well as industries' direct spending on accommodation, food, retail, transport and destination services, and the public sector's spending directly linked to visitors, such as cultural or recreational services. √√
- The indirect contribution includes:
- Travel and tourism investment spending by government and the private sector such as the purchase of new aircraft and construction of new hotels, resort area, water and sanitation services, etc. √√
- Purchases from suppliers of goods and services by the sectors dealing directly with tourists including purchases of cleaning services by hotels, or fuel and catering services by airlines and IT services by travel agents. √√

##### i) Indirect contribution √

- Tourism is basically a service industry and has been partly responsible for service sector's growth in South Africa. √√
- In developing economies the sector is responsible for around 40% GDP, while it is responsible for more than 65% of GDP in developed countries. √√
- In South Africa it is similar to that of developed countries. √√
- Services contributed more than 67% of GDP in 2011. √√

##### ii) Direct contribution √

- SSA shows that in 2010 inbound (foreign) tourism contributed R69 billion and domestic tourist R99 billion amounting in total to R168 billion. √√
- This is about 3% of South Africa's GDP. √√
- If indirect contribution is added, tourism adds 7% to GDP. √√
- The WTTC estimated that tourism contributed 9% to the GDP of the world economy in 2011. √√

#### Employment √

- Tourism has a major effect on employment. ✓✓
- Directly and indirectly, 9% of South Africa's employed people were in the tourism industry ✓✓
- This amounted to 1.18 million workers in 2011. ✓✓
- Tourism sector is a large generator of jobs for the following reasons: ✓✓
- Tourism is labour intensive. ✓ It has the lowest rate of investment to employment creation. ✓✓
- Tourism employs many skills. ✓ There is room for almost any skill in the tourist industry such as accountants, hairdressers, tour guides etc. ✓✓
- Tourism can provide immediate employment. ✓ If it is properly organised and focused the tourism sector can create many jobs within a short period of time. ✓✓
- Tourism provides entrepreneurial opportunities. ✓ The tourism industry accommodates informal sector enterprises, from craft and fruit vendors to pavement vendors, chair rentals and others. ✓✓

### Poverty ✓

- Tourism brings development to the poor in rural areas. ✓✓
- Tourism offers opportunities to diversify sources of income for poor people: ✓✓
- Allowing them a stake ✓: for example, to start and operate small-scale tourism businesses around community assets and to establish SMMEs to provide services. ✓✓
- Empowering them ✓: for example, to exploit opportunities of on-the-job and other training. ✓✓
- Creating partnerships ✓: linking up with mainstream tourism businesses supplying goods and services. ✓✓

### Externalities ✓

- The rapidly expanding tourism industry could have both positive and negative impacts that extend well into the future. ✓✓
- While tourism attracts large amounts of revenue, it can also cause undue environmental damage that can harm the foundation on which it depends. ✓✓
- Tourism uses resources and produces waste. ✓✓
- It also creates environmental, social and cultural costs and benefits in the process such as: ✓✓
- Degeneration of traditions and cultural values. ✓✓
- Environmental damage to sites and natural settings ✓✓
- Pollution and waste are generated by tourism facilities. ✓✓
- Transportation and tourist activities themselves are identified as the major cause of environmental impacts associated with tourism. ✓✓

### Environment ✓

- Tourism has an impact on the environment
- Tourism activities create environmental stress ✓✓. The four main categories of stressor activities are:
- Permanent environmental restructuring (highways, airports, resorts) ✓✓
- Waste product generation such as biological and non-biological waste that damages fish production, creates health hazards, and detracts from the attractiveness of the destination. ✓✓
- Direct environmental stress caused by tourist activities: for example the destruction of coral reefs, vegetation and dunes. ✓✓



- Effects on population dynamics such as migration and increased urban densities accompanied by declining populations in other rural areas. √√

#### **Investment**√

- Adequate physical, economic and basic services infrastructure is essential for tourist destination areas, which means they require investment in: √√
- Transport infrastructure including roads (including streets and pavements), railway lines, airports ports and car parks. √√
- Communication infrastructure such as telephone lines, electronic signal stations, computer connection capacity, radio, television and print media. √√
- Energy infrastructure e.g. electricity and liquid fuels. Eskom should add capacity at all times. √√
- Basic Services e.g. clean water refuse removal, sewage systems and storm water removal√√

(26)

#### **Body: Additional part**

- Due to globalisation, people are well informed of destinations in other countries
- Increasing number of people earn high disposable income which allow them to spend on leisure and recreation
- With improved communication methods such as internet, it is easier to arrange travelling
- Infrastructural development e.g. airports
- Intensified advertising and promotion make people aware of various travel destinations
- Through utilisation of new technology, custom and border control in most countries are user friendly

(10)

#### **Conclusion**

- The economic and basic services infrastructure must be maintained to sustain all economic activity and not just tourism. Upgrading of infrastructure should be done often in order to keep up with the growth of tourism in South Africa. √√

(2)

[40]

**Question 2**

- **Examine in details the benefits of tourism** (26 marks)
- **Analyse the impact of world heritage sites on South Africa economy** (10 marks)

**Introduction**

- Tourism is the activities of people travelling to and staying in places outside their usual environment for no more than one consecutive year for leisure, business and other purposes not related to an activity remunerated from within the place visited. √√ (2)

**Body: Main part****Households**√

- Households benefit through three main impacts of prosperity:
- Earning an income directly from the tourism industry. Spending by tourists means income to households because of salaries and wages they earn through employment or through their own endeavour in the tourism industry. √√
- Improved infrastructure for tourists, but can be used by the local people√√ e.g. Soccer City (FNB Stadium), hotels, roads, water supply and electricity etc. √
- Skills: tourism requires a variety of skills, for which education and training are needed√√

**Businesses**√

- Economic and basic services infrastructure is usually provided by the public sector, which is the case in South Africa. √√
- This is used as a foundation for a superstructure. √√
- In tourism such a superstructure consists of businesses that provide accommodation, transport, built attractions, retailing and recreational services. √√ They are normally private sector activities and make up the profit-generating element of a tourist destination. √√
- A combination of public and private sector finance are used to develop destinations. In South Africa a PPP is the corporate form for this. √√
- The public sector also provides a range of financial incentives for private sector tourism investment (grants, subsidies, loans, tax rebates, etc.). √√
- Apart from the traditional opportunities in the formal sector, there are many informal and less traditional opportunities. √√ These serve as stepping stones for previously neglected groups in the tourism business:
  - Entertainment, laundry and transportation services. √
  - Car rental, craft and curios sales. √
  - Walking tour guides and tour of scenic places.

- Teaching of African languages, customs and traditions. ✓
- Eating places that emphasise local cuisine and guest houses. ✓
- Beach massages, manicures, pedicures and chairs and umbrellas for hire ✓

### Government ✓

- The main avenue for the government to benefit from tourism is through the levying of taxes. ✓✓
- It is customary for governments to levy specific taxes on the tourism sector. Such taxes have two purposes:
  - To recover external costs. ✓✓
  - To raise revenue. ✓✓
- The most common forms of raising public income from tourism are airport departure taxes, air ticket taxes and taxes on hotel room occupancy as well as casinos. ✓✓
- Foreign tourists who visit South Africa also pay all the normal expenditure taxes, ✓✓ such as VAT, excise duties and custom duties ✓. However, on their departure from the country tourists can reclaim the VAT that they have paid. ✓✓

### Infrastructure developments ✓



- Adequate and well-maintained physical and basic services infrastructure are essential for tourist destinations. ✓✓ These are normally shared by residents and visitors alike. ✓✓
- The government has prioritised economic infrastructure, ✓✓ including elements such as ports, beaches, rivers and lake access, to support tourism growth. ✓
- Most economic corridors have tourism as an important focus. ✓✓
- The PPPs are sometimes used for the development of infrastructure. ✓✓
- In addition to physical and basic services infrastructure, tourists as well as residents, also require social infrastructure ✓✓, for example, ambulance services, medicines, clinics and hospitals, police protection and information services. ✓

(26)

### Additional part

#### Positive

- Tourist will understanding our indigenous culture, history and environment.
- Employment opportunities because of additional jobs which are created through high increase in tourist visiting

- Increase in the value of our money in relation to other countries

### Negative

- Without proper management, heritage tourism can lead to a lack of understanding and appreciation of the culture and heritage of the place within the wider community as a result of inadequate or inappropriate presentation; it can diminish the protection and conservation of cultural heritage overtime without the adequate integration of cultural heritage protection and management laws at the national and regional level;
- and certain tourism activities can unconsciously or inadvertently encourage theft of cultural resources and properties
- lack of sufficient safeguards to protect the values of heritage properties is to be found in an underdeveloped understanding, and therefore lack of appreciation of the heritage value of precious cultural or natural resources by both local communities and tourists

### Conclusion

Tourism can also have a negative impact to the country such as drug trafficking, increased crime rate, inflation and pollution. ✓✓ (2)

Any other higher order conclusions



## TOPIC 14: ENVIRONMENTAL SUSTAINABILITY

### Question 1

- **Discuss in detail how the government can ensure sustainable development.** (26 marks)
- **How do measures used to pursue high economic growth negatively impact on environmental sustainability?** (10 marks)

### INTRODUCTION

- environmental sustainability may be described as the development that satisfies the current needs of the people without compromising the quality of the environment so that it remains equally capable of supporting the future generations too. ✓✓  
(accept any other low-order introduction)

### MAIN PART

#### Granting property rights ✓

- property rights are laws that govern how individuals can control, use, benefit from and transfer resources ✓✓
- property rights have positive conservation effects because they ensure that people take care of the property they own ✓✓
- they will use it profitably for as long as possible, even for generations to come ✓✓
- to prevent fauna and flora species from becoming extinct, the government can allow people property rights over them ✓✓
- property owners can then preserve the environment at little cost to taxpayers ✓✓
- property rights can be expanded to common goods such as clean air ✓✓
- kyoto protocol is an international agreement whereby developed countries pay developing countries for their right to pollute ✓✓

#### Pay for environmental use ✓

- the government can protect the environment by imposing user-fees and charges on individuals who use or damage the environment ✓✓
- government levies fees for waste produced and dumped in the environment ✓✓
- in south africa local authorities levy charges on rubbish collected and sewage disposal ✓✓
- charges should be proportional to the waste for best results because a fixed total charge will not encourage waste producers to reduce waste ✓✓

#### levy environmental taxes ✓

- these are also known as green taxes or eco taxes ✓✓
- government imposes these taxes on consumption of a good that has a negative impact on the environment and is not for the good of the environment ✓✓
- e.g. levy on plastic bags, filament light bulbs, tyres etc. ✓
- to achieve a socially efficient output, the rate of tax should be equal to the marginal external cost ✓✓

#### Pay environmental subsidies ✓

- the government pays a subsidy to firms that enable them to reduce pollution levels by a certain percentage or below a certain level ✓✓

- e.g. government subsidises new technology that saves energy such as energy saving bulbs or solar geysers ✓

#### **Issue marketable permits** ✓

- the government issues a permit to each firm which allows a certain amount of pollution, so this sets a standard ✓✓
- firms are allowed to trade the permits to other firms that have a larger pollution level ✓✓
- when increasing output, each firm can decide whether it is more profitable to buy permits for additional pollution or to alter its technology to produce less pollution using its current permits ✓✓

#### **Command and control** ✓

- maximum permitted levels are set, e.g. emissions, minimum acceptable levels of environmental quality ✓✓
- inspectors monitor the activities and impose fines if the legal limits are not respected ✓✓

there are **three approaches** to devising command and control system:

- **quantity standards:** ✓ focus on quantities of pollution caused irrespective of the environmental impact, e.g. car gas emissions ✓✓
- **voluntary agreements:** ✓ the government tries to enter into voluntary agreements with businesses to cut pollution, rather than imposing laws and regulations. ✓✓
- these agreements include formal contracts or informal commitments that businesses negotiate to suit their own circumstances ✓✓

#### **Education** ✓

- it is used to try to change people's attitudes towards the environment ✓✓
- innovative approaches have been tried in the developing world to educate people, e.g. setting up community wildlife reserves ✓✓
- education should include aspects of indigenous knowledge systems because indigenous people have a broad knowledge of how to live sustainably ✓✓
- people should be made aware of environmental issues and the consequences of their actions ✓✓
- to make their consumption habits more environmentally friendly ✓✓
- education plays an important role in improving people's ability to manage the environment ✓✓

#### **Voluntary agreements** ✓

- the government concludes agreements with businesses on a voluntary basis to cut pollution ✓✓

(accept any other correct relevant response)

(maximum of 8 marks for mere listing of facts or examples) max. 26

#### **Additional part**

pursuing high economic growth can negatively impact on environmental sustainability by:

- leading to resource depletion and loss of biodiversity which could harm the future carrying capacity of ecological systems for the economy ✓✓
- creating long-term waste and toxins which may have unknown consequences ✓✓ for example, economic growth has led to the increased use of plastics which are non-degradable ✓✓

- there is an ever-increasing stock of plastics in the sea and environment which is both unsightly but also damages the wildlife ✓✓
  - leading to the higher consumption of resources, greater pollution and greater demand on natural resources which will harm the environment ✓✓
  - imposing high costs on the environment because of increased output and consumption ✓✓, e.g. increased consumption of non-renewable resources, higher levels of pollution and global warming ✓
  - foregoing the opportunity cost of reducing the available non-renewable resources and sustainability of the environment since there is a trade-off between consumer goods and the environment, by increasing the consumption of consumer goods ✓✓
- (accept any other correct relevant response) (max. 10)

### Conclusion

- all individuals, businesses, governments and other organisations should take care of the environment by being engaged in projects that will promote sustainable living. ✓✓
- (accept any other relevant high-order conclusion)

### Question 2

Discuss in detail the following problems and the international measures taken to ensure sustainable development:

- biodiversity (7)
- climate change policy (7)
- chemical waste (6)
- indigenous knowledge (6) (26 marks)



How do market-related measures ensure environmental sustainability? (10 marks)

### INTRODUCTION

- Environmental sustainability involves the maintenance of the natural environment in order to ensure that resources of a good quality are available to support life and continued economic activity. ✓✓ (Max. 2)

### MAIN PART

#### Biodiversity loss:

- If species become extinct (die out completely), this cannot be reversed. ✓✓
- Modern techniques such as gene transplants can limit the loss of species. ✓✓
- The Convention of International Trade in Endangered Species (CITES) compiles many policies to deal with species losses. ✓✓

Biological diversity includes two related elements:

- The amount of genetic variety among individuals within a single species; ✓✓
- The number of species within a community of organisms ✓✓
- Due to species extinction, the diversity of the forms of life that inhabit the planet is decreasing at an unprecedented rate. (Extinction is an irreversible process.) ✓✓
- These extinctions are occurring at precisely the moment in history when we would be able to take advantage of the gene pool of plant diversity. ✓✓

- Modern techniques now make it possible to transplant desirable genes from one species into another and creating species with new characteristics such as enhanced resistance to disease or pests. ✓✓
- The gene pool must be diverse to serve as a source of donor genes. ✓✓
- Trade in endangered species is prohibited internationally. ✓✓
- Control is executed through the use of permits and quotas to regulate trade in certain species that might become endangered. ✓✓

### Chemical waste

- Chemical waste is toxic, because it causes immediate or delayed death. ✓✓
- It has a negative effect on living beings and can cause infertility or death. ✓✓
- Chemical waste need to be carefully managed to ensure it does not seep into the ground water. ✓✓
- The Stockholm Protocol is a United Nations agreement to limit chemical waste. ✓✓
- The United Nations Framework convention on Climate Control (UNFCCC) aims to reduce greenhouse gases in the atmosphere. ✓✓
- In normal concentrations most chemicals are not toxic, but others are toxic by design, such as DDT. ✓✓
- In excessive concentrations even a small substance can become toxic, such as medicines in the incorrect dosages. ✓✓

### Climate change policy – adaptation and mitigation

- Global warming primarily causes climate change. ✓✓
- Climate change can be reversed through widespread international cooperation, e.g. sharing weather information and weather patterns, agreeing on limiting pollution, and banning chemical products such as greenhouse gases that damage the ozone layer. ✓✓
- The Kyoto Protocol of 1997 is an international agreement to limit the production of greenhouse gases. ✓✓
- Climate change has enormous economic and social consequences. ✓✓
- The impact of climate change includes changes in sea temperatures, weather patterns, land uses, animal life, disease zones such as malaria, natural disasters, etc. ✓✓
- The United Nations Framework Convention on Climate Change (UNFCCC) recognises the problems posed by climate change. ✓✓
- It sets an ultimate objective of stabilising greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous human induced interference with the climate system. ✓✓
- It was based on voluntary reduction of CO<sub>2</sub> levels. A lack of success led to the signing of the Kyoto Protocol in 1997, in which the 186 signatories agreed on a set of binding emissions targets for developed countries based on 1990 levels. (The objective was to reduce greenhouse gas emissions by an average of 5,2 % by the year 2012) ✓✓
- This was not achieved and the Kyoto Protocol agreement was not renewed at the COP 17 in Durban in 2011. ✓✓



In addition to agreeing on specific target emissions the deal also included the following:

- Countries must submit plans for reducing greenhouse gas emissions and provide updates on progress in meeting their targets. ✓✓
- An international system of trading in carbon emissions will be initiated. ✓✓
- Industrialised countries will be able to claim credits for removing CO<sub>2</sub> from the atmosphere through such actions as planting and managing forests and changing farming practices. ✓✓
- Countries failing to meet their first targets by 2012 will be penalised
- Industrialised countries will provide some financial assistance to developing countries to help them adapt to climate change and to provide new clean technologies. ✓✓

### Loss of indigenous knowledge

- Indigenous knowledge refers to the knowledge used by indigenous people to make a living in a particular environment. ✓✓
- Traditionally such people used organic methods and natural processes. Using these to sustain the environment is both wise and essential. ✓✓
- It also gives programmes legitimacy and credibility in the eyes of the local people and the outside world. ✓✓
- Local capacity building among indigenous people is a crucial aspect of sustaining the environment. ✓✓
- Capacity building means that indigenous people learn more of the natural world beyond their traditional lifestyle and experience. ✓✓
- If these aspects are blended with indigenous knowledge, it can provide a powerful basis from which alternative ways of managing resources can be developed. ✓✓
- However, care should be taken that indigenous knowledge is not overwhelmed and lost forever. ✓✓

(Accept any other correct relevant response.)

### ADDITIONAL PART

- The market is driven by self-interest, which is why sustainable development does not always occur in a free market environment. ✓✓
- Industries/individuals use the environment for their own benefit, without any concern for social costs. ✓✓
- Market-related measures are designed to use the price mechanism to better effect. ✓✓
- It is based on incentives that are charged, or imposing taxes on polluters according to the rand value of the damage they do. ✓✓
- Examples are fuel and vehicle taxes (green taxes), recycling, congestion charges, effluent/waste charges and tradable, emissions permits, such as:
  - Tradable emissions permits are used in an environmental regulatory scheme where the sources of the pollutant to be regulated are given permits. ✓✓
  - These permits allow the polluters to release a specified number of tons of the pollutant. ✓✓

- The government issues only a limited number of permits, consistent with the desired level of emissions. ✓✓
- The owners of the permits may keep them and release the pollutant, or reduce their emissions and sell the permits. ✓✓
- Congestion charges is a practise used by municipalities, which involves the installation of a fee structure for the use of highways, bridges or tunnels during high-use periods for the purpose of, e.g. promoting public transport usage, such as E-tolls. ✓✓

(Accept any other correct relevant response.) (Max. 10)

### CONCLUSION

- In a free market, sustainability is achieved only if prices are increased, because they are scarce, but the social costs and benefits to society must also be considered. ✓✓

(Accept any higher order conclusion.) (Max. 2)

