2226 – 3212M

Markscheme

May 2026

Economics

Higher level

Paper 3

17 pages

Notes for examiners:

1. **Whenever relevant, carry over marks must be awarded. If a candidate makes an error in calculation, but then uses the incorrect figure appropriately and accurately in later question parts, the candidate may be fully rewarded. This is the "own-figure rule" and you should put OFR on the script where you are rewarding this.**
2. **Alternative approaches may be taken in responses to the [4] questions that use A02 command terms. If this is the case and the alternative approaches are valid, then full credit should be given.**
3. **A candidate may be penalized for not rounding correctly, failing to give answers correct to 2 or more dp or, in some cases, for not including the appropriate units. However, a candidate may only be penalized ONCE per <u>script</u> (<u>not</u> per part) for each type of error.**

1. (a) (i) Using the information in **Table 1**, calculate Germany's nominal GDP for 2024. **[1]**

2149 + 932 + 936 + 2001 – 1771 = EUR **4247** billion

*An answer of **4247** without working is sufficient for **[1]***

(ii) Using your answer to part (i) and the information in **Table 1**, calculate Germany's real GDP for 2024. **[2]**

$$\mathbf{4247 \times \frac{100}{128.7}}$$

*Any valid working should be rewarded with **[1]***

= **EUR 3299.92 billion** or **EUR 3299 922.3 million**
or **EUR 3299 922.3 x 10^6** or **EUR 3299 922 300 000** ***[1]***

*An accurate answer without working or correct units is sufficient for **[1]***

For full marks to be awarded the response must provide valid working and include correct units. Allow EUR or €

OFR applies if the answer to part (i) is incorrect.

(iii) Germany's real GDP in 2023 was EUR 3267 billion. Using your answer to part (ii), calculate Germany's rate of economic growth for 2024. **[1]**

$$\frac{3299.92 - 3267}{3267} \times 100 = \mathbf{1.01}\%$$

*An answer of **1.01 or 1** without working is sufficient for **[1]***

OFR applies if the answer to part (ii) is incorrect.

(iv) With reference to **one** of the alternative measures listed above, outline how Country A might have a relatively high ranking for real GDP per capita but a much lower ranking for an alternative measure of well-being. **[2]**

Level		Marks
0	*The work does not meet a standard described by the descriptors below.*	0
1	*The written response is limited.*	1
	Limited answers may include: (see full list of factors below) Real GDP per capita does not account for factors such as: • Housing and personal security • Freedom to make life choices/perceptions of corruption • Inequality/ecological footprint *Any other valid response (see Table below)*	
2	*The written response is accurate.*	2
	For an understanding that: A country might have a relatively high real GDP per capita, but a **lower** ranking for other factors (which are not accounted for in GDP) such as: • Housing and personal security: OECD Better Life Index • Freedom to make life choices/perceptions of corruption: Happiness Index • Inequality/ecological footprint: Happy Planet Index or OECD Better Life Index *Any other valid response (see Table below)*	

For Level 2 the response must refer to one of the alternative measures of well-being listed in the preamble to the question. The factor cited must be consistent with the list below.

Factors which may be referred to:

OECD Better Life Index	**Happiness Index**	**Happy Planet Index**
• State of health • Work-life balance • Education and skills • Social connections • Civic engagement/ governance • Environmental quality • Personal security • Subjective well-being • Income and wealth	• *Real GDP per capita (cannot be contrasted)* • social support • healthy life expectancy • freedom to make life choices • generosity • perceptions of corruption	• Life expectancy • Well-being • Inequality (of outcomes) • Ecological footprint/ environmental protection

• Jobs and earnings • Income and wealth distribution • Housing • Natural capital • Economic capital • Human capital • Social capital		

(v) Using the information in **Table 2** and with reference to aggregate demand and/or aggregate supply, explain **two** possible reasons why Germany is "predicted to have the slowest growth rate of any major economy over the next few years". A diagram is not required for this question. **[4]**

Level		Marks
0	*The work does not meet a standard described by the descriptors below.*	0
1	*The written response is limited.*	1 - 2
	For a limited explanation of ***one*** *reason, award a maximum of* ***[1]****.* *For an accurate explanation of* ***one*** *reason (refer to L2)* ***OR*** *a limited explanation of* ***two*** *reasons, award a maximum of* ***[2]****.* *Limited explanations* ***may*** *include:* • It takes a long time to open a business in Germany • Corporate income tax rates are relatively high in Germany • The German government allocates a relatively small percentage of GDP to its investment • Communications are relatively poor in Germany • There will be weaker demand for German exports from China	
2	*The written response is accurate.*	3 - 4
	For an accurate explanation of ***one*** *reason* ***AND*** *a limited explanation of* ***one other*** *reason, award a maximum of* ***[3]****.* *For an accurate explanation of* ***two*** *reasons, award a maximum of* ***[4]****.* *Accurate explanations* ***may*** *include:* • As it takes 120 days to obtain a business licence in Germany, it is difficult for new businesses to open, restricting the opportunity for output to increase – thus slowing a rightward shift of LRAS • The high rate of corporate income tax in Germany (29.9%) may discourage investment, restricting the increase in output which may have occurred if the tax rate was lower – thus slowing a rightward shift of AD and/or LRAS	

	• The relatively low level of government investment will limit the increase in output which would occur if investment had been higher and more infrastructure had been created (allowing greater output) – this slows a possible increase in AD and/or LRAS • Poor communications prevent labour/the economy becoming more efficient/productive, limiting the potential for economic growth – thus slowing a rightward shift of LRAS • Slow growth in China will limit the demand for German exports, inhibiting growth in the German economy – this slows a possible increase in AD	

NB: *1. A response that does not refer to either the AD/AS model or to potential output (in at least one of the reasons provided) should receive a maximum of* ***[3]****.*
2. A response is not required to quote the actual data.

(vi) Calculate the value of the Keynesian multiplier in Germany. **[2]**

$$\frac{1}{0.05 + 0.18 + 0.19}$$

Any valid working should be rewarded with ***[1]****.*

= **2.38** ***[1]***

For full marks to be awarded the response must provide valid working.

(vii) Using your answer to part (vi), calculate the increase in government spending that would be required in order to increase GDP by EUR 160 billion. **[2]**

$$\frac{160}{2.38}$$

Any valid working should be rewarded with ***[1]****.*

= **EUR 67.23 billion** or **EUR 67 226.89 million**

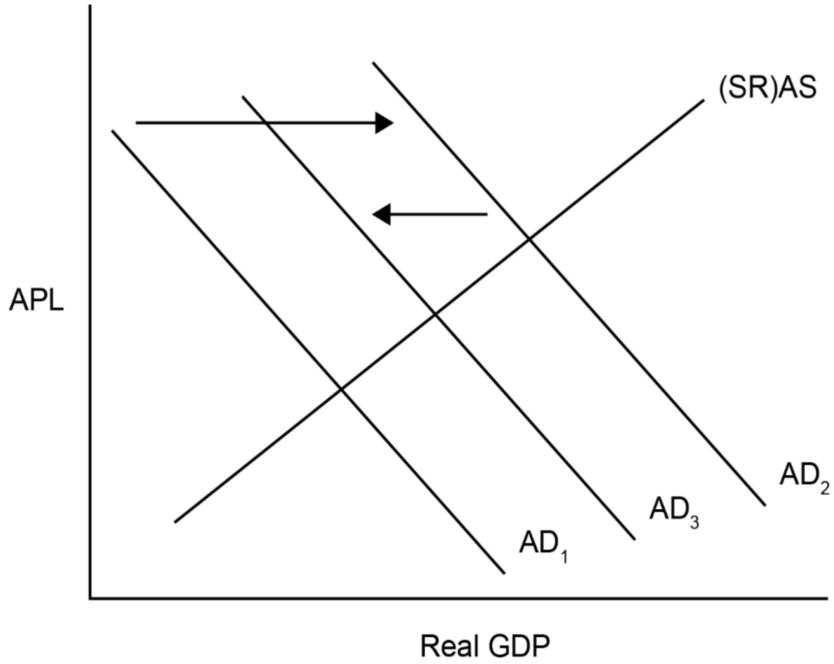
or **EUR 67 226 890 756** or **EUR 67.23 x 10^9** or **EUR 67 226.89 x 10^6** ***[1]***

An accurate answer without working or correct units is sufficient for ***[1]***

Candidates who use an unrounded figure from part (ii) as the multiplier (2.38095….) may be awarded full marks if the calculation is correct; so the answer is EUR 67.2 billion or EUR 67.2 x 10^9.
For full marks to be awarded the response must provide valid working and include correct units.

OFR applies if the answer to part (vi) is incorrect.

(viii) Sketch a diagram to illustrate the crowding-out effect. **[2]**



Level		Marks
0	*The work does not meet a standard described by the descriptors below.*	0
1	*The diagram is limited.*	1
	For a labelled diagram showing a decrease in AD (aggregate demand)	
2	*The written response is accurate.*	2
	For an accurate, labelled diagram showing an increase in AD (aggregate demand) and a resultant decrease in AD, which may be smaller than or equal to the initial shift	

*Candidates who label the diagram incorrectly or show two diagrams (one with an increase in AD and the other a decrease) may be awarded a maximum of **[1]**.*

For AD/AS, the vertical axis may be Average (General) Price Level, APL or Price Level. The horizontal axis may be real output, real national output, real income, real national income, real GDP or real Y. All abbreviations are acceptable. A title is not necessary.

The (SR)AS curve is not necessary. Any shifts in AS should be ignored.

An accurate loanable-funds diagram that shows an increase in the interest rate is a valid alternative method.

(ix) Explain **two** reasons why it is important for Germany to maintain a sustainable level of government (national) debt. **[4]**

Level		Marks
0	*The work does not meet a standard described by the descriptors below.*	0
1	*The written response is limited.*	1 - 2
	For a limited explanation of ***one*** *reason, award a maximum of* ***[1]****.* *For an accurate explanation of* ***one*** *reason (refer to L2)* ***OR*** *a limited explanation of* ***two*** *reasons, award a maximum of* ***[2]****.* *Limited explanations* ***may*** *include:* • Increased cost of servicing the debt • Foreign exchange reserves may be depleted, if used to service the debt • Lower credit ratings • Reduced business/investor confidence • Limitation on future spending/need for higher taxation/austerity • Crowding out of the private sector • "Debt trap"/debt leads to further debt *Any other valid response*	
2	*The written response is accurate.*	3 - 4
	For an accurate explanation of ***one*** *reason* ***AND*** *a limited explanation of* ***one other*** *reason, award a maximum of* ***[3]****.* *For an accurate explanation of* ***two*** *reasons, award a maximum of* ***[4]****.* *Accurate explanations* ***may*** *include:* • Debt servicing results in an opportunity cost which may lead to reduced spending on services such as health and education • Foreign exchange may be used to service the debt, possibly leading to a lack of foreign exchange needed for essential imports • Lower credit ratings will make it more difficult for a government to borrow or more costly as the rate of interest will be higher • There may be a decrease in business/consumer confidence that will result in a decrease in investment/consumer spending/FDI • Taxation may need to be increased in order to service the debt – leading to lower disposable incomes and hence lower living standards for households (in the next generation). • Borrowing to finance increased debt may lead to (an increase in interest rates and) crowding out of the private sector • Further borrowing may be required to service the debt, leading to ever-increasing debt (the "debt trap") *Any other valid response*	

(b) Using the text/data provided and your knowledge of economics, recommend a policy which could be introduced by the government of Germany to increase its rate of economic growth. **[10]**

*Possible policies **may** include (but are not restricted to):*

- Deregulation (restrictions on starting a new business)
- Reduction of the corporate tax rate
- Increasing government investment/expansionary fiscal policy
- Investment in telecommunications
- Trade policies (e.g. currency depreciation)
- Labour market reforms
- Decreasing interest rates/expansionary monetary policy
- Empowerment of women

Any other valid policy

If several policies are recommended, examiners should reward only the best one unless the policies are shown to be complementary or if they are compared/contrasted with the student's one chosen policy.

Assessment Criteria

Recommend—present an advisable course of action with appropriate supporting evidence/reason in relation to a given situation, problem or issue.

Marks	Level descriptor
0	• The work does not reach a standard described by the descriptors below.
1–2	• The response identifies a policy. • The response uses no economic theory to support the recommendation. • Economic terms are stated but are not relevant. • The response contains no use of text/data to support the recommendation. • The response contains no evidence of synthesis or evaluation.
3–4	• The response identifies an appropriate policy. • The response uses limited economic theory to support the recommendation in a superficial manner. • Some relevant economic terms are included. • The response contains no use of relevant text/data to support the recommendation. • The response contains superficial evidence of synthesis or evaluation.
5–6	• The response identifies and explains an appropriate policy. • The response uses relevant economic theory to partially support the recommendation. • Some relevant economic terms are used appropriately.

	• The response includes limited relevant information from the text/data which does not adequately support the recommendation. • The response contains limited evidence of appropriate synthesis or evaluation that lacks balance.
7–8	• The response identifies and fully explains an appropriate policy. • The response uses relevant economic theory to support the recommendation. • Relevant economic terms are used mostly appropriately. • The use of information from the text/data is generally appropriate, relevant and applied correctly to support the recommendation. • The response contains evidence of appropriate synthesis or evaluation that is mostly balanced.
9–10	• The response identifies and fully explains an appropriate policy. • The response uses relevant economic theory effectively to support the recommendation. • Relevant economic terms are used appropriately throughout the response. • The use of information from the text/data is appropriate, relevant and supports the analysis/evaluation effectively. • The response contains evidence of effective and balanced synthesis or evaluation.

2. (a) (i) Calculate the percentage change in the number of visitors per day if the entry fee is decreased to USD 160. **[2]**

$$\mathbf{-1.2 \times \frac{(160 - 200)}{200} \times 100}$$

*Any valid working should be rewarded with **[1]**.*

= **24%** OR **24** ***[1]***

*An answer of 24 without working is sufficient for **[1]**.*

For full marks to be awarded the response must provide valid working.

(ii) Using your answer to part (i), calculate the expected number of visitors per day entering the game park after the price is decreased to USD 160. **[1]**

250 + (0.24 × 250) *Working not required*

= **310** ***[1]***

OFR applies if the answer to part (i) above is incorrect.

(iii) Using **Figure 1,** calculate the tax revenue received per month as a result of the tax on coffee production. **[2]**

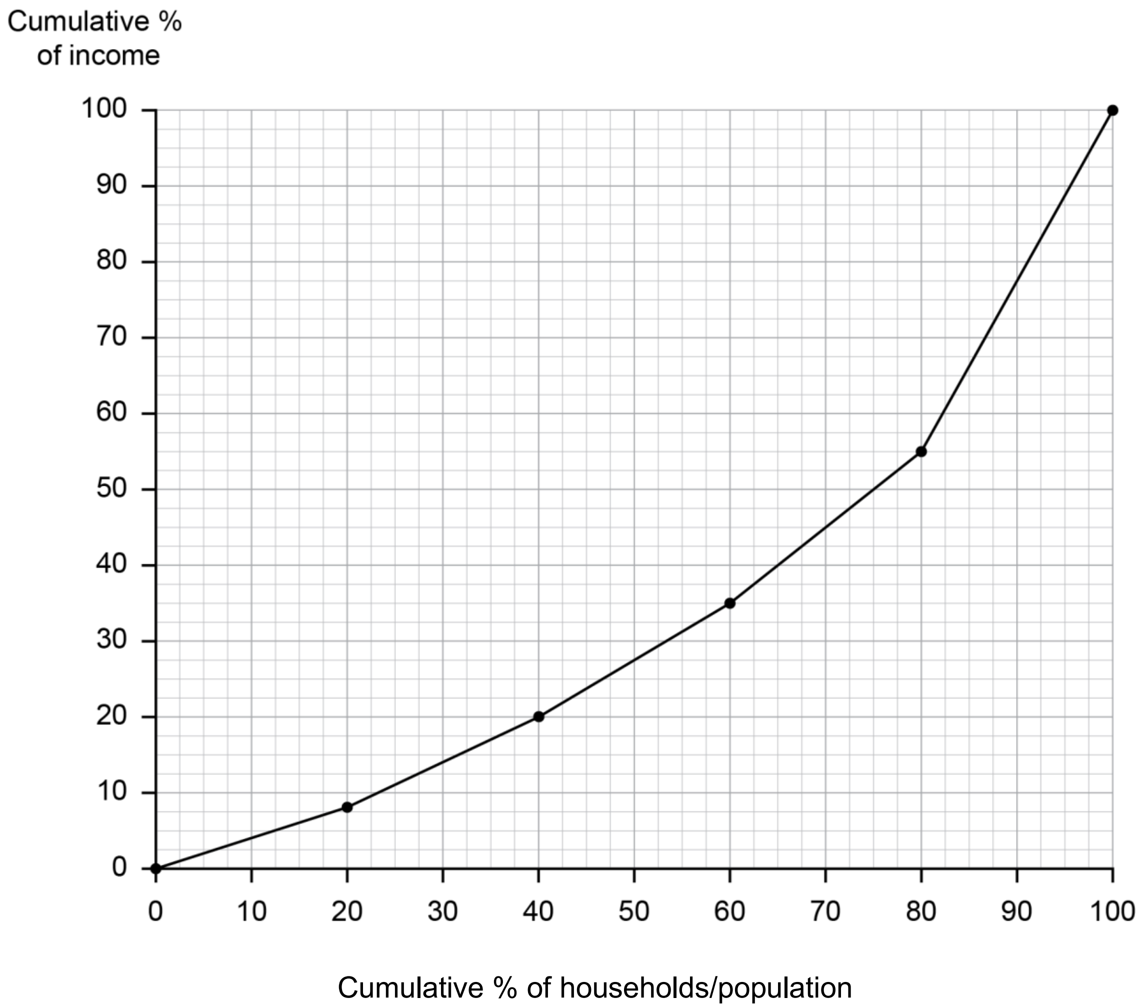
1500 × 1.5 *Any valid working should be rewarded with **[1]**.*

= **2250 million TZS** or **2.25 billion TZS** or **2.25 x 10^9 TZS** ***[1]***

*An accurate answer without working or correct units is sufficient for **[1]***

For full marks to be awarded the response must provide valid working and include correct units.

(iv) Using the income distribution information in **Table 3**, construct a fully labelled Lorenz curve diagram for Tanzania in 2000. **[2]**



*Award **[1]** for correct labelling of axes **OR***
*Award **[1]** for a curve (smooth or straight lines), plotted accurately at the 40th, 60th and 80th percentiles.*

*Award **[2]** for correct labelling of axes and a curve (smooth or straight lines) plotted accurately at the 40th, 60th and 80th percentiles.*

*For the vertical axis, the label may be cumulative percentage of income **or** percentage (%) of income (GDP and GNI are valid alternatives to income, but wealth is not acceptable). For the horizontal axis, the label may be cumulative percentage of population/households or percentage of population/households. All abbreviations are acceptable.*

(v) With reference to the data in **Table 3**, explain **two** likely causes of the change in income distribution seen in Tanzania between 2000 and 2018. **[4]**

<table>
<tr><td>Level</td><td></td><td>Marks</td></tr>
<tr><td>0</td><td>The work does not meet a standard described by the descriptors below.</td><td>0</td></tr>
<tr><td>1</td><td>The written response is limited.</td><td>1-2</td></tr>
<tr><td></td><td>For a limited explanation of one cause, award a maximum of [1]. For an accurate explanation of one cause (refer to L2) OR a limited explanation of two causes, award a maximum of [2].

Limited explanations may include:
Income distribution has become more unequal due to:
• inequality of opportunity
• different levels of resource ownership
• different levels of human capital
• discrimination (gender, race and others)
• unequal status and power
• government tax and benefits policies
• globalisation and technological change
• market-based supply side policies
• lowering of minimum wage
• inflation
Any other valid cause</td><td></td></tr>
<tr><td>2</td><td>The written response is accurate.</td><td>3-4</td></tr>
<tr><td></td><td>For an accurate explanation of one cause AND a limited explanation of one other cause, award a maximum of [3].
For an accurate explanation of two causes, award a maximum of [4].

Accurate explanations may include:
Income distribution has become more unequal due to the causes below:
• inequality of opportunity for example due to gender or location
• different levels of resource ownership with respect to agricultural land or inheritance
• different levels of human capital if education has been neglected
• discrimination as women or minority groups have fewer opportunities
• unequal status and power in politics or in wealth accumulation
• government tax and benefits policies when the tax system is becoming more regressive/less progressive
• globalisation and technological change when, for example, the financial impact of affected industries is not distributed equally</td><td></td></tr>
</table>

	• market-based supply side policies when the government makes it easier to lay off workers • Inflation redistributing income from those on fixed incomes, who are usually the lower paid *Any other valid cause*	

NB: 1. *A response that does not refer explicitly to the income distribution having become more unequal should be awarded a maximum of* ***[3].***
2. *If the response suggests that the income distribution has become more equal, then, as an ECF, a maximum of* ***[2]*** *may be awarded if two valid reasons are provided* ***[1 + 1].***
3. *If the response states that income distribution has become less equal but does not explain any relevant causes,* ***[1]*** *may be awarded.*

(vi) Using **Figure 2**, calculate the social/community surplus earned by stakeholders in the aluminium market in Tanzania. **[2]**

CS + **PS** = **(0.5 × 1 × 2)** + **(0.5 × 4 × 4)**

Any valid working should be awarded with ***[1]****.*

Award ***[1]*** *if* ***either*** *the CS (1)* ***or*** *the PS (8) figure is correct.*

= $9 million ***[1]***

An answer of 9 or 9 million without working is sufficient for ***[1]****.*

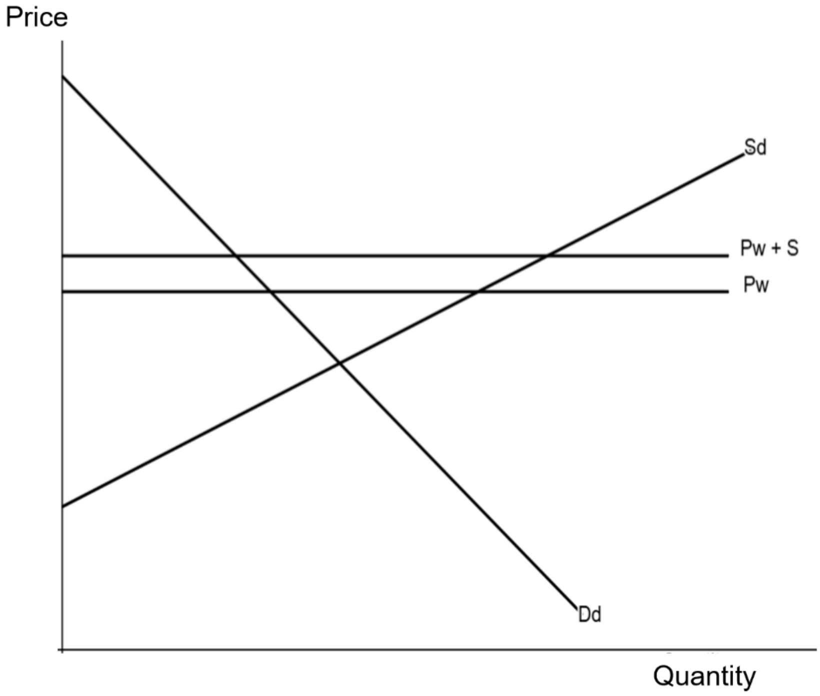
For full marks to be awarded the response must provide valid working and include correct units.

(vii) Using an international trade diagram, explain the effect on the quantity of aluminium exported by Tanzania, if an export subsidy for aluminium is introduced. **[4]**

Level		Marks
0	*The work does not meet a standard described by the descriptors below.*	0
1	*The written response is limited.*	1–2
	For an international trade diagram showing a horizontal line above Pw indicating a higher effective price received for exports *and* an increase in exports (which may be annotated on the diagram or referenced in the explanation) ***OR*** an explanation that an export subsidy will increase the price received by exporters, which acts as an incentive to increase the quantity of exports of aluminium	
2	*The written response is accurate.*	3–4

`	For an international trade diagram showing a horizontal line above Pw indicating a higher effective price received for exports *and* an increase in exports (which may be annotated on the diagram or referenced in the explanation) **AND** an explanation that an export subsidy will increase the price received by exporters, which acts as an incentive to increase the quantity of exports of aluminium	

NB: *A response which argues that a subsidy will reduce production costs and, therefore, will increase the quantity of exports may be awarded* ***[1]*** *for the explanation.*



NB: *A response which only provides a new effective supply curve below the original and shows an increase in exports may receive* ***[1]*** *for the diagram,* ***provided*** *Pw is* ***above*** *the domestic equilibrium.*

Candidates who incorrectly label diagrams may be awarded a maximum of ***[3]****. The use of P and Q on the axes is sufficient for an international trade diagram. The world price line may be labelled as S(world), Sw, Pworld, Pw, or any similar label indicating the horizontal line is the world price/supply. Domestic may be omitted on the other curves.*

(viii) In 2004, the balance of trade in **goods** was a deficit of USD 1001 million. Using **Table 4**, state whether the balance of trade in **services** was in surplus **or** deficit **or** balanced in 2004. **[1]**

Surplus *is sufficient for* ***[1]***

(ix) Using **Table 4,** state **one** possible reason for the change in net current transfers between 2004 and 2023. **[1]**

Reason may be any one of the following:

- **More remittances (from Tanzanians working overseas)**
- **More foreign aid (received by Tanzania)**

Any other valid response

(x) Using **Table 4**, calculate exports of travel services in 2023. **[1]**

0.54×6284 *Working not required*

= **3393.36** **OR** **3393** ***[1]*** *Units not required*

(b) Using the text/data provided and your knowledge of economics, recommend a policy to correct Tanzania's persistent current account deficit. **[10]**

- Lower price (entry fee) for game park to raise export revenue, since PED is elastic
- Promote international tourism to increase travel services exports to meet growing demand shown by large gain since 2004 in Travel services account
- Improve infrastructure for tourism (ports, airports, hotels, tours etc.)
- Promote secondary sector and industrialization by providing subsidies to the aluminium industry to increase exports
- Promote services exports, including travel services
- Promote exports of coffee
- Expenditure switching/trade protection/exchange rate policy
- Expenditure reducing/contractionary fiscal and/or monetary policy
- Supply−side policies

Any other valid policy

If several policies are recommended, examiners should reward only the best one unless the policies are shown to be complementary or if they are compared/contrasted with the student's one chosen policy.

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