1	–	B	(1)

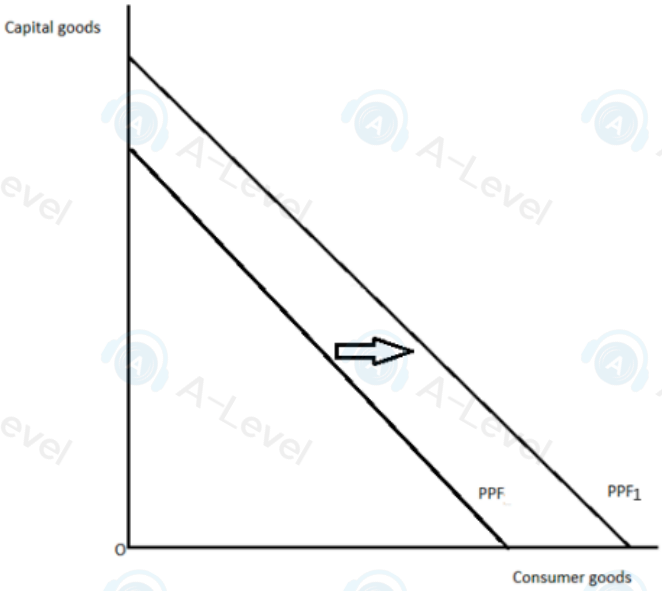
6	**QS4**: Construct and interpret a range of standard graphical forms **QS9**: Interpret, apply and analyse information in written, graphical, tabular and numerical forms	**The only correct answer is D** **A** is not correct because position Y is unobtainable **B** is not correct because the opportunity costs is in terms of consumer goods **C** is not correct because the movement shows a decrease in unemployed resources	**(1)**

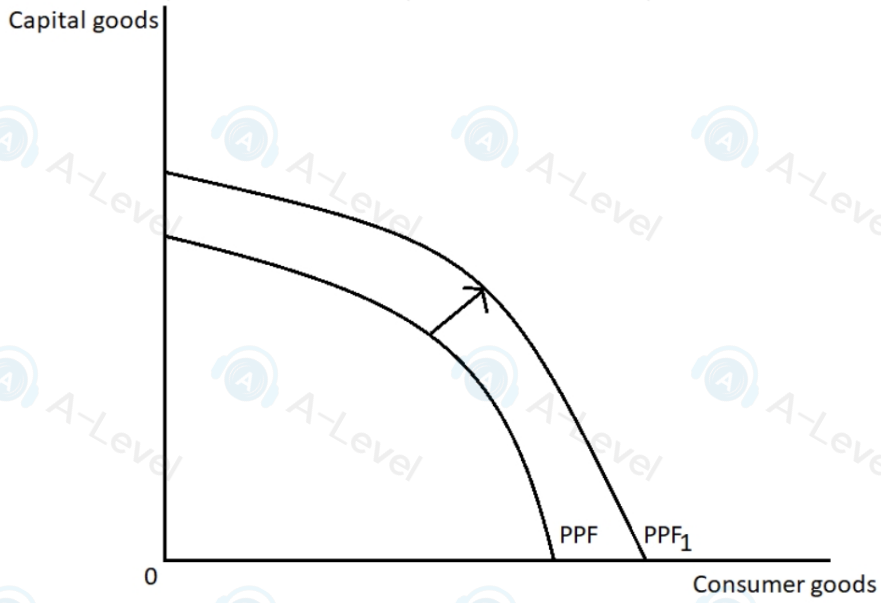
4	**QS4**: Construct and interpret a range of standard graphical forms **QS9**: Interpret, apply and analyse information in written, graphical, tabular and numerical forms	**The only correct answer is C** **A** is not correct because the gain would be 42 consumer goods **B** is not correct because the gain would be 30 consumer goods **D** is not correct because the gain would be 28 capital goods	**(1)**

5	**QS4**: Construct and interpret a range of standard graphical forms **QS9**: Interpret, apply and analyse information in written, graphical, tabular and numerical forms	**The only correct answer is C** **A** is not correct because this movement would result in a decrease in unemployment **B** is not correct because this movement would mean that fewer consumer goods would be produced **D** is not correct because point H is unattainable	**(1)**

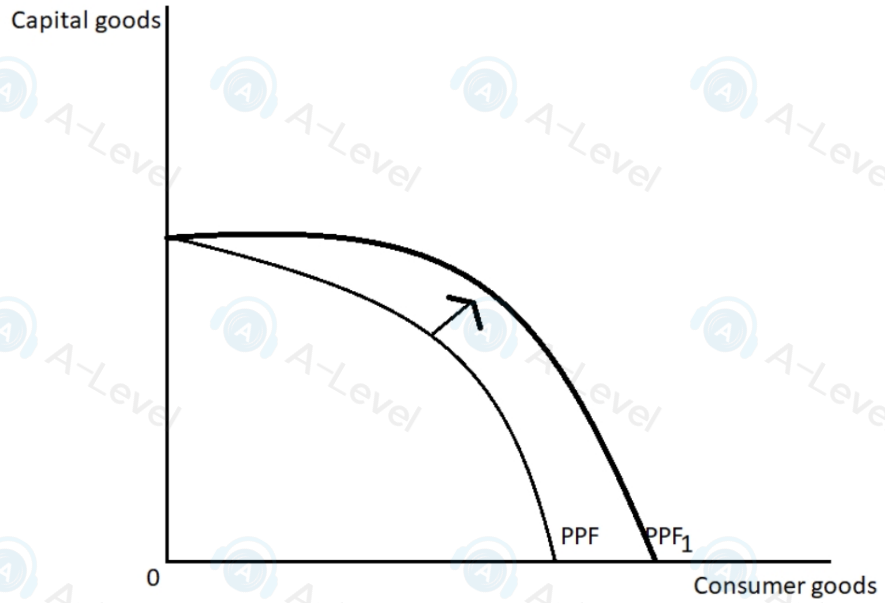
3	**QS9**: Interpret, apply and analyse information in written, graphical, tabular and numerical forms	**The only correct answer is B** ***A*** *is not correct because this would be the result of an increase in productive capacity* ***C*** *is not correct because the movement to y is unattainable given current resources* ***D*** *is not correct because position y would imply that some resources are unemployed*	**(1)**
5	**QS9**: Interpret, apply and analyse information in written, graphical, tabular and numerical forms	**The only correct answer is C** **A** is not correct because this position shows unemployed resources **B** is not correct because at B there are fewer capital goods consumed than at C so growth will be slower **D** is not correct because this point is unattainable using current resources	**(1)**

Question	Draw a diagram to illustrate the impact of Artificial Intelligence on China's production possibility frontier (PPF). Include an arrow on your PPF diagram. **Answer**	Mark
7	**Knowledge 1, Application 3** Quantitative skills assessed: **QS4**: Construct and interpret a range of standard graphical forms **QS9**: Interpret, apply and analyse information in written, graphical, tabular and numerical forms. **Knowledge** 1 mark for showing knowledge on diagram • Original PPF **(1)** **Application** Up to 3 marks for the following information included on diagram: • Correctly labelled axes **(1)** • For drawing PPF shifted to the right **(1)** • Arrow showing shift to the right **(1)**  **N.B.** Accept straight-line or curved PPF diagram **N.B.** Accept other appropriate labels for axis- e.g. agricultural goods and manufactured goods, goods and services, good A and , good B N.B Capital good and consumer good labels can be reversed **N.B.** If price and quantity or no labels on axes maximum 1 mark should be awarded **N.B.** Each PPF curve does not need labelling	**(4)**

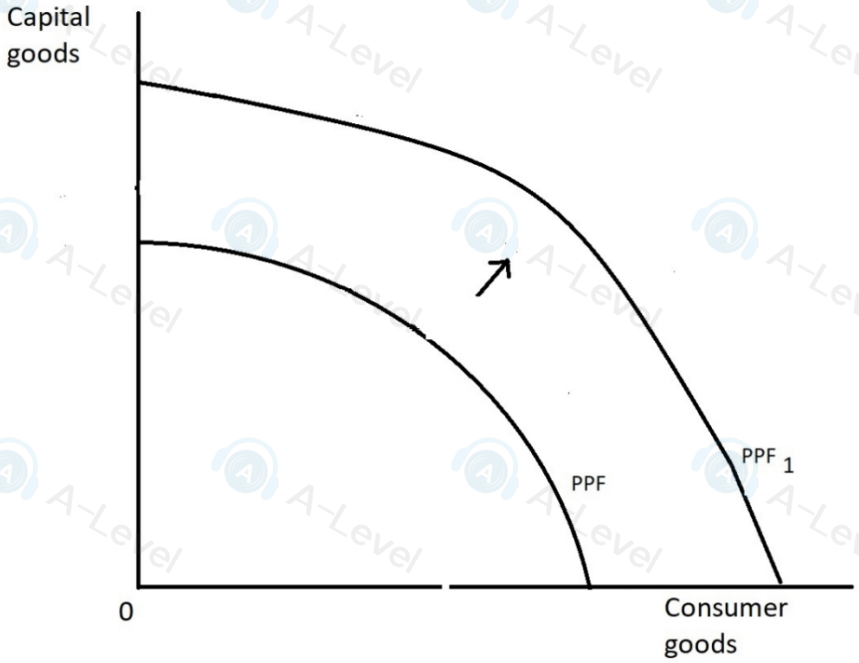
Question	Explain the likely impact on the USA's production possibility frontier (PPF) of this change in migration. Illustrate your answer with a fully labelled PPF diagram. **Answer**	**Mark**
11	**Knowledge 1, Application 1, Analysis 2** Quantitative skills assessed: **QS4**: Construct and interpret a range of standard graphical forms **QS9**: Interpret, apply and analyse information in written, graphical, tabular and numerical forms. **Knowledge** 1 mark for definition of PPF e.g.: • Production Possibility Frontier is the maximum possible production using all available resources **(1)** **Application** 1 mark for correct shift of PPF diagram: • Outward/rightward shift of PPF **(1)**  **NB Accept curved PPF** **Analysis** Up to 2 marks for: • An increased population in the USA would increase the number of workers/ more factors of production available **(1)** • Increase in the output of capital goods and consumer goods that can be produced **(1)** • Identifying that this illustrates **economic growth**/an increase in productive potential **(1)**	**(4)**

Question	Draw a diagram to illustrate the likely impact of this population change on Germany's production possibility frontier. Include an arrow to show the direction of the shift. **Answer**	Mark
7	**Knowledge 1, Application 3** Quantitative skills assessed: **QS4**: Construct and interpret a range of standard graphical forms **QS9**: Interpret, apply and analyse information in written, graphical, tabular and numerical forms. **Knowledge** 1 mark for showing knowledge on diagram • Appropriately labelled axes **(1)** **Application** Up to 3 marks for the following information included on diagram: • Original PPF **(1)** • Directional arrow to show outward shift **(1)** • New PPF further from the origin **(1)**	
	 **NB Accept straight line PPFs** **NB Capital goods or consumer goods may be labelled on either axis/Accept other reasonable alternatives on the axes e.g. goods and services** **NB Award 3 marks if increase in only one of the goods is illustrated (as shown below)**	

NB award maximum of 2 marks if axis not labelled appropriately

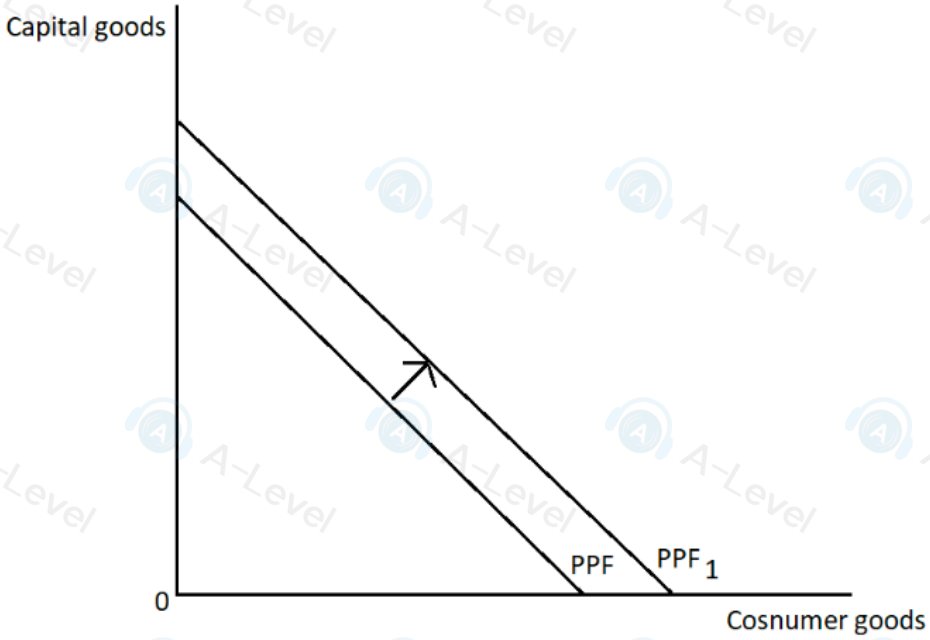


(4)

Question	Draw a diagram to illustrate the impact of this change in Qatar's population on its production possibility frontier. **Answer**	Mark
7	**Knowledge 1, Application 3** Quantitative skills assessed: **QS4**: Construct and interpret a range of standard graphical forms **QS9**: Interpret, apply and analyse information in written, graphical, tabular and numerical forms. **Knowledge** • Correct labelling of the axes (e.g. with capital and consumer goods/ two other relevant goods/ good A and B) **(1)** **Application** Up to 3 marks for the following information included on diagram: • Drawing the original PPF **(1)** • Drawing a new PPF shifted to the right **(1)** • Making it clear that it has shifted outwards through the use of an arrow or labelling the curves (e.g. PPF to PPF_1) **(1)**  PPFs may be drawn as straight line or concave to the origin.	**(4)**

Question Number	Answer	Mark
8	**Knowledge 2, Application 2** **Knowledge** 1 mark for defining 'positive statement.' • Value free/ can be verified with evidence/ objective/ based on facts **(1)** 1 mark for defining 'normative statement.' • Based on value judgement/ cannot be verified or proven/ subjective **(1)** **Application** 2 marks for applying to the statements e.g.: • Statement 1 is positive as you can verify whether $140bn was spent on renewable subsidies / $260bn was spent on non-renewable subsidies/ check if the government subsidised **(1)** • Statement 2 is normative as the word 'should' shows it is a value judgement/ suggests a course of action based on a person's value judgement **(1)**	**(4)**

Question	Evaluate possible factors that could cause a rightward shift of a country's production possibility frontier. Include at least one relevant diagram in your answer. Indicative content
13	**Quantitative skills assessed** **QS4**: Construct and interpret a range of standard graphical forms **QS9**: Interpret, apply and analyse information in written, graphical, tabular and numerical forms. **Indicative content guidance** Answers must be credited by using the level descriptors (below) in line with the general marking guidance. The indicative content below exemplifies some of the points that candidates may make, but this does not imply that any of these must be included. Other relevant points must also be credited. **Knowledge, application and analysis (12 marks) – indicative content** • PPF- shows the maximum possible production using all available resources Factors that could cause a rightward shift of a country's PPF • Population increase from 9.4m to 14.1m (UAE)/12.1m to 18.8m (Bolivia)/113.9m to 180.2m (Philippines) increases the size of the available workforce • More immigration- increases the size of the labour force and production possibilities • Offering more work visas, offer payments to migrants may encourage immigration, increasing labour force • Families having more children, will eventually result in larger workforce • Use of benefits, subsidies and tax breaks to encourage families to have more children, to increase workforce • Investment in capital goods will increase productivity • Use of subsidies and tax breaks to encourage investment in capital goods • More research and development will result in better production processes increasing output • Encourage research and development- helping to improve innovation and increasing productive potential • Development of artificial intelligence may replace tasks completed by humans • Increase spending on education to develop skills to improve productivity • Increase spending on healthcare to improve health- reducing time lost to absenteeism, sickness • Increase retirement age so people stay in the labour market for longer • Reduce school leaving age so that people start to become productive earlier • Offer training courses to improve skills and productivity • Discovery of new natural resources PPF diagram- accept straight line or curved PPFs



NB Award maximum of Level 3 if no diagram is included

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1–3	Displays isolated, superficial or imprecise knowledge and understanding of economic terms, principles, concepts, theories and models. Use of generic material or irrelevant information or inappropriate examples. Descriptive approach which has no chains of reasoning.
Level 2	4–6	Displays elements of knowledge and understanding of economic terms, principles, concepts, theories and models. Limited application of knowledge and understanding to economic problems in context. A narrow response or superficial, only two-stage chains of reasoning in terms of cause and/or consequence.
Level 3	7–9	Demonstrates accurate knowledge and understanding of economic terms, principles, concepts, theories and models. Ability to apply knowledge and understanding to some elements of the question. Some evidence and contextual references are evident in the answer. Analysis is clear and coherent. Chains of reasoning in terms of cause and/or consequence are evident but they may not be developed fully or some stages are omitted.
Level 4	10–12	Demonstrates accurate and precise knowledge and understanding of economic terms, principles, concepts, theories and models. Ability to link knowledge and understanding in context, using appropriate examples which are fully integrated to address the broad elements of the question. Analysis is clear, coherent, relevant and focused. The answer demonstrates logical and multi-stage chains of reasoning in terms of cause and/or consequence.

Level 4	10–12	Demonstrates accurate and precise knowledge and understanding of economic terms, principles, concepts, theories and models. Ability to link knowledge and understanding in context using appropriate examples which are fully integrated to address the broad elements of the question. Analysis is clear, coherent, relevant and focused. The answer demonstrates logical and multi-stage chains of reasoning in terms of cause and/or consequence.
	Evaluation (8 marks) – indicative content • Depends on the size of the tax • Highly inelastic demand for flights means relatively small impact on quantity • Different effects on those travelling for business/leisure • Information failure- government may not know the ideal rate of taxation • Government failure- if it leads to net welfare loss • Any measures to reduce flights may be offset by increases in the number of people using cars or lorries. Therefore, there may be little reduction in external costs • Following the global health crisis, significant numbers have continued to work remotely-reduces the need to fly. Even without imposing indirect taxes the total number of aeroplane flights is likely to have fallen below 2019 levels. Therefore, global carbon emissions may already be below 2.5%	
Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1–3	Identification of generic evaluative comments. No supporting evidence/reference to context. No evidence of a logical chain of reasoning.
Level 2	4–6	Evidence of evaluation of alternative approaches. Some supporting evidence/reference to context. Evaluation is supported by a partially-developed chain of reasoning.
Level 3	7–8	Evaluation recognises different viewpoints and/or is critical of the evidence, leading to an informed judgement. Appropriate reference to evidence/context. Evaluation is supported by a logical chain of reasoning.