1.24 Externalities: Negative and Positive Production and Consumption Effects: Test Pack

Total Marks

AQA 7136 · Calculators not allowed · about 25 minutes

Name: _____ Date: ____ / ____ / _____

Answer all questions in full sentences where appropriate. Show working for any calculations. Allow about 25 minutes for the whole pack. At least three questions require full sentence answers (look for 'Explain' or 'Assess' command words).

1 Define the term 'externality' as it is used in microeconomics, naming whether it can arise from production or consumption and giving one concise example of each.

(Total for Question 1 is 2 marks)

2 State two examples of positive consumption externalities other than vaccination, naming a specific good or service and briefly explaining the external benefit for each example.

(Total for Question 2 is 2 marks)

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3 Explain why, for a good that creates a negative production externality such as airborne emissions from an urban power plant, the free-market output tends to exceed the socially optimal output.

(Total for Question 3 is 3 marks)

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4 Diagram task: Draw a correctly labelled marginal private cost and marginal social cost diagram for a good produced with negative production externalities, clearly showing the free-market equilibrium and the socially optimal output, and shade the welfare loss triangle between the MPC and MSC. In your answer explain briefly which curves you have drawn and why the triangle represents welfare loss.

(Total for Question 4 is 8 marks)

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Mark scheme · 1.24 Externalities: Negative and Positive Production and Consumption Effects: Test Pack

Question 1

a cost or benefit from an economic activity that affects a third party who is not part of the market transaction and is not reflected in market prices	**B1**
one example each: production e.g. factory air pollution; consumption e.g. vaccination giving herd immunity	**B1**

Answer: A cost or benefit from production or consumption that affects third parties but is not reflected in market prices; examples: production externality, factory air pollution; consumption externality, vaccination.

Question 2

first valid example with brief explanation, e.g. education: better-educated citizens increase productivity and innovation benefiting other workers and firms	**B1**
second valid example with brief explanation, e.g. public transport use: reduces road congestion and local air pollution, benefiting other road users and residents	**B1**

Answer: Examples: education, which raises skills and productivity benefiting employers and other workers; public transport use, which reduces congestion and pollution, benefiting other road users and residents.

Question 3

private firms choose output where MPC = MPB and do not account for external harms	**M1**
because external costs are omitted the MSC curve lies above the MPC curve at each level of output	**A1**
therefore the market equilibrium where MPC = MPB occurs at a higher quantity than the social optimum where MSC = MSB (or MSC = MPB if benefits are private), producing overproduction	**A1**

Answer: Firms equate MPC and MPB and ignore external harms; this makes MSC greater than MPC, so the market output at MPC = MPB is larger than the social optimum at MSC = MPB, causing overproduction.

Question 4

correctly labelled vertical axis 'Price/Cost' and horizontal axis 'Quantity, Q'	**B1**
MPC curve drawn upward sloping and labelled 'MPC' or 'MPC (private cost)'	**B1**
MSC curve drawn above and to the left of MPC at each output, upward sloping and labelled 'MSC' or 'MSC (social cost)'	**B1**
MPB or demand curve drawn downward sloping and labelled 'MPB' or 'Demand' to show private benefit	**B1**
free-market equilibrium marked where MPC = MPB at quantity Qm and price Pm	**B1**
socially optimal equilibrium marked where MSC = MPB at quantity Qs and price Ps	**B1**
welfare loss triangle correctly shaded/identified as the triangle between MSC and MPC above Qm and bounded by the demand curve, with brief explanation that it represents external costs not accounted for by the market	**B1**
brief verbal explanation that the triangle represents the net welfare loss because extra units between Qs and Qm impose external costs exceeding private benefits	**B1**

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