3.1 Market failure and equity

Name: _____ Class: _____ Date: _____ **Total: 23 marks**

KEY WORDS externality • public good

Market failure and equity

Objective

Diagnose externalities with the MSC/MSB model, explain public goods and common pool resources, and measure inequality with the Lorenz curve and Gini coefficient (syllabus 2.8–2.9, 2.12).

1 Key knowledge and worked examples

Market failure toolkit. MSC = MPC + external cost; MSB = MPB + external benefit; the social optimum sits where MSB = MSC. With external cost 6 the market $(100, 20)$ over-produces to the optimum $(92, 24)$ – welfare loss $\frac{1}{2} \times 8 \times 6 = 24$; with external benefit 6 the optimum is $(108, 16)$ – under-consumption of 8. Public goods: non-rival + non-excludable → free-riders → non-provision. Common pool resources: rival + non-excludable → over-use. Gini from quintile shares 5/10/15/20/50 = 0.40.

2 Practice

2.1 Define an externality and give one negative and one positive example. [2]

2.2 State the two properties of a public good and name the problem they create for private provision. [2]

2.3 Distinguish a common pool resource from a public good by rivalry and excludability. [2]

2.4 Write the MSC and MSB relationships and state the social-optimum condition. [2]

2.5 Quintile income shares are 5, 10, 15, 20 and 50 percent. State the Lorenz curve's cumulative points and compute the Gini coefficient. [4]

3 Exam-style questions

3.1 *(Original.)* With demand $P = 70 - Q/2$, supply $P = Q/4 - 5$ and an external cost of 6 per unit produced: find the market equilibrium and the social optimum, size the over-production, and calculate the welfare loss. [5]

3.2 *(Original.)* Explain the policy response to a positive consumption externality of 6 per unit in this market, and calculate the new equilibrium under the correct instrument. [3]

3.3 *(Original, equity.)* Explain why an efficient market outcome may still fail the equity test, naming one instrument that trades the two against each other. [3]