ECON 205 Midterm 1 Mock Exam A - Key

Section I: Multiple Choice

1. B

2. B

3. C

4. B

5. B

6. C

7. B

8. C

9. B

10. B

11. A

12. C

Section II: Graphing and Market Analysis

13) Urban Rental Market

1. Correct graph: downward D, upward S, equilibrium at (1800, 40k), horizontal ceiling at 1500.
2. Binding (1500 < 1800).
3. Shortage = QD - QS = 49,000 - 31,000 = 18,000 units.
4. Any two: waitlists, quality decline, side payments/black markets, stronger screening/rationing.
5. Supply right shift reduces shortage (may not fully eliminate it).

14) Two-Shock Coffee Market

1. Supply shifts left (cost shock), demand shifts right (preference shock).
2. Price rises unambiguously.
3. Quantity ambiguous because demand-right raises Q while supply-left lowers Q.
4. Ceteris paribus: analyze each shift separately, then combine.

Section III: Quantitative Problems

15) National Accounts and Deflator

Data: - 2025: Tablet 500x120, Gym 50x900 - 2026: Tablet 550x132, Gym 55x960

1. Nominal GDP

- 2025: $500 \times 120 + 50 \times 900 = 60,000 + 45,000 = 105,000$
- 2026: $550 \times 132 + 55 \times 960 = 72,600 + 52,800 = 125,400$

2. Real GDP (base 2025 prices)

- Real 2025 = 105,000
- Real 2026 = $500 \times 132 + 50 \times 960 = 66,000 + 48,000 = 114,000$

3. Real growth

- (114,000 - 105,000) / 105,000 = 0.0857 = 8.57%

4. Deflator and inflation

- Deflator 2025 = (105,000 / 105,000)*100 = 100.00
- Deflator 2026 = (125,400 / 114,000)*100 = 110.00
- Inflation = (110.00 - 100.00)/100.00 = 10.00%

16) Labor Market Metrics

Given adults 200, employed 124, unemployed 10 (millions).

1. LF = E + U = 124 + 10 = 134 million
2. Unemployment rate = 10/134 = 7.46%
3. LFPR = 134/200 = 67.00%
4. EPOP = 124/200 = 62.00%
5. If 2 million unemployed stop searching:

- New U = 8, new LF = 132
- New unemployment rate = 8/132 = 6.06%

17) Saving-Investment and Interest Channels

Given Y=6200, C=4100, T=1100, G=1300, I=850

1. Savings:

- Private Sp = Y - C - T = 6200 - 4100 - 1100 = 1000
- Public Sg = T - G = 1100 - 1300 = -200
- National S = Sp + Sg = 800

2. NX from S = I + NX:

- NX = S - I = 800 - 850 = -50

3. NX negative means trade deficit.

4. Higher real interest rate:

- Consumption: tends to fall (higher cost of consuming today)
- Investment: tends to fall (higher cost of borrowing)

Section IV: Short Concept Responses

18) Elasticity + Revenue

1. Elasticity approx = -12% / 8% = -1.5
2. Elastic (absolute value > 1)
3. Revenue falls: quantity falls proportionally more than price rises.

19) Production and Growth

For $Y = AK^{0.5}L^{0.5}$: 1. If K doubles (A, L fixed), Y multiplies by sqrt(2) approx 1.41. 2. Output rises less than proportionally with K -> diminishing marginal returns to K. 3. Valid policy examples: R&D tax credits, public research funding, stronger education/human capital pipeline; channel is higher innovation/diffusion raising A.