ECON 205 Principles of Macroeconomics

Midterm 1 Mock Exam B (Timed)

Time limit: 75 minutes
Total points: 100
Allowed: basic calculator only

Coverage: Lectures 01-07

Section I: Multiple Choice (24 points; 2 each)

1. A rise in input prices in a competitive market will typically: A. Shift supply right
   B. Shift demand left
   C. Shift supply left
   D. Move along supply

2. A price ceiling set above equilibrium price is: A. Binding and causes shortage
   B. Non-binding and has no effect
   C. Binding and causes surplus
   D. Equivalent to a price floor

3. Which item is counted in government purchases (G)? A. Unemployment benefits
   B. Social security checks
   C. New highway construction
   D. Transfer payment to households

4. Which is true about real GDP? A. Uses current prices only
   B. Includes inflation directly
   C. Uses base-year prices
   D. Excludes investment

5. If GDP deflator increases from 125 to 130, then: A. Deflation occurred
   B. Inflation occurred
   C. Real GDP fell for sure
   D. NX must be negative

6. Labor force equals: A. Employed + adults not working
   B. Employed + unemployed searching
   C. Employed + discouraged workers only
   D. Population - children

7. Structural unemployment is best described as: A. Temporary job search between jobs
   B. Recession-driven layoffs only
   C. Skill mismatch from changing demand
   D. Seasonal holiday hiring patterns

8. If domestic real interest rate rises, domestic currency tends to: A. Depreciate
   B. Appreciate
   C. Stay fixed
   D. Become irrelevant for NX

9. In open economy accounting: A. S = I
   B. S = C + I + G
   C. S = I + NX
   D. S = Y + T

10. Income elasticity less than zero implies: A. Normal good
    B. Inferior good
    C. Luxury good
    D. Unit elastic good

11. In Y = AKˆ*0.5*Lˆ0.5, doubling K only implies Y rises by: A. 2x
    B. 1.5x
    C. sqrt(2)x
    D. unchanged

12. Which unemployment type rises most in recessions? A. Cyclical
    B. Frictional
    C. Structural
    D. Seasonal

Section II: Graphing and Market Analysis (20 points)

13) City Bus Fares (10 points)

Equilibrium fare P* = 3.00, rides Q* = 2,000,000.
Government sets price ceiling Pc = 2.20. At Pc: QD = 2,400,000 and QS = 1,700,000.

Tasks: 1. Draw and label graph. (4) 2. Binding or non-binding? (1) 3. Compute shortage. (2) 4. Give two non-price outcomes. (2) 5. If subsidy to bus operators shifts supply right, what happens to shortage? (1)

14) Avocado Market Two-Shock (10 points)

Shock 1: fertilizer costs rise.
Shock 2: nutrition campaign increases demand.

Tasks: 1. Show both shifts on one graph. (4) 2. Effect on equilibrium price. (2) 3. Effect on quantity and why ambiguity may arise. (3) 4. One-sentence ceteris paribus note. (1)

Section III: Quantitative Problems (40 points)

15) National Accounts and Deflator (16 points)

Economy produces only software subscriptions and bicycles.

Year	Software Price	Software Qty	Bicycle Price	Bicycle Qty
2025	200	500	800	90
2026	220	560	860	96

Tasks: 1. Compute nominal GDP in 2025 and 2026. (4) 2. Using 2025 as base year, compute real GDP in 2025 and 2026. (4) 3. Compute real GDP growth. (4) 4. Compute GDP deflator in both years and inflation via deflator. (4)

16) Labor Market Metrics (12 points)

Adult population = 180 million
Employed = 111 million
Unemployed = 9 million

Tasks: 1. Labor force. (2) 2. Unemployment rate. (3) 3. LFPR. (3) 4. EPOP. (2) 5. If 3 million unemployed stop searching, recompute unemployment rate. (2)

17) Saving, NX, and Interpretation (12 points)

Given: Y = 5400, C = 3500, T = 900, G = 1000, I = 950

Tasks: 1. Compute Sp, Sg, S. (6) 2. Compute NX from identity. (2) 3. Trade deficit or surplus? (2) 4. Explain in one sentence each what higher real interest does to (i) C, (ii) I. (2)

Section IV: Short Concept Responses (16 points)

18) Elasticity + Revenue (8 points)

Price falls by 6%, quantity demanded rises by 9%.

Tasks: 1. Approximate demand elasticity. (3) 2. Classify elastic/inelastic. (2) 3. Predict revenue direction and explain. (3)

19) Production and Returns (8 points)

Given Y = AK^0.5L^0.5:

Tasks: 1. If both K and L double, by what factor does Y change? (3) 2. What does this imply about returns to scale? (2) 3. Give one policy channel that raises A over time. (3)