

Middle East Technical University
Faculty of Economics and Administrative Sciences
Department of Economics
Econ 102 – Introduction to Economics II
Ege, Şenses, Tunç

NAME:
DEPARTMENT:

2 April 2013

TYPE A
FIRST MIDTERM EXAM
(Time Allowed: 120 minutes)

PART I – (58 points) ANSWER ALL OF THE FOLLOWING QUESTIONS. Show all of your calculations clearly. If you do not show your calculations, you cannot receive full points.

1. (13 points) The following information is given for the economy of Thriftyland:

$c = 0.7$ (marginal propensity to consume out of disposable income)

$t = 0.2$ (tax rate)

$m = 0.06$ (marginal propensity to import)

$Y^* = 310$

$NT = 10 + 0.2Y$

where

Y^* = potential GDP

AE = aggregate expenditure

Y = real GDP (aggregate income) (aggregate output)

NT = net taxes

TL = currency of Thriftyland

1.1. (2 pts) Assume that the equilibrium level of aggregate income (aggregate output) (Y) is 250 TL. at present and at this level of Y , there is a budget surplus of 10TL. This means that the government purchases of goods and services (G) at this equilibrium Y is _____ PL.

1.2. (3 pts) Since the government spending multiplier (k_g) is _____, in order to reach Y^* , the government can (increase/decrease) _____ G by _____ TL.

1.3. (1 pt) If the government implements the policy described in (1.2) and the economy reaches Y^* , the structural deficit of Thriftyland will be _____ TL.

1.4. (3 pts) When the economy is at equilibrium level of $Y=250$ TL as given in (1.1.), in order to reach Y^* , (instead of changing government spending), the government thinks of decreasing net taxes (NT) by 20TL. Would this policy ensure that Thriftyland reaches Y^* ? Explain.

1.5. (4 pts) Return back to the original equilibrium where $Y=250$. Finally, when the economy is at equilibrium level of $Y=250$, the government decides to implement a balanced budget policy for reaching Y^* . Since the balanced budget multiplier is _____, what will the government do for reaching Y^* ?

2. (23 points) The imaginary economy of Tinland is characterized by the following set of equations:

$$\text{Private Saving} = S = -30 + 0.3 Y_d$$

$$\text{Gross Investment} = I = 40$$

$$\text{Net Taxes} = NT = 10 + 0.2 Y$$

$$\text{Government Purchases} = G = 55$$

$$\text{Exports} = X = 25$$

$$\text{Imports} = M = 23 + 0.06 Y$$

where, Y = National Income and Y_d = Disposable Income.

The currency of Tinland is TL.

2.1. (2 pt) Marginal propensity to save out of national income is _____.

2.2. (2 pts) Marginal propensity to consume out of disposable income is _____
and the marginal propensity to consume out of national income is _____.

2.3. (2 pts) Write down the aggregate expenditure (AE) function, showing the autonomous and induced parts clearly.

2.4. (2 pts) Calculate the equilibrium level of national income by using the income-expenditure method, i.e. $Y = AE$.

2.5. (2 pts) Write down the leakages (withdrawals) function for this economy.

2.6. (2 pts) At equilibrium, the level of injections in this economy are _____ and the level of withdrawals (leakages) are _____.

2.7. (4 pts) Draw diagrams reflecting equilibrium points according to the $AE=Y$ method and injections= leakages (withdrawals) method.

2.8. (3 pts) Assume that there is an increase in investment of 20 TL and simultaneously an increase in autonomous exports of 10 TL in Tinland. Explain the sequence of events until new equilibrium is reached in Tinland.

2.9. (4 pts) As a consequence of what is described in (2.8), Y (rises/falls/stays constant) _____ in Tinland by _____ TL, since the simple multiplier is _____. The new equilibrium is at $Y=$ _____ TL. Show the new equilibrium points on the graphs you have drawn in (2.6).

3. (10 points) Some information about the imaginary economy of Happyland is provided in Table 3.1 below. HL refers to the currency used in Happyland

Table 3.1. Happyland Economy - 2013 (in HL)

	HL
Consumption expenditures (private)	2000
Gross investment (private)	400
Total tax collected by the government	550
Transfer payments	80
Depreciation	210
GNP	3000
Government spending on goods and services	560
Increase in inventories	20
Exports	70
Imports	60
Payments of factor income to the rest of the world	20

Calculate the following for the economy of Happyland. Show your calculations clearly in answering the following questions.

3.1. (1pt) GDP is _____ HL.

3.2. (1 pt) Net domestic product is _____ HL.

3.3. (2 pts) Disposable income is _____ HL.

3.4. (1 pt.) Savings are _____ HL.

3.5. (1 pt) Value of final sales is _____ HL.

3.6. (2 pts) Receipts of factor income from the rest of the world are _____ HL.

3.7. (1 pts) Budget balance is _____ HL.

3.8. (1 pts) Net exports are _____ HL.

4. (12 points) Explain the difference between the following pairs:

4.1. (2 pts) Personal income and disposable income.

4.2. (2 pts) GNP and GDP.

4.3. (2 pts) A discouraged worker and an unemployed.

4.4. (2 pts) Retained earnings and dividends.

4.5. (2 pts) Direct taxes and indirect taxes

4.6. (2 pts) Personal (private) saving and wealth

PART II. MULTIPLE CHOICE (21 x 2 = 42 points)

1. Reduction in inventories
 - a. is not taken into account in calculating GDP.
 - b. entered as a depreciation item in calculating GDP.
 - c. is entered as the purchase of intermediate goods in calculating GDP.
 - d. is entered as negative investment in calculating GDP.
2. While an increase in transfer payments would not immediately increase GDP,
 - a. GNP would immediately increase.
 - b. wages would immediately increase.
 - c. personal disposable income would immediately increase.
 - d. government savings would immediately increase.
3. When there is unintended inventory accumulation,
 - a. desired expenditure is too high.
 - b. national income is most likely to fall in the future.
 - c. sales have exceeded production.
 - d. both a and c.
4. Frictional unemployment arises because
 - a. there is no job for those who seek employment.
 - b. there is a job for those who seek employment, but they have not found it yet.
 - c. those who seek employment are not qualified to perform the jobs they are looking for.
 - d. the economy is in a recession.
5. If the unemployment rate is 10% and the number of people employed is 270 000, total number of people unemployed is
 - a. 30 000 people.
 - b. 40 000 people.
 - c. 35 000 people.
 - d. 20 000 people.
 - e. 25 000 people.
6. Jane wants to borrow \$100 from John. John wants to make 6% real return on his money, so they both agree on a 6% interest to be paid next year. Both do not anticipate the -2% inflation (ie. 2% decrease in prices) next year. In this case,
 - a. Jane will pay an 8% real interest rate.
 - b. John is better off.
 - c. Jane will pay a 6% nominal interest rate.
 - d. All of the above are correct.
7. At the break-even level of income, households are
 - a. consuming all of their disposable income.
 - b. allocating their income equally between saving and consumption.
 - c. saving a portion of their income, but saving is less than consumption.
 - d. spending more than their current income.

Refer to the information provided in Table 2.1 below in answering questions 8-10.
 Suppose that the only goods in the economy of Doughland are wheat, flour and bread.
 (Doughland currency is DL.)

Table 2.1. Value of sales in Doughland (in DL)	
Stage of production	Value of sales
Wheat (No intermediate goods used in production, all output goes to flour industry as intermediate good.)	500
Flour (All wheat received is used as intermediate goods; 80% of flour output (sales) goes to bread industry, 20% of flour output (sales) goes to homes as final goods.)	1000
Bread (All flour received is used as intermediate goods.)	1500

8. The total value of final goods in the economy is _____ DL.
- 1500
 - 1700
 - 1000
 - 2000
 - 1300
9. Total value added in Doughland is _____ DL.
- 1700
 - 1500
 - 1300
 - 1000
 - 2000
10. Total value added in the wheat industry is _____ DL, total value added in the flour industry is _____ DL and the total value added in the bread industry is _____ DL.
- 500; 500; 500
 - 500; 200; 1300
 - 0; 500; 500
 - 500; 300; 500
 - 500; 500; 700

11. A decrease in autonomous consumption will
- shift down the aggregate expenditure function.
 - reduce the average propensity to save.
 - shift up the consumption function.
 - change the slope of the consumption function.

Refer to the information provided in Table 2.2 below in answering questions 12-15. Assume that only three goods (A, B, and C) are produced in Microland. Prices of those goods in Microland currency (ML) and the quantities produced (units) in 2000 and 2001 are given in Table 2.2. Use 2000 as the base year in your calculations.

Table 2.2. Prices and Production of A, B, C in Microland in 2000 and 2001

Goods	2000	2000	Goods	2001	2001
	Price (in ML)	Quantity (units)		Price (in ML)	Quantity (units)
Good A	1	200	Good A	2	200
Good B	2	150	Good B	3	100
Good C	4	125	Good C	4	200

12. In 2001, the nominal GDP was _____ ML and the real GDP was _____ ML.
- 1300; 1100
 - 1000; 1200
 - 1200; 1400
 - 1100; 1300
 - 1500; 1200
13. The growth rate was _____ in 2001.
- 50%.
 - 10%.
 - 20%.
 - 30%.
 - 40%.
14. In 2001, the inflation rate calculated by using the GDP deflator was _____.
- 10%
 - 15%
 - 20%
 - 25%
 - 35%
15. (2 pts.) If all three goods constitute the market basket of a typical consumer used in calculating CPI, taking 2000 as the base year, the inflation level based on CPI was _____ in 2001.
- 10%
 - 15%
 - 20%
 - 25%
 - 35%

16. A higher marginal propensity to import will lead to a
- a. larger simple multiplier and a steeper AE function.
 - b. smaller simple multiplier and a flatter AE function.
 - c. smaller simple multiplier and a steeper AE function.
 - d. larger simple multiplier and a flatter AE function.

17. If working age population is 100 million, labor force participation rate 60% and the unemployment rate is 20%, total number of people employed is
- a. 40 million.
 - b. 48 million.
 - c. 52 million.
 - d. 60 million.
 - e. 72 million.

18. Which of the following are the basic assumptions about the consumption function?

- a. Below the break-even level (where $Y=C$), $APC > 1$ and $MPC < 0$.
- b. The MPC and APC are always less than unity.
- c. As income rises, the MPC falls and the APC rises.
- d. The MPC is greater than zero and less than one and the APC falls as income rises.
- e. The APC is greater than zero and less than one and the MPC falls as income rises.

19. An increase in the marginal propensity to spend out of national income will cause
- a. a change in the slope of the AE curve.
 - b. an upward parallel shift in the AE curve.
 - c. a movement up the AE curve.
 - d. a movement down the AE curve.
 - e. a downward parallel shift in the AE curve.

20. If real wages are falling, it means that the money (nominal) wages
- a. are rising more rapidly than the price level.
 - b. are rising slower than the price level.
 - c. are constant and the price level is falling.
 - d. and the price level are changing by the same amount.

21. Presence of automatic stabilizers means that the budget deficit is _____ than it otherwise would be in a recession and _____ than it otherwise would be in an expansion.

- a. larger; smaller
- b. smaller; larger
- c. smaller; smaller
- d. larger; larger