



Boğaziçi University Department of Economics

Dış Transfer Sınavı

2. Sınıf

STUDENT'S NAME: _____

I pledge on my honor that I have not given or received any unauthorized assistance on this assignment/examination.

STUDENT'S SIGNATURE: _____

- 1. Please check that you have 45 multiple choice (1.7 points each) and 3 essay questions. You have 90 minutes to complete the exam.*
- 2. GOOD LUCK**

1: _____

2: _____

3: _____

Total: _____

MC Correct: _____

Total: _____

Each Multiple Choice question is 1.7 points.

1: Which of the following describes the effect on equilibrium price and quantity of orange juice resulting from an unexpected announcement that orange juice prevents cancer?

- A. Price goes down, quantity goes down.
- B. Price goes up, quantity goes down.
- C. Price goes up, quantity goes up.
- D. Price goes down, quantity goes up.
- E. Price is indeterminate, quantity goes up.

2: Suppose consumer income is \$100 per month and the price of good X (P_X) is \$5 per unit while the price of good Y (P_Y) is \$2 per unit. The equation for the consumer's budget line is _____. If the consumer spends all his income on good X, he may purchase _____ units of good X.

- A. $Y = 100 - (5/2)X$; 20
- B. $Y = 50 - (2/5)X$; 25
- C. $Y = 100 - (2/5)X$; 25
- D. $Y = 50 - (5/2)X$; 20
- E. $Y = 100 - (5/2)X$; 10

3: The cross-price elasticity of demand between two goods X and Y is 0.07, while the cross-price elasticity of demand between two goods A and B is -1.93 , then we can conclude that:

- A. X and Y are complements, A and B are complements.
- B. X and Y are substitutes, A and B are complements.
- C. X and Y are substitutes, A and B are substitutes.
- D. X and Y are complements, A and B are substitutes.
- E. X and Y are luxury goods, A and B are necessary goods.

4: Consider the following production possibilities data. The table shows the maximum combinations of bread and guns that can be produced when all resources are fully employed.

Guns	0	100	200	300	400	500
Bread	1000	900	750	550	300	0

Which of the following is TRUE?

- A. The opportunity cost of producing 200 guns instead of 100 guns is 750 units of bread.
- B. The opportunity cost of producing 500 guns instead of 300 guns is zero since we don't have to give up any bread.
- C. The opportunity cost of producing 550 units of bread instead of 300 units of bread is zero.
- D. The opportunity cost of producing 300 units of bread instead of 750 units of bread is 500 guns.
- E. The opportunity cost of producing 400 guns instead of 100 guns is 600 units of bread.

5: Turnips are available in both the US and Canada. During the past year incomes have grown by 12% in each country. The demand for turnips has grown by 18% in the US and by 8% in Canada. We can conclude that turnips are:

- A. normal goods in the US and normal goods in Canada.
- B. normal goods in the US and inferior goods in Canada.
- C. inferior goods in the US and normal goods in Canada.
- D. inferior goods in the US and inferior goods in Canada.
- E. substitutes in the US and complements in Canada.

6: Suppose that in one week the U.S. can produce 5 pairs of shoes or 4 bookshelves while the U.K. can produce 10 pairs of shoes or 6 bookshelves. Which of the following is TRUE?

- A. The U.S. has an absolute advantage in producing shoes.
- B. The U.S. has a comparative advantage in producing shoes.
- C. The U.S. has an absolute advantage in producing bookshelves.
- D. The U.S. has a comparative advantage in producing bookshelves.
- E. The U.S. has no gains from trade.

7: Ali consumes two goods, popcorn and movies, and his current consumption bundle is 3 bags of popcorn and 2 movies. At this consumption bundle, Ali's marginal utility of popcorn is 10 and his marginal utility of movies is 12. Given this information, which of the following must be true?

- A. The bundle that consists of 4 bags of popcorn and 1 movie is on the same indifference curve as Ali's current bundle.
- B. The bundle that consists of 4 bags of popcorn and 3 movies must be on a lower indifference curve than Ali's current bundle.
- C. The bundle that consists of 2 bags of popcorn and 3 movies is on the same indifference curve as Ali's current bundle.
- D. The bundle that consists of 4 bags of popcorn and 1 movie is on a lower indifference curve than Ali's current bundle.
- E. Both A and B are true.

8: Suppose the government decides to fight obesity (aşırı şişmanlık) in America by imposing an excise tax on the saturated fat (doymuş yağ) content of the food. The effect of this tax would be:

- A. to lower the profits of ice cream suppliers.
- B. to increase revenue for the government.
- C. to increase black market activity
- D. all of the above.
- E. non of the above.

Use the following information to answer questions 9 and 10.

In a perfectly competitive market, the market demand curve is given by $P = 100 - 0.1Q$ and the market supply is given by $P = 0.1Q$. There are 50 firms in this market using labor as the only input of production. These firms hire workers in a competitive market in which the market demand for labor is by these 50 firms only and is given by the equation $W = 25 - 0.015L$ where W is the hourly wage rate and L is the number of workers. The supply of workers is $W = 0.01L$.

9: The wage rate in this labor market is _____ and each firm hires _____ workers.

- A. \$10 per hour; 20
- B. \$25 per hour; 20
- C. \$10 per hour; 25
- D. \$25 per hour; 25
- E. The wage rate and the number of workers hired by each firm cannot be determined using the available information.

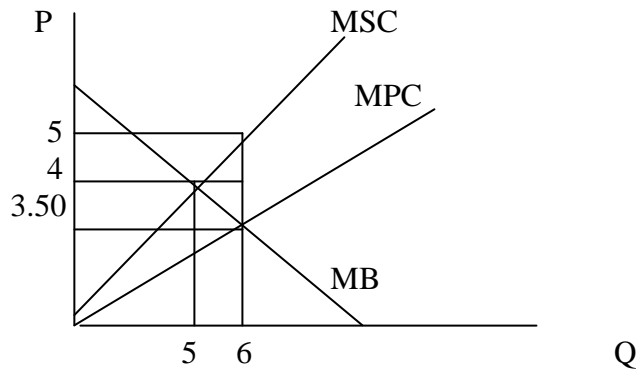
10: What is the marginal product of labor for a representative firm at the current allocation?

- A. 1/2
- B. 1/3
- C. 1/4
- D. 1/5
- E. 1/6

11: Suppose that good X is a (pure) public good. Then:

- A. If one individual consumes X, then this will decrease how much of X another individual can consume.
- B. It is impossible, or very costly, to prevent an individual from consuming X.
- C. If we let the market decide how much X is produced, then in general we will have an efficient amount of X produced.
- D. Only B and C.
- E. A, B and C.

12: The graph depicts a market for a particular good such that the production of the good imposes an externality.



In the graph, Q is the quantity of the good produced, MSC is the marginal social cost, MPC is the marginal private cost, and MB is the marginal benefit. Which of the following statements is TRUE?

- A. There is an external cost in this industry.
- B. There is an external benefit in this industry.
- C. If we let the market determine how much of the good to produce, too little will be produced, relative to the output that is socially efficient.
- D. The market allocation is socially efficient.
- E. A and C.

13: Consider two rival producers of camera film, Kodak and Fuji. Each firm can undertake one of two strategies, Research or No Research. The film producers have the following matrix of profits, depending on each firm's actions. Profits are given in \$millions. The first entry in each box corresponds to Fuji's profits while the second entry corresponds to Kodak's profits.

		Kodak	
		No Research	Research
Fuji	No Research	\$100, \$100	\$0, \$150
	Research	\$150, \$0	\$80, \$80

Which of the following is TRUE?

- A. Fuji will choose "No Research" regardless of what Kodak does.
- B. Kodak will choose "No Research" regardless of what Fuji does.
- C. In Nash equilibrium both Fuji and Kodak choose "No Research".
- D. All of the above are true.
- E. None of the above are true.

14: The main difference between perfect competition and monopolistic competition is the following:

- A. In perfect competition, the number of producers is very small. In monopolistic competition, it is large.
- B. In perfect competition, the product/service is very homogeneous among producers while it is not in monopolistic competition.
- C. In monopolistic competition, monopolies own the firms.
- D. The total demand that perfectly competitive industries face is very small.
- E. In monopolistic competition, each firm faces a horizontal demand curve.

15: Which of the following is a feature of long-run equilibrium in a monopolistically competitive market?

- A. Firms produce differentiated products.
- B. The industry output level is efficient.
- C. Each firm produces at the minimum of its average cost curve.
- D. Each firm makes positive economic profits.
- E. Each firm makes negative accounting profits.

16: The lowest point on the upward sloping portion of a perfectly competitive firm's short-run supply curve corresponds to:

- A. the minimum point on the ATC curve
- B. the minimum point on the AVC curve
- C. the minimum point on the AFC curve
- D. the minimum point on the MC curve
- E. none of the above

17: Suppose a monopoly is producing at the profit-maximizing level of output. Then at that level of output, demand is:

- A. price elastic.
- B. price inelastic.
- C. perfectly price elastic.
- D. price unit elastic.
- E. upward sloping.

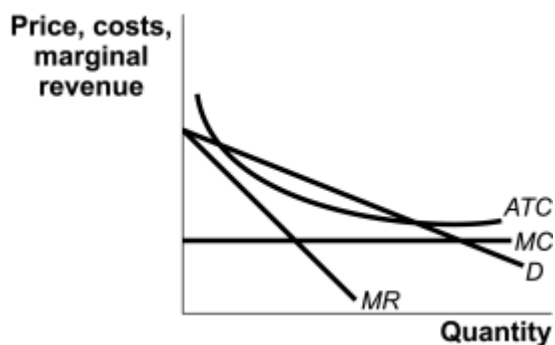
18: A monopoly is producing where average total cost equals \$30, marginal revenue is \$40, and the price is \$50. If ATC is at its minimum level and the ATC curve is U-shaped, in order to maximize profits this firm should:

- A. increase output.
- B. reduce output.
- C. do nothing; it is already maximizing profits.
- D. shut down.
- E. wait until entry occurs.

19: A perfectly competitive firm operating in the short run producing 100 units of output has $ATC = \$6$ and $AFC = \$2$. The market price is $\$3$ and is equal to MC . In order to maximize profits (or minimize losses), this firm should:

- A. increase output.
- B. reduce output, but continue to produce a positive amount of output.
- C. shut down.
- D. do nothing; the firm is already maximizing profits.
- E. wait until entry occurs.

20: Use the following figure on total surplus with a regulated natural monopolist to answer the question:



In the figure above, the natural monopoly:

- A. would incur an economic loss if regulated to produce where price equals marginal cost.
- B. would incur an economic profit if regulated to charge a price equal to average total cost.
- C. creates more consumer surplus if regulated to produce either where price equal marginal cost or price equal average total cost.
- D. both A and C.
- E. both A and B.

21. When the unemployment rate is very low most of the unemployment tends to be:
- cyclical unemployment.
 - frictional unemployment.
 - structural unemployment.
 - seasonal unemployment.
 - Both A and B
22. Using monetary policy to address a recessionary gap created by a supply shock involves _____ to _____.
- increasing interest rates; decrease investment spending
 - increasing the amount of money in circulation; lower the unemployment rate
 - decreasing the amount of money in circulation; lower the aggregate price level
 - decreasing interest rates; lower the aggregate price level
 - None of the above
23. Keynesian economics emphasizes _____ shifts in aggregate _____ .
- long-run; supply.
 - short-run; supply.
 - long-run; demand.
 - short-run; demand.
 - None of the above
24. Which of the following is TRUE?
- Prices tend to rise most in sectors of the economy where there is high productivity growth, because it is expensive to pay for the new technologies to make that growth happen.
 - GDP is the sum of all the “value added” at each stage of production plus the price paid by the final consumers.
 - GDP can be thought of as the sum of incomes earned, that is, the sum of profits, interest payments, and rentals paid.
 - GDP is computed adding up the final values of market goods, except for things that government produces and business inventories.
 - Increasing taxes increases the disposable income of consumers and so decreases consumption.
25. Suppose that our government did not care at all about high unemployment but hated inflation. To actively fight a stagflation, our government would
- Cut taxes, raise govt spending, and increase money supply.
 - Raise taxes, raise govt spending, and decrease money supply.
 - Raise taxes, cut govt spending, and decrease money supply.
 - Cut taxes, raise govt spending, and decrease money supply.
 - Do nothing at all.

26. Which of the following is NOT a true statement concerning monetary policy?
- A) Concerns about a political business cycle suggest that the central bank should not be independent and argue for a strong discretionary fiscal and monetary policy.
 - B) Early Keynesianism downplayed the effectiveness of monetary as opposed to fiscal policy.
 - C) Monetarism argued that discretionary monetary policy does more harm than good.
 - D) The natural rate hypothesis places sharp limits on what macroeconomic policy can achieve.
 - E) None of the above
27. Saving deposits are counted in:
- A) Both in $M1$ and $M2$
 - B) $M2$ but not in $M1$.
 - C) $M1$, $M2$ and $M3$.
 - D) $M1$ but not in $M2$.
 - E) $M3$ but not in $M2$.
28. Investment spending is:
- A) spending on shares of stock.
 - B) spending on productive physical capital.
 - C) spending on bonds.
 - D) All of the above.
 - E) None of the above
29. Under rational expectations, government policy can be effective:
- A) if it is anticipated so people can make realistic preparations.
 - B) whenever the economy reacts rationally to the decision.
 - C) if it is rationally thought out before implementation.
 - D) if it surprises people when it occurs.
 - E) All of the above
30. According to Fisher effect, when the expected inflation rate rises, the expected real interest rate:
- A) remains the same.
 - B) first falls and then rises.
 - C) first rises and then falls.
 - D) rises.
 - E) falls.

31. When we put a price on a meal, money is playing the role of:
- A) unit of account.
 - B) barter token.
 - C) store of value.
 - D) medium of exchange.
 - E) All of the above
32. In the long run, any given percentage increase in the money supply:
- A) leads to an equal percentage decrease in the unemployment rate.
 - B) increases real GDP.
 - C) decreases real GDP.
 - D) leads to an equal percentage increase in the overall price level.
 - E) There is not enough info to answer this question
33. Suppose that Mr. Green Jeans sells \$5,000 of wheat to Big Ben Bakery. Big Ben uses the wheat to make flour and then hamburger buns, which they sell to Hamburger Heaven for \$11,000. Hamburger Heaven also buys \$20,000 of beef from a rancher. Hamburger Heaven uses the beef and buns to make 10,000 hamburgers which are sold for \$5 each. How much do these transactions add to GDP?
- A) \$31,000
 - B) \$50,000
 - C) \$36,000
 - D) \$86,000
 - E) None of the above
34. The mechanism that causes government tax revenue to rise and fall with the business cycle is known as:
- A) the multiplier effect of government purchases.
 - B) an automatic stabilizer.
 - C) a discretionary fiscal policy.
 - D) the multiplier effect of taxes and government transfers.
 - E) None of the above
35. Suppose that the aggregate output level is lower than potential output. Which of the following is NOT true?
- A) The short-run aggregate supply curve will gradually shift to the left.
 - B) Workers are abundant.
 - C) Jobs are scarce.
 - D) Nominal wages will fall over time.
 - E) There is not enough info to answer this question

36. When the actual inflation rate is higher than the expected rate of inflation:
- A) lenders are paid more than they deserve.
 - B) financial institutions' profits soar.
 - C) lenders may receive a negative real rate of return.
 - D) borrowers pay back at higher real interest rates.
 - E) None of the above
37. Growth accounting enables us to:
- A) compare growth rates across countries.
 - B) discover how long it takes the economy to grow.
 - C) better calculate real GDP per capita.
 - D) discover the effects of technological progress on economic growth.
 - E) All of the above
38. Discretionary fiscal policy refers to:
- A) changes in government spending or taxes to close a recessionary or inflationary gap.
 - B) any changes in interest rates.
 - C) changes in taxes to account for externalities and control pollution.
 - D) any change in money supply.
 - E) All of the above
39. Suppose the government increases taxes by more than is necessary to close an inflationary gap. Which of the following would most likely be the end result?
- A) The economy will generate a larger inflationary gap than anticipated.
 - B) Equilibrium will be restored.
 - C) The economy could move into a recession.
 - D) Equilibrium real GDP will be more than anticipated.
 - E) This will not have any adverse effects on the economy, since inflation has been abated.
40. If your professor (hopefully) wins the lottery:
- A) GDP is not affected.
 - B) the economy will clearly be better off.
 - C) GDP goes down.
 - D) GDP goes up.
 - E) There is not enough info to answer this question.
41. When the government runs a budget deficit, all of the following happen EXCEPT:
- A) the total amount of borrowing decreases.
 - B) private investment spending is crowded out.
 - C) the interest rate rises.
 - D) the government becomes a borrower in the market for loanable funds.
 - E) None of the above

42. As people try to avoid the inflation tax, the government must:
- A) lower the inflation rate to avoid a budget deficit
 - B) increase the inflation rate to raise the same revenue from inflation
 - C) Use fiscal policy to increase GDP.
 - D) increase the inflation rate to avoid a budget surplus which will harm employment.
 - E) lower the inflation rate to raise the same revenue from inflation
43. In a closed economy, the savings-investment spending identity is:
- A) $I = \text{GDP} - C - G$.
 - B) $NS = \text{GDP} + (C - T + TR) + (T - TR - G)$.
 - C) $I = \text{GDP} - C - G + (IM - NX)$.
 - D) $NS = \text{GDP} - I$.
 - E) None of the above
44. Which of the following accurately describes what is happening along a typical aggregate production function?
- A) Added additional workers results in the amount of real GDP per worker to rise at an increasing rate throughout the function.
 - B) Due to diminishing returns, at some point increasing the amount of physical capital per worker will bring small increases in productivity.
 - C) At some point, increasing the amount of physical capital per worker will reduce productivity.
 - D) Increases in physical capital per worker will always bring about an increase in productivity that is worth the cost of the additional physical capital.
 - E) All of the above
45. According to the classical school, the only source of fluctuations in actual output would be changes in:
- A) aggregate demand.
 - B) the money supply.
 - C) fiscal policy.
 - D) monetary policy
 - E) productivity.

1. (8 points) For the function given below find the critical points and classify them as local max, local min, saddle point, or “can’t tell”:

$$f(x, y) = x^3 - y^3 + 9xy$$

2. (8 points) Evaluate the followings:

(a) $\int \left(3e^x + \frac{4}{x} \right) dx \quad (x > 0)$

(b) $\int_2^4 x^2 \left(\frac{1}{3}x^3 + 1 \right) dx$

3. (8 points) Find the total differential for each of the following functions:

(a) $U = -5x^3 - 12xy - 6y^5$

(b) $U = \frac{9y^3}{x-y}$