2022-2023

Epoka University

Economics Department

[FINAL COMPREHENSIVE EXAM]

Comprehensive Exam covers questions related to the following course list:

1.ECO 201/202 Microeconomics(I+II)-100 questions
2.ECO 203/204 Macroeconomics (I+II) - 100 questions
3.ECO 252 Labor Economics - 25 questions
4.ECO 311/312 Econometrics (I+II) - 25 questions
5.ECO 321/322 International Economics (I+II) - 25 questions
6.ECO 331 Monetary Theory and Policy (I) - 25 questions
7.BUS 101/102 Math for Economics (I+II) – 50 questions
8.BUS 201/202 Statistics (I+II) – 50 questions

ECO 201/202 Microeconomics (I+II)

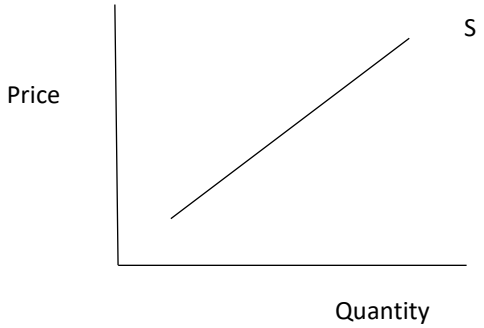
1- Which one of the following is a factor of production?

2- Opportunity cost is:

3- A business which operates in the tertiary sector

4- Which one of the following would cause an inward shift of the demand curve for hats?

5- This supply curve shows that



6- The table below provides information about the market for Ditsies

Price per kilogram (kg)	Quantity of Ditsies demanded per week (kg)	Quantity of Ditsies supplied per week (kg)
£10	70 000	190 000
£15	90 000	180 000
£20	110 000	170 000
£25	130 000	160 000
£30	150 000	150 000
£35	170 000	140 000

What is the equilibrium price for a kilogram of Ditsies?

7- A market with a single producer is

8- An increase in productivity is most likely to lead to

9- National insurance is charged at a rate of 12% of gross pay. Petra's gross monthly pay is £1500. How much is Petra's monthly national insurance contribution?

10- Which one of the following businesses operates in the financial sector?

11- Which of the following statements about opportunity cost is TRUE?

12- Which of the following statements about opportunity costs is TRUE?

13- Suppose that you are deciding between seeing a move and going to a concert on a particular Saturday evening. You are willing to pay $20 to see the movie and the movie ticket costs $5. You are willing to pay $80 for the concert and the concert ticket costs $50. The opportunity cost of going to the movie is:

14- Suppose that you are willing to pay $20 to see a movie on Saturday night. A ticket costs $10, and the next-best alternative use of your time would be to go to dinner with a friend. The cost of the dinner is $20 and you value the experience of having dinner with your friend at $60. The opportunity cost of seeing the movie is equal to:

15- Suppose that you are willing to pay $50 to see a movie on Saturday night. A ticket costs $15, and the next-best alternative use of your time would be to go to a concert which costs $80 and you value at $100. The opportunity cost of seeing the movie is equal to:

16- Suppose you play a round of golf costing $75. The golf takes four hours to play. If you were not playing golf you

could be working and earning $40 per hour. The opportunity cost of your golf game is:

17- Suppose you have bought and paid for a ticket to see Lady Gaga in concert. You were willing to pay up to $200 for this ticket, but it only cost you $110. On the day of the concert, a friend offers you a free ticket to the opera instead. Assuming that it is impossible to resell the Lady Gaga ticket, what is the minimum value you would have to place on a night at the opera, in order for you to choose the opera over Lady Gaga?

18- Suppose that you are willing to pay $350 to see Leonard Cohen play at the Save-On-Foods Arena. Tickets cost $100, and the next-best alternative use of your time would be to work in paid employment earning $50 over the evening. The opportunity cost of seeing Leonard Cohen is equal to:

19- I am considering loaning my brother $10,000 for one year. He has agreed to pay 10% interest on the loan. If I don't loan my brother the $10,000, it will stay in my bank account for the year, where it will earn 2% interest. What is the opportunity cost to me of the loan to my brother?

20- In January, in an attempt to commit to getting fit, I signed a year-long, binding contract at a local gym, agreeing to pay $40 per month in membership fees. I also spent $300 on extremely stylish gym clothes. This morning, I was trying to decide whether or not to actually go to the gym. Which of the following was relevant to this decision?

21- Suppose you have bought and paid for a ticket to see Kanye in concert. You were willing to pay up to $350 for this ticket, but it only cost you $100. On the day of the concert, a friend offers you a free ticket to Lady Gaga instead. You can resell your Kanye ticket for $80. What do your sunk costs equal?

22- Which of the following statements about sunk costs is FALSE?

23- As a member of UVic's University Club, I pay $30 per month in membership fees. In a typical month I spend about $50 on beer at the Club. Every month I also have the option of attending a meeting of the whiskey club (open only to Club members), at a cost per meeting of $15, payable at the beginning of each meeting. Given this, what do my monthly SUNK COSTS equal?

24- According to marginal analysis, optimal decision-making involves:

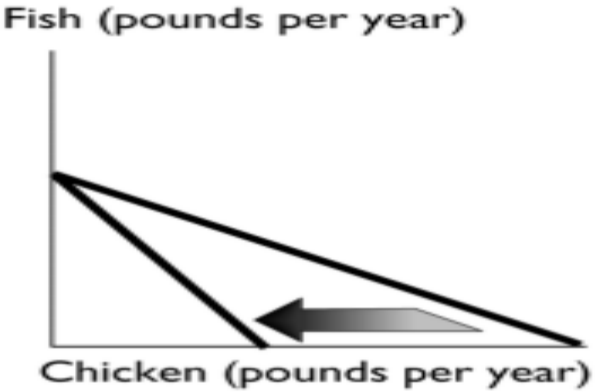
25- Jane's marginal benefit per day from drinking coke is given in the table below. This shows that she values the first coke she drinks at $1.20, the second at $1.15, and so on. If the price of coke is $1.00, the optimal number of cokes that Jane should drink is:

Marginal benefit	Cokes
$1.20	1
$1.15	2
$0.95	3
$0.60	4

26- If your budget is $100, the price of a cup of coffee is $5, and the price of pizza is $10, which of the following bundles can you afford?

27- Suppose the price ratio of two goods is 3/4 and Jason has a budget of $100. If Jason's budget increases to $150 and the prices of the two goods stay the same, what is the new price ratio?

28- What does the graph below represent?

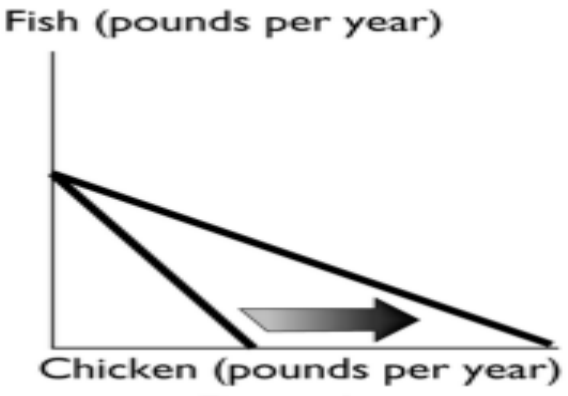


29- As you move to the right of any indifference map, consumer utility always increases. Explain.

30- Suppose a consumer has $100 to spend on two goods, shoes and shirts. If the price of a pair of shoes is $20 per pair and the price of a shirt is $15 each, which of the following combinations is unaffordable to the consumer?

31- Suppose the price ratio of two goods is 3/4 and Jason has a budget of $100. If the price of good X increases from 6 to 12, what is the new price ratio?

32- What does the graph below represent?



33- A consumption point inside the budget line
34- If all prices double and income triples, then the budget line will become steeper.
35- If good 1 is on the horizontal axis and good 2 is on the vertical axis, then an increase in the price of good 1 will not change the horizontal intercept of the budget line.
36- If there are two goods and the prices of both goods rise, then the budget line must become steeper.
37- There are two goods. You know how much of good 1 a consumer can afford if she spends all of her income on good 1. If you knew the ratio of the prices of the two goods, then you could draw the consumer's budget line without any more information.
38- A consumer prefers more to less of every good. Her income rises, and the price of one of the goods falls while other prices stay constant. These changes must have made her better off.
39- There are 3 goods. The price of good 1 is −1, the price of good 2 is 1, and the price of good 3 is 2. It is physically possible for a consumer to consume any commodity bundle with nonnegative amounts of each good. A consumer who has an income of 10 could afford to consume some commodity bundles that include 5 units of good 1 and 6 units of good 2.
40- A decrease in income pivots the budget line around the bundle initially consumed.
41- Harold lives on Doritos and seafood salads. The price of Doritos is 1 dollar per bag and the price of seafood salads is 2 dollars each. Harold allows himself to spend no more than 11 dollars a day on food. He also restricts his consumption to 6,500 calories per day. There are 1,500 calories in a bag of Doritos and 500 calories in a seafood salad. If he spends his entire money budget each day and consumes no more calories than his calorie limit, he can consume up to

42- Quincy lives on pretzels and seafood salads. The price of pretzels is 1 dollar per bag and the price of seafood salads

is 2 dollars each. Quincy allows himself to spend no more than 14 dollars a day on food. He also restricts his consumption to 3,400 calories per day. There are 600 calories in a bag of pretzels and 200 calories in a seafood salad. If he spends his entire money budget each day and consumes no more calories than his calorie limit, he can consume up to:

43- Clara spends her entire budget and consumes 5 units of *x* and 13 units of *y*. The price of *x* is twice the price of *y*. Her income doubles and the price of *y* doubles, but the price of *x* stays the same. If she continues to buy 13 units of *y*, what is the largest number of units of *x* that she can afford?

44- Maria spends her entire budget and consumes 5 units of *x* and 6 units of *y*. The price of *x* is twice the price of *y*. Her income doubles and the price of *y* doubles, but the price of *x* stays the same. If she continues to buy 6 units of *y*, what is the largest number of units of *x* that she can afford?

45- Donald consumes goods x and y. His utility function is U(x, y) = xy3. He is endowed with 43 units of x and 7 units of y. The price of x is $1 and the price of y is $3. Find his net demand for x.

46- Holly consumes x and y. The price of x is 4 and the price of y is 4. Holly's only source of income is her endowment of 6 units of x and 6 units of y which she can buy or sell at the going prices. She plans to consume 7 units of x and 5 units of y. If the prices change to $7 for x and $7 for y,

47- Milton consumes two commodities in a perfect market system. The price of x is $5 and the price of y is $1. His utility function is U(x, y) = xy. He is endowed with 40 units of good x and no y. Find his consumption of good y.

48- Rhoda takes a job with a construction company. She earns $5 an hour for the first 40 hours of each week and then gets "double-time" for overtime. That is, she is paid $10 an hour

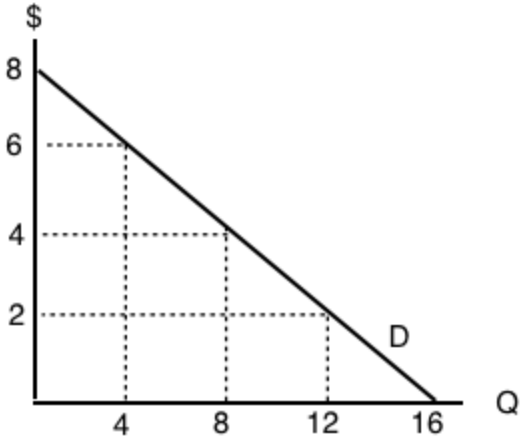
for every hour beyond 40 hours a week that she works. Rhoda has 70 hours a week available to divide between construction work and leisure. She has no other source of income, and her utility function is U = cr, where c is her income to spend on goods and r is the number of hours of leisure that she has per week. She is allowed to work as many hours as she wants to. How many hours will she work?

49- Albert consumes only tangerines and bananas. His only source of income is an initial endowment of 30 units of tangerines and 10 units of bananas. Albert insists on consuming tangerines and bananas in fixed proportions, 1 unit of tangerines per 1 unit of bananas. He initially faces a price of $10 per unit for each fruit. The price of tangerines rose to $30 per unit while the price of bananas stayed unchanged. After the price change, he would

50- If Abishag owns 16 quinces and 15 kumquats and if the price of kumquats is 4 times the price of quinces, how many kumquats can she afford if she buys as many kumquats as she can?

51- Dr. Johnson receives a lump sum payment of $100 per week. Suppose that the first $100 per week of labor income is untaxed but all labor income above $100 is taxed at a rate of 40%.

52- Use the demand curve diagram below to answer the following question.



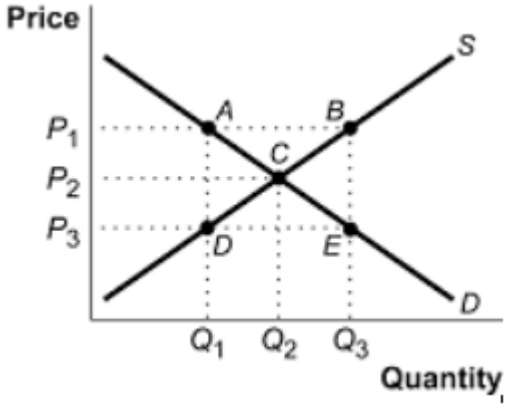
What is the own-price elasticity of demand as price increases from $2 per unit to $4 per unit? Use the mid-point formula in your calculation.

53- Suppose that a 2% increase in price results in a 6% decrease in quantity demanded. Own-price elasticity of demand is equal to:

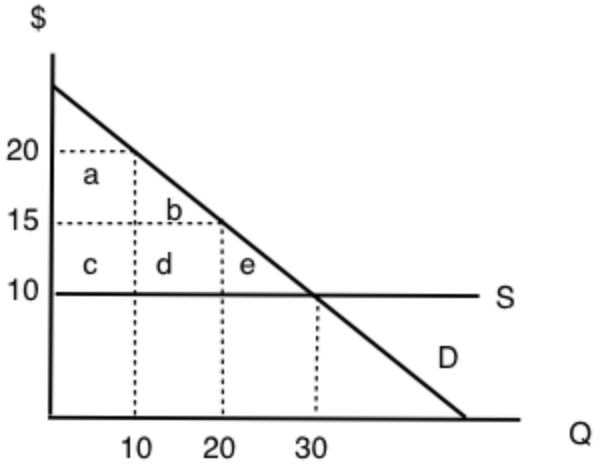
54- If own-price elasticity of demand equals 0.3 in absolute value, then what percentage change in price will result in a 6% decrease in quantity demanded?

55- Suppose you are told that the own-price elasticity of supply equal 0.5. Which of the following is the correct interpretation of this number?

The following TWO questions refer to the supply and demand curves illustrated below.



56- A price ceiling of P3 causes:
57- A price floor of P1 causes:
58- Consider the supply and demand diagram below. Assume no externalities.



If a price floor of $20 is introduced, then which area will represent the deadweight loss?

59- Which of the following correctly describes the equilibrium effects of a per-unit tax, in a market with NO externalities?

60- The market demand curve shows

61- At a price of $4.95, a pulp fiction novel is expected to sell 9,000 copies. If the novel is offered for sale at a price of $3.95, then the publisher can expect to sell

62- During a recession, economies experience increased unemployment and a reduced level of activity. How would a recession be likely to affect the market demand for new cars?

63- The market supply curve shows

64- At a price of $299.95, the manufacturer of a portable gas-powered generator is willing to produce 19,000 units per

quarter. At a price of $349.95, it is likely that the manufacturer will be willing to produce

65- If the demand curve for a firm's output is perfectly elastic, then the firm is

66- Firms in an industry that produces a differentiated product

67- The type of industry organization that is characterized by recognized interdependence and non-price competition among firms is called

68- The demand by a firm for inputs used in the production of a commodity that the firm offers for

69- If you know that with 8 units of output, average fixed cost is $12.50 and average variable cost is $81.25, then total cost at this output level is:

70- With fixed costs of $400, a firm has average total costs of $3 and average variable costs of $2.50. Its output is:

71- The reason the marginal cost curve eventually increases as output increases for the typical firm is because:

72- If the short-run average variable costs of production for a firm are rising, then this indicates that:

73- If a more efficient technology was discovered by a firm, there would be:

74- In general, microeconomic theory assumes that firms attempt to maximize the difference between

75- A firm’s total revenue is equal to

76- In order to maximize profits, a firm should produce at the output level for which

77- If a firm wished to maximize total revenues it should produce where

78- What is the difference between perfect competition and monopolistic competition?

79- Which of the following is the best example of a perfectly competitive market?

80- In a perfectly competitive market, the type of decision a firm has to make is different in the short run than in The long run. Which of the following is an example of a perfectly competitive firm's short-run decision?

81- Which of the following statements is correct?

82- If the technology for producing a good enables one firm to meet the entire market demand at a lower price than two or more firms could, then that firm has

83- As the degree of product differentiation increases among the products sold in a monopolistically competitive industry, which of the following occurs?

84- Which of the following statements is true for both monopolistically competitive and oligopolistic industries?

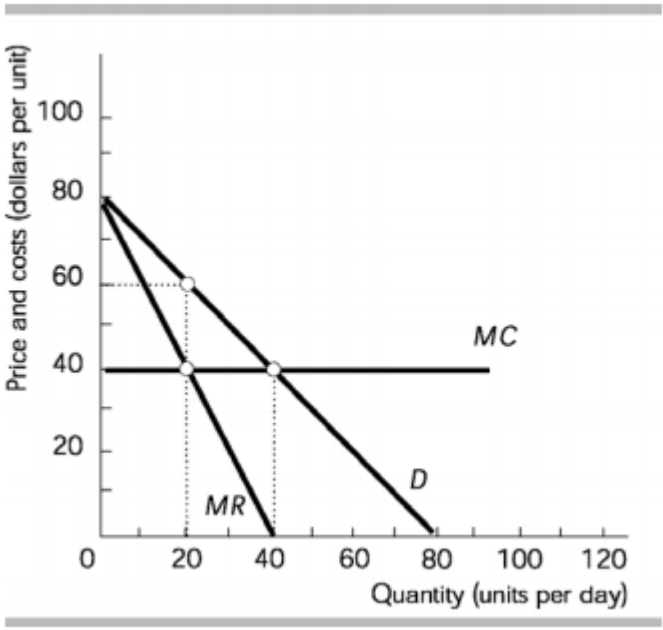
85- If a few firms share most of an entire industry's revenues, the market structure is most likely

86- All of the following can help break a monopoly EXCEPT

87- Which of the following is a disadvantage faced by sole proprietors?

88- A defining characteristic of a natural monopoly is that

89- All of the following are examples of price discrimination EXCEPT



90- The figure above shows a monopoly firm's demand curve. If the price and quantity of haircuts move from point t to point r, the monopoly's

91- In a certain industry, the supply curve of any firm is Si (p) = p=2. If a firm produces 3 units of output, what is its total variable costs?

92- A profit-maximizing monopolist sets:

93- The following relationship must hold between the average total cost (ATC) curve and the marginal cost curve (MC):

94- A profit maximizing firm continues to operate even though it is losing money. It sells its product at a price of $100. From these facts we deduce that:

95- Nadine has a production function 4x1+x2. If the factor prices are 12 for factor 1 and 2 for factor 2, how much will it cost her to produce 60 units of output?

96- The production function Q = 50K0.75 L0.75 exhibits

97- The demand for pickles is given by p = 131 - 2q and supply is given by p =5+7q. What is the equilibrium quantity?

98- Poindexter's utility function is U (x; y) = min {x + 2y; 3x + y} where x is butter and y is guns. If the price of butter is 4 and the price of guns is 5, what would it cost Poindexter to buy the cheapest bundle that he likes as well as 4 units of butter and 3 units of guns?

99- If the price level increases by 80% in one year, then for the real rate of interest to be 10%, the nominal rate of interest would have to be:

100- Mike consumes two commodities, x and y; and his utility function is min{x + 2y; y+ 2x}. He chooses to buy 8 units of good x and 16 units of good y. The price of good y is 0.50. What is his income?

Topics related to Open Questions:

1- **Consumer and Producer Surplus**
2- **Budget Constraint**

ECO 203/204 Macroeconomics (I+II)

1. Macroeconomics is the study of _____ while microeconomics studies _____.

2. The formula of the economic profit is:

3. An economy's factors of production and its production function determine the economy's:

4. A competitive, profit-maximizing firm hires labor until the:

5. According to the neoclassical theory of distribution, total output is divided between payments to capital and payments to labor depending on their:

6. Other things equal, an increase in the interest rate leads to:

7. National saving refers to:

8. On what does an economy’s output of goods and services (GDP) depends on?

9. Because we have assumed a fixed amount of capital and labor, the factor supply curve is:

10. The statistic used by economists to measure the value of output is:

11. An increase of 25% in nominal GDP indicates that:

12. Which of the following is part of an ideal economy?

13. A person not looking for work, because he or she either does not want a job or has given up looking, is classified as:
14. An economies _____ equals its _____.

15. The GDP deflator is equal to:

16. The production function feature called “constant returns to scale” means that if we:
17. Which of the following is included in the economist’s definition of inflation?

18. In 2020, the consumer price index (CPI) was 250 In 2019, the CPI rose to 253.9. Using these CPI figures, what was the rate of inflation between these two years?

19. The primary difference between commodity money and fiat money is that

20. If a bank has a reserve ratio of 8 percent, then

21. All of the following are functions of money, EXCEPT:

22. Which of the following is NOT included in the M1 measure of the stock of money?

23. Which of the following actions by the CB will cause the supply of money to grow?

24. Which of the following occurs when the Fed reduces the reserve requirement?

25. In the quantity equation, V represents the:

26. Consider an economy where the only goods traded are coconuts and pineapples. Last year, 100 coconuts were sold at €1 apiece, and 200 pineapples were sold at €2.50 apiece. If the money supply was €100, what was velocity?

27. A general increase in the price level is called:

28. The quantity theory of money states that if the money supply doubles and output is constant, prices will:

29. The revenue raised by printing money is called:

30. The difference between the nominal interest rate and the real interest rate is:

31. If an individual is to hold lower money balances on average, she must make more frequent trips to the bank to withdraw money. This inconvenience of reducing money holding is called:

32. The sum of all domestic spending on foreign goods is called:

33. If net exports are positive, which of the following is FALSE?

34. In a small open economy, the interest rate is determined by the:

35. The price of one currency in terms of another currency, such as 100 yen for €1, is an example of:

36. If a country's real exchange rate falls (depreciates), then:

37. Choose the pair of words that best complete this sentence: If government purchases increase, national saving will _____ and the equilibrium real exchange rate will _____.
38. If the rate of unemployment is neither rising nor falling, then the number of people finding jobs must equal the number of people:

39. If the rate of job finding rises, the natural rate of unemployment will:
40. Suppose that 2 per cent of the employed lose their jobs each month (s = 0.02) and 38 per cent of the unemployed find a job each month (f = 0.38). Then, the steady-state rate of unemployment is:

41. The unemployment caused by the time that it takes to match workers and jobs is called:

42. Classifying discouraged workers as unemployed would

43. Minimum-wage laws are an example of:

44. The number of people unemployed equals

45. If C is consumption, I is investment, G is government purchases and NX is net exports, according to the expenditure approach, Y would stand for _____; and the national income identity could be written as _____.

46. Fiscal policy involves _____.

47. An increase in interest rates might be an example of a _____ policy for the purpose of _____.

48. The income velocity of money:

49. When the government raises revenue by printing money, it imposes an “inflation tax” because the:

50. If net capital outflow is positive, then:

51. Countries with different initial levels of per capita income may gravitate to a similar level of per capita income. Economists call this phenomenon _____.

52. In a closed economy _____.

53. An increase in the saving rate results in a higher steady state _____.

54. In a steady-state economy with no population growth, output per worker is 35, the saving rate is 20 percent, and the depreciation rate is 11 percent. The level of capital per worker is _____.

55. Other things the same, in the Solow model in the steady state, a higher rate of population growth _____ the level of output per worker.

56. Business Cycle is described as _____.

57. In a business cycle, a period from trough to peak may be referred to as _____.

58. Keynesians believe _____.

59. 59.The knowledge and skills that workers have built up through education and training programs is known as _____.

60. Consumption expenditure is 15,000, government purchases are 5,000, planned investment spending is 4,000 and net exports are 1,500. If total output is 25,000, then unplanned inventory investment is _____.

61. Consumption expenditures decrease when _____.

62. 62.A change in which of the following causes a movement along — not a shift in — the IS curve?

63. If aggregate output is below its equilibrium level _____.

64. In the Market for Real Money Balances an increase of the Money Supply will:

65. The Solow model is used to explain _____.

66. With a closed economy and no government spending, the total demand for output is equal to _____.

67. The IS curve _____.

68. The LM curve plots the relationship between the _____ and the level of _____that arises in the money market.

69. In the Keynesian-cross model, actual expenditures equal:

70. The IS curve tells us that _____ in taxes or in financial frictions leads to an _____ in output for any given real interest rate.
71. A change in which of the following causes a shift in the IS curve?

72. If the government raises taxes _____.

73. In the IS-LM model, a decrease in output would be the result of a(n):

74. In the IS-LM model when M/P falls, in short-run equilibrium, in the usual case the interest rate -------- and output -----.

75. The ratio $\Delta Y/\Delta G$ is called the government-purchases multiplier and the formula is:

76. In the IS-LM equilibrium, suppose the there is a tax cut applied, there will be shift of ___ curve to the _____ and the level of _____ and _____ will be _____.

77. In the IS-LM equilibrium, suppose the there is an increase in M applied, there will be shift of _____ curve to the _____ and the level of r will be _____and level of Y will be _____.

78. IS shocks are called exogenous changes in the demand for goods & services as: change in households' wealth or change in consumer and firms confidence. T F

79. A wave of credit card fraud increases demand for money and that will impact IS curve and is called as IS shock.
T F

80. IS stands for "investment" and "saving," and the IS curve represents what's going on in the money market.
T F

81. LM stands for "liquidity" and "money," and the LM curve represents what's happening to the supply and demand for money. T F

82. Planned expenditure is the amount households, firms, and the government would like to spend on goods and services.
T F

83. According to Keynesian cross, there is the assumption that the economy is in equilibrium when actual expenditure equals planned expenditure. T F

84. The equilibrium of the economy is the point at which the IS curve and the LM curve cross. T F

85. The equilibrium point in IS – LM model gives the level of prices P and income Y that satisfy conditions for equilibrium in both the goods market and the money market. T F

86. When the government decreases its purchases of goods and services, the economy's planned expenditure falls.
T F

87. According to the IS–LM model, if Gov raises taxes, the effect of this policy in the economy does not depend on how the CB responds to the tax increase. T F

88. The reason that the income response to a fiscal expansion is generally less in the IS LM model than it is in the Keynesian-cross model is that the Keynesian-cross model assumes that:

89. According to the Mundell-Fleming model for a small open economy with flexible exchange rates, if the Federal Reserve cannot alter domestic interest rates, changes in the

money supply could still influence aggregate income through changes in the:_____

90. In a small open economy with a fixed exchange rate, an effective policy to increase equilibrium output is to:

91. In a small open economy with a floating exchange rate, if the government imposes an import quota, then in the new short-run equilibrium the IS* curve shifts to the right, raising the exchange rate:

92. In a small open economy with a fixed exchange rate, if the central bank tries to increase the money supply, then in the new short-run equilibrium:

93. The IS curve plots the relationship between the _____ and the level of _____that arises in the market for goods and services.

94. We may infer from the downward slope of the IS curve that lower interest rates are associated with _____.

95. An increase in consumer saving for any given level of income will shift the _____ curve downward and to the _____.

96. The ratio $\Delta Y/\Delta T$ is called the tax multiplier and the formula is:

97. In a small open economy with a floating exchange rate, if the CB decreases the money supply, then in the new short-run equilibrium:

98. In the Mundell-Fleming model with fixed exchange rates, attempts by the central bank to decrease the money supply:

99. The Mundell-Fleming framework studies (A) _____ , (B) _____ economies in a world with (C) _____ financial markets and (D) _____ capital mobility.

100. In a small open economy with a floating exchange rate, the supply of real money balances is fixed and a rise in government spending _____.

Topics related to Open Questions:

- **Solow Growth Model**
- **IS – LM Model**

ECO 252 Labor Economics

1. Labor economics studies how labor markets work.

2. Which of the formulas below is wrong?

3. If some employed workers become unemployed, these are the effects on the unemployment rate (u), participation rate (p) and employment rate (e):

4. The marginal curve lies above the average curve when the average curve is rising, and the marginal curve lies below the average curve when the average curve is falling.

5. An isoquant describes the possible combinations of labor and capital that produce the same level of output.

6. If an increase in the cost of capital increases the demand for relatively cheaper labor and lowers the demand for relatively more expensive capital, which effect dominates the relationship between R and Ld?

7. If the wage rate is above W*,

8. The profit maximizing firm hires workers up to the point where:
9. Which effect will cause the worker to decide to enjoy less leisure time and work more?

10. Where on the budget line is the labor force participant's optimal choice located?

11. In the context of two productive inputs, labor and capital, which of the following is not a property of isoquant curves?

12. The equilibrium of a competitive labor market is associated with

13. The payroll tax creates:

14. A competitive economy where a homogeneous group of workers and firms can freely enter and exit the market has a single equilibrium wage across all labor markets.

15. The more inelastic the labor supply curve, the higher the fraction of payroll taxes that is shifted to workers.

16. A payroll tax has higher impact on wages and employment if it is imposed on firms.

17. An increase in the wage rate:

18. With a downward sloping demand for labor and upward sloping supply of labor curve then a fall in demand for labor will lead to:

19. A monopsony occurs if there is:

20. If the minimum wage is set above the equilibrium wage rate, then other things being equal:

21. The monopolist hires always the same number of workers as a competitive market, but each worker gets paid his reservation wage.

22. Which of the following statements regarding the gender differences in international labor market is true?

23. In a discrimination model, nepotism is best described as:
24. The perceived cost of hiring a black worker for an employer who is prejudiced against blacks will exceed
25. What is the main theoretical implication regarding the standard employer-based discrimination model?

Topics related to Open Questions:

1- **Labor Market Equilibrium**
2- **Human Capital**

ECO 311/312 Econometrics (I+II)

1. What is the difference between a cross-sectional and a time series data set?

2. Which of the following is an example of a continuous dependent variable?

3. What is the difference between a correlation coefficient and a regression coefficient?

4. Which of the following is not a common cause of omitted variable bias?

5. What is the difference between a simple and a multiple regression model?

6. Which of the following is not an assumption of the classical linear regression model?

7. What is the purpose of the Durbin-Watson test?

8. What is the difference between a Type I and a Type II error?

9. What is the purpose of the t-test in regression analysis?

10. What is the difference between a heteroscedasticity-robust standard error and a homoscedasticity- based standard error?

11. What is the difference between autocorrelation and heteroscedasticity?

12. What is the purpose of the F-test in regression analysis?

13. What is the difference between a panel data set and a cross-sectional data set?

14. What is a p-value in hypothesis testing?

15. What is the purpose of a null hypothesis in hypothesis testing?

16. In a linear regression model, the estimated slope coefficient for an independent variable is -0.75. What does this coefficient indicate?

17. In a multiple regression model, the adjusted R-squared value is 0.85. What does this indicate?

18. In a linear regression model, the estimated intercept is 10 and the estimated slope coefficient is 2.5. What is the predicted value of the dependent variable when the independent variable equals 4?

19. In a regression model with a binary dummy variable, the estimated coefficient for the dummy variable is 5. What does this coefficient indicate?

20. In a regression model, an important independent variable is omitted from the model. What is the likely effect of this omission on the estimated coefficient for another independent variable that is correlated with the omitted variable?

21. In econometrics, the goal is to estimate causal relationships between variables. True or False?

22. Multicollinearity occurs when two or more independent variables are highly correlated with each other. True or False?

23. In linear regression, the residuals should not be normally distributed. True or False?

24. The R-squared value in regression measures the percentage of variation in the dependent variable explained by the independent variables. True or False?

25. The Durbin-Watson statistic is used to test for heteroskedasticity in regression residuals. True or False?

26. In time series analysis, stationary data is characterized by a constant mean and variance over time. True or False?

27. The F-test in regression is used to test whether all of the regression coefficients are equal to zero. True or False?

28. The Chow test is used to test whether the coefficients in two separate regression models are equal. True or False?

29. A t-test is used to test whether a specific regression coefficient is equal to zero. True or False?

30. In econometric analysis, it is not necessary to establish causality in order to draw meaningful conclusions from the data. True or False?

Topics related to Open Questions:

1- **Interpret regression Models**
2- **Interpret variables and significance**

ECO 321/322 International Economics (I+II)

1- When a nation requires fewer resources than another nation to produce a product, the nation is said to have a:

2- In the Heckscher-Ohlin model with two factors of production (capital and labor), where clothing is the capital-intensive good, an increase in the price of clothing will

3- The Ricardian model focuses on how:

4- Suppose that the home country in the two-sector (manufacturing and agriculture) specific-factors model has a comparative advantage in manufacturing output. What will happen to the return (rental) on capital when trade occurs?

5- Which of the following statements is true?

6- The Ricardian theory of comparative advantage states that a country has a comparative advantage in widgets if

7- The gravity model suggests that over time

8- If the Home economy suffered a meltdown, and the Unit Labor Requirements in each of the products quadrupled (that is, doubled to 30 for cloth and 60 for widgets) than home should

9- If a production possibilities frontier is a straight line, then production occurs under conditions of

10- International economics _____ use the same fundamental methods of analysis as other branches of economics, because _____.

11- Which of the following statements is correct?

12- In a capital-intensive industry, the labor-capital ratio will:

13- A primary reason why nations conduct international trade is because:

14- Increased foreign competition tend to

15- The real income of domestic producers and consumers can be increased by:

16- A sudden shift from import tariffs to free trade may induce short-term unemployment in:

17- The earliest statement of the principle of comparative advantage is associated with:

18- If the international terms of trade settle at a level that is between each country's opportunity cost

19- The gains from international trade are closely related to:

Answer the next five questions based on the production table below.

	Country: Output per Labor Hour	
	A	B
Product X	3	9
Product Y	4	2

20- Country A has an absolute advantage in

21- Country B has an absolute advantage in

22- If the countries were to trade along the lines of absolute advantage:

23- If countries were to trade along the lines of comparative advantage:

24- In autarky, the relative price of X, in terms of Y, in A would be:

25- If a country has a bowed out (concave to the origin) production possibility frontier, then production is said to be subject to:

Topics related to Open Questions:

1- **Trade Policies**
2- **Comparative Advantage**

ECO 331 Monetary Theory and Policy (I+II)

1. Crisis lender provides liquidity to commercial banks and credit institutions.

2. The main aim of the revised principles of LOLR function, is to activate in a more effective manner and to protect the sovereign sector, and more broadly, to support the economy.

3. Which of the following central banks has implemented Credit Easing:

4. Which of the following measures were adopted by FED in order to assure the well-functioning of the credit mechanism during the first phase of the crisis:

5. Which of the following was characterizing the FED's followed unconventional monetary policy as a discretionally guided, during the second phase of the crisis:

6. The Fed's policy has succeeded in lowering short-term interest rates to very low levels, resulting in a fall in mortgage rates. In addition, this has also underpinned stock markets and therefore the wealth and confidence of public economic agents.

7. The FED and the BoE do pure Quantitative Easing aiming at:

8. Which of the below principles is reliable to the classical version of the LOLR Facility:

9. Define from the following the main components of the classical version of LOLR Facility:

10. The modern definition of the classical version of LOLR Facility is:
    "The discretionary provision of liquidity to a financial institution (or the market as a whole) by the central bank in reaction to an adverse shock which causes an abnormal

increase in demand for liquidity which cannot be met from an alternative source".
Select the scholar from the below mentioned that had formed the above-mentioned definition:

11. The European Financial Stability Fund (EFSF) and ELA are both responsible for addressing solvency issues

12. The sovereign-bank nexus stems from a complex set of relationships in a form of:

13. Banks use sovereign bonds as a store of Equity: according to this view, bond holdings should be higher for banks with fewer lending opportunities and in environments where private alternatives do not abound.

14. Banks' exposure to government debt makes their balance sheets:

15. Increases in credit risk are often accompanied by fiscal consolidation and greater political instability

16. The Risk Management is one of:

17. During a financial crisis a central bank should lend comprehensively, at high interest rates. It should also accept poor collateral, and save less significant not systemic, relevant institutions even if these are insolvent, however, the owners of such institutions should not be rescued.

18. Central banks and public authorities can claim that if they are to assist an institution in "a rainy day"(i.e under circumstances of economic normalcy), they should regulate that institution in "a sunny day" (i.e. under circumstances of economic turmoil). Hence,

regulation and protection tend to be mutually weakening.

19. The political clout is considering as the main reason for:

20. The ECB with its LTRO's:

20. The liquidity has circulated, but we do not have any information about its velocity or its use.

21. The deliberate constructive ambiguity, under the umbrella of classic version of LOLR is playing the role of the living will in terms of reducing the possibility of the revealing the reliable moral hazard.

22. Before the full implementation of the EBU's it was foreseen that:

23. One of the basic scopes of The European Banking Union is to:

24. The conflict of interests, in the framework of the EBU, is stemming from:

25. Which of the following EBU's pillars hasn't finalized yet?

26. Choose the right phrase:

27. M2 represents the intermediate monetary aggregate and it comprises:

28. When an economy is NOT at a liquidity trap situation, if the Central Bank increases the supply for money:

29. Which of the below is/are the adverse effect/s of inflation?

30. Which of the following is/are NOT monetary policy tools?

31. According to the empirical definition of money, M3 is included at the liquidity approach and represents the broad monetary aggregate.

32. Which of the following is/ are the characteristic/s of money demand? (you can select more than one)

33. The demand for real money balances and real income are inversely related.

34. Which is/ are the objectives of IMF?

35. Current account deficits may have a constructive role when they come from imports of capital goods and raw materials which are strengthening the production process.

36. Which of the following cannot be considered as some of the criteria for the success of an OCA? (you can select more than one)

37. Capital surplus means:

38. The eldest Theory of the Demand for Money is the one of Keynes's.

39. Which of the below is the right formula to measure the monetary base (B)? (you can select more than one)

40. A capital account surplus means an increase in our external assets and reflects an increase in our foreign assets.

41. The precautionary motive - holding money to carry out current transactions, people hold money as a cushion against an unexpected need.

42. Capital account deficit means an increase in a country's obligations against foreign residents and to a large extent it

constitutes as foreign borrowing, which is added to country's external debt.

43. The monetary policy objectives are?

44. The targeting policies that central banks want to achieve are?

45. The determinants of money supply are?

46. Which of the following is/ are NOT included at the liabilities part of the Central Bank balance sheet?

47. Which of the following are some qualities of money?

48. Which of the following is/ are NOT considered as monetary policy tools?

49. The Taylor rule lays the framework within which the central bank changes its long-term interest rate targeting the long-term real interest rate, taking into account the change in inflation.

50. Which of the below is NOT the adverse effect of inflation?

Topics related to Open Questions:

3- Optimum Currency Area
4- Money Supply Categories
5- Liquidity Trap
6- Taylor Rule and Friedman's theory
7- Inflation

BUS 201/202 - STATISTICS (I+II)

1. The main purpose of descriptive statistics is to:

2. Which of the following is an example of a continuous variable?

3. The incomes of a group of 50 loan applicants are obtained. Which level of measurement is income?

4. Refer to the following breakdown of responses to a survey of room service in a hotel.

Response	Frequency
Not Satisfied	20
Satisfied	40
Highly Satisfied	60

What percent of the responses indicated that customers were satisfied?

5. Refer to the following breakdown of responses to a survey of "Are you concerned about being tracked while connected to the Internet"?

Response	Frequency
Very Concerned	140
Somewhat concerned	40
No concern	20

What is the class interval for the frequency table above?

6. A pie chart shows the

7. The distribution of a sample of the outside diameters of PVC gas pipes approximates a symmetrical, bell-shaped distribution. The arithmetic mean is 14.0 inches, and the standard deviation is 0.1 inches. About 68 percent of the outside diameters lie between what two amounts?

8. If the sample variance for a frequency distribution consisting of hourly wages was computed to be 10, what is the sample standard deviation?

9. Based on the Empirical Rule, what percent of the observations will lie between plus or minus two standard deviations from the mean?

10. In a distribution, the second quartile corresponds with the

11. Percentiles divide a distribution into….

12. To locate the percentile for a given observation in a data set, the data must be

13. If a student places in the 99^{th} percentile on an exam, she performed better than 99% of all students who completed the exam. Her performance is similar to a statement based on a

14. In a management trainee program, 80 percent of the trainees are female, 20 percent male. Ninety percent of the females attended college, 78 percent of the males attended college. A management trainee is selected at random. What is the probability that the person selected is a female who did attend college?

15. Three defective electric toothbrushes were accidentally shipped to a drugstore by the manufacturer along with 17 non-defective ones. What is the probability that the first two electric toothbrushes sold will be returned to the drugstore because they are defective?

16. An electronics firm sells four models of stereo receivers, three CD decks, and six speaker brands. When the four types of components are sold together, they form a "system." How many different systems can the electronics firm offer?

17. A statistics professor receives an average of five e-mail messages per day from students. Assume the number of messages approximates a Poisson distribution.
    What is the probability that on a randomly selected day she will have five messages?

18. A statistics professor receives an average of five e-mail messages per day from students. Assume the number of messages approximates a Poisson distribution.
    What is the probability that on a randomly selected day she will have two messages?

19. A company is studying the number of monthly absences among its 125 employees. The following probability distribution shows the likelihood that people were absent 0, 1, 2, 3, 4, or 5 days last month.

    What is the mean number of days absent?

Number of days absent	Probability
0	0.60
1	0.20
2	0.12
3	0.04
4	0.04
5	0

20. The standard normal probability distribution is unique because it has:

21. The weekly mean income of a group of executives is $1000 and the standard deviation of this group is $100. The distribution is normal. What percent of the executives have an income of $925 or less?

22. The weight of cans of fruit is normally distributed with a mean of 1,000 grams and a standard deviation of 50 grams. What percent of the cans weigh 860 grams or less?

23. When all the items in a population have an equal chance of being selected for a sample, the process is called _____.

24. What is the difference between a sample mean and the population mean called?

25. Suppose we select every fifth invoice in a file. What type of sampling is this?

26. A local retail company wants to estimate the mean amount spent. Their budget limits the number of surveys to 225. What is their maximum error of the estimated mean amount spent for a 99% level of confidence and an estimated standard deviation of $10.00?

27. Recently, a university surveyed recent graduates of the English Department for their starting salaries. Four hundred graduates returned the survey. The average salary was $25,000 with a standard deviation of $2,500. What is the best point estimate of the population mean?

28. Recently, a university surveyed recent graduates of the English Department for their starting salaries. Four hundred graduates returned the survey. The average salary was $25,000. The population standard deviation is $2,500. What is the 95% confidence interval for the mean salary of all graduates from the English Department?

29. A random sample of size 15 is selected from a normal population. The population standard deviation is unknown. Assume that a two-tailed test at the 0.10 significance level is to be used. For what value of t will the null hypothesis not be rejected?

30. Using a 5% level of significance and a sample size of 25, what is the critical value for a one-tailed hypothesis test?

31. To conduct a test of hypothesis with a small sample, we need to be able to make an assumption that:

32. What do we call the statement that determines if the null hypothesis is rejected?
33. If the decision is to reject the null hypothesis of no difference between two population proportions at the 5% level of significance, what are the alternative hypothesis and rejection region?

34. In a market test of a new chocolate raspberry coffee, a poll of 400 people from Dobbs Ferry showed 250 preferred the new coffee. In Irvington, 170 out of 350 people preferred the new coffee. To test the hypothesis that there is no difference in preferences between the two villages, what is the alternate hypothesis?

35. A recent study focused on the number of times men and women send a Twitter message in a day. The information is summarized below.

	Sample Size	Sample Mean	Population Standard Deviation
Men	25	20	5
Women	30	30	10

At the .01 significance level, is there a difference in the mean number of times men and women send a Twitter message in a day? What is the value of the test statistic for this hypothesis test?

36. If the null hypothesis that two means are equal is true, where will 97% of the computed *z*-values lie between?
37. Two accounting professors decided to compare the variance of their grading procedures. To accomplish this, they each graded the same 10 exams with the following results:

	Mean Grade	Standard Deviation
Professor 1	79.3	22.4
Professor 2	82.1	12.0

What is the critical value of *F* at the 0.05 level of significance?

38. A random sample of 30 executives from companies with assets over $1 million was selected and asked for their annual income and level of education. The ANOVA comparing the average income among three levels of education rejected the null hypothesis. The Mean Square Error (MSE) was 243.7. The following table summarized the results:

	High School or Less	Undergraduate Degree	Master's Degree or More
Number sampled	7	11	12
Mean salary (1,000's)	49	76.3	78.3

When comparing the mean annual incomes for executives with Undergraduate and Master's Degree or more, the following 95% confidence interval can be constructed:

39. A random sample of 40 companies with assets over $10 million was selected and asked for their annual computer technology expense and industry. The ANOVA comparing the average computer technology expense among three industries rejected the null hypothesis. The Mean Square Error (MSE) was 195. The following table summarized the results:

	Education	Tax Services	Food services
Number Sampled	10	14	16
Mean expense (1,000,000's)	2	15.5	20

Based on the comparison between the mean annual computer technology expense for companies in the Tax Service and Food Service industries, the 95% confidence interval shows an interval of -14.85 to 5.85 for the difference. This result indicates that

40. If all the plots on a scatter diagram lie on a straight line, what is the standard error of estimate?

41. In the least squares equation, $\hat{Y} = 10 + 20X$ the value of 20 indicates

42. In the equation $\hat{Y} = a + bX$, what is $\hat{Y}$?

43. Assume the least squares equation is $\hat{Y} = 10 + 20X$. What does the value of 10 in the equation indicate?

44. The adjusted R^2 accounts for the number of independent variables by?

45. When does multicollinearity occur in a multiple regression analysis?

46. In multiple regression analysis, when the independent variables are highly correlated, this situation is called _____.

47. In the general multiple regression equation, which of the following variables represents the *Y*-intercept?

48. If the correlation between the two independent variables of a regression analysis is 0.11 and each independent variable is highly correlated to the dependent variable, what does this indicate?

49. If the correlation between the two independent variables of a regression analysis is 0.11 and each independent variable is highly correlated to the dependent variable, what does this indicate?

50. What does the correlation matrix for a multiple regression analysis contain?

Topics related to Open Questions:

1- **Hypothesis Test**
2- **Variance Analysis**

BUS 101/102 – Math for Economics and Business (I+II)

1. Are given the sets A = {2, 4, 7, 11, 14} and B = {-5, -2, 0, 4,11, 13}. The number of the elements of the union AUB is:

2. A graph of the demand function, $3P + 4Q = 9$ is plotted with Q on the horizontal axis. Find the slope of the line and the intercept on the P-axis.

3. If the supply function is $Q = 4P - 25$, determine the lowest possible price that could be charged.

4. If fixed costs are 20, variable costs per unit are 2 and the demand function is $P + 2Q = 24$, write an expression for the profit function in terms of Q.

5 . A firm's demand function is $3P + 2Q = 60$. Fixed costs are 13 and the variable cost per unit is At what quantities does the firm make a profit of 77?

6. Solve the quadratic inequality $-Q^2 + 7Q \geq 10$.

7. The solution of the equation $2^{x-1} - 8^{2x+4} = 0$ is:

8. The solution of the equation $\log(4x-3) - \log(x+1) = \log 2$ is:

9. Using the calculator, the solution of the equation $1.024^{3x-2} = 53$ is:
Note: three-digit places

10. Using the calculator, the solution of the equation $e^{x+4} = 63.7$ is:
Note: three-digit places

11. Evaluate the geometric series $200 + 200(1.05) + 200(1.05)^2 + \ldots + 200(1.05)^{20}$
Round your answer to two decimal places.

12. Work out the missing numbers in the table below which shows the annual spending on health care (to the nearest unit) over a four-year period and the corresponding index number (rounded to one decimal place).

Spending	460	x	512	525
Index number	89.8	95.1	100	y

13. Find the future value of $2500 is invested at 3.5% interest compounded annually for10 years .

14. The total sum is $ 72000 after 8 years invested at a annually compound interest 2.8%. find the principal.

15. If a principal of $3500 is invested at 3.4% interest compounded continuously, what is the future value after six years?

16. If the increase of 12% is followed by 17% decrease the single percentage is:

17. If the increase of 8% is followed by 5% decrease the single percentage is:

18. The total revenue function is $TR = 120Q - 5Q^2$ and $Q = 5$. Use differentiation to estimate
the change in TR if increase in Q is 0.25 units

19. Find the y-coordinate of the (local) maximum point on the graph of the cubic function
$f(x) = -x^3 + 21x^2 - 135x + 300.$

20. If the supply function $Q = 10 + 0.1P + aP^2$ is unit elastic at $P = 10$, find the value of a.

21. The price per unit and quantity of a good are currently $100 and 400 units, respectively. The
price increase by $20, the quantity falls by 50 units. Calculate the arc elasticity of demand.

22. The demand function of a good is $P = -Q^2 - 4Q + 120$.
Calculate the price elasticity of demand when $P = 75$.

23. The derivative of the function $y = e^{3x+6}$ is:

24. The derivative of the function $y = \ln(x^3 + 7x - 12)$ is:

25. If the function $f(x, y) = 4xy + x^2 y^3$ satisfies the equation $2x^2 \frac{\partial^2 f}{\partial x^2} + y^2 \frac{\partial^2 f}{\partial y^2} + nxy = 10f$ determine the value of n.

27. If the method of Lagrange multipliers is used to find the maximum value of 10xy subject to the constraint $7x + 3y = 15$, work out the value of the Lagrange multiplier.

28. Use Lagrange multipliers to optimize $f(x, y) = 2x^2 - xy$ subject to $x + y = 12$.

29. The total cost of producing x items of product A and y items of product B is $TC = 22x^2 + 8y^2 - 5xy$. If the firm is committed to producing 20 items in total, write down the constraint connecting x and y. Hence find the number of each type that should be produced to minimize costs.

31. Find the consumer's surplus at $Q = 8$ for the demand function $P = 100 - Q^2$.

32. Find the integrals $\int (5x + 1)^3 \, dx$ and $\int x(1 + x^2)^7 \, dx$

33. Find integrals $\int \frac{4x^3}{2+x^4} \, dx$ and $\int e^x \, (1 + e^x)^3 dx$

34. If the marginal revenue function is given by $MR = 100 - 6Q^2$, find the corresponding demand function.

35. Calculate the present value of a continuous revenue stream for five years at a constant rate of $7500 per year if the discount rate is 3.4%.

36. The marginal propensity to consume is given by $MPC = Y\ 0.5 + \frac{2}{\sqrt{Y}}$ where Y is national income. If consumption is 20 when $Y = 0$, find the consumption when $Y = 16$.

37. If A, B, C and D are matrices of order 3×4, 2×3, 4×2 and 3×3, which one of the following matrix calculations is possible?

38. The inverse matrix of $A = \begin{bmatrix} 5 & 3 \\ 2 & 1 \end{bmatrix}$ is :

39. For what value of "a" does the following matrix fail to possess an inverse?

$$\begin{bmatrix} -1 & 2 & 1 \\ -2 & 3 & a \\ 0 & 4 & 6 \end{bmatrix}$$

40. The demand and supply functions of a good are given by

$P + 4Q_D = 61$

$3P - Q_S = 14$

Find the equilibrium price and quantity using
(a) the inverse matrix method.
(b) Cramer's rule.

41. Solve the system of equations using Cramer's rule

$$4x_1 + x_2 + 3x_3 = 8$$
$$-2x_1 + 5x_2 + x_3 = 4$$
$$3x_1 + 2x_2 + 4x_3 = 9$$

42. Find the number of points with *integer* coordinates which lie in the feasible region defined by constrains.

$3x + 8y \leq 24$

$x + y \leq 5$

$x \geq 1$

$y \geq 0$

43. Solve the linear programming problem. Minimize $6x + 5y$ subject to

$x + y \geq 8$

$x + 2y \geq 10$

$3x + y \geq 12$

$x \geq 0$

$y \geq 0$

44. Solve the differential equation $\frac{dy}{dt} = 0$ with initial condition $y(0) = 4$. Find $y(6)$ correct to the nearest whole number.

45. Solve the following differential equation subject to the given initial condition.

Comment on the qualitative behavior of the solution as t increases.

$\frac{dy}{dt} = 3t - 60 \quad y(0) = 30$

46. A person wants to have an income of $800 at the end of every month for five years. Find the present value that he must pay now if the interest rate is 2.4% compounded annually.

47. A firm needs to choose between two projects. Project A involves an initial outlay $14000.
and yields $16861 after two years. Project B requires an initial outlay $12000 and yields.
$6600 at the end of the first year and $7400 at the end of the second year. Which of
these projects would be your advice, the firm to invest in if the annual market rate of interest.
is 8%?

48. A company has a demand function $P = -2Q + 30$ and total cost function $TC = 8Q + 48$

a. Write the total revenue function and profit function.
b. Find maximum revenue, breaks even points and the maximum profit.
c. Sketch at the same diagram the graphs of total revenue, total cost, and profit functions.

49. The demand functions for a firm's domestic and foreign markets are
$P_1 = 50 - 5Q_1$ $P_2 = 30 - 4Q_2$ and the total cost function is $TC = 10 + 10Q$ where
$Q = Q_1 + Q_2$. Determine the prices needed to maximize profit. (a) with price discrimination.
(b) without price discrimination.

50. Use the Lagrange multipliers method to optimize the function $z = 10xy$, subject to
the constraint $7x + 3y = 15$