Question 4

A firm's production function is $Q=2K^{0.6}L^{0.9}$ ...

Price $E_D = \frac{\Delta Q}{\Delta P} \times \frac{P}{Q}$

Arc wage $E_D = \frac{\Delta L}{\Delta W} \times \frac{W^{AVG}}{L^{AVG}} = -225 \times \frac{10.8}{2520}$

$W^{AVG} = \frac{7.8+11.8}{2} = 10.8$

$= -0.96$

$|-0.96|$ → inelastic (less than 1)

$L^{AVG} = \frac{2745+2215}{2} = 2520$

Question 4

a) $MRTS_{Lork} = \frac{MP_L}{MP_K}$ (= $\frac{w}{r}$) // K of L $= \frac{MP_K}{MP_L}$

$\frac{MP_L}{MP_K} = \frac{1.8K^{0.6}L^{-0.1}}{1.2K^{-0.4}L^{0.9}}$

$= 1.5KL^{-1}$

$MRTS = \frac{1.5K}{L}$

b) $\frac{1.5K}{L} = \frac{30}{80}$

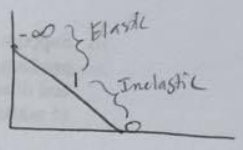
$\frac{30L}{30} = \frac{120K}{30}$

$\frac{L}{4} = \frac{4K}{4}$

$\frac{1}{4}L = K$ → $\frac{1}{4} = \frac{K}{L}$ (0.25 units of K for 1 unit of L)

28. If the possibility of a default increases because corporations begin to suffer losses, then the default risk on corporate bonds will _____, and the bonds' returns will become _____ uncertain, meaning that the expected return on these bonds will _____, everything else held constant.
   a. Increase; more; decrease.
   b. Increase; less; decrease.
   c. Decrease; more; increase.
   d. Decrease; less; increase.

Ch 3
29. Along any downward sloping straight-line demand curve:
   a. Both the price elasticity and slope vary.
   b. The price elasticity varies, but the slope is constant.
   c. The slope varies, but the price elasticity is constant.
   d. Both the price elasticity and slope are constant.



Ch 9
30) Moral hazard is a problem associated with debt and equity contracts arising from
A) the borrower's incentive to take highly risky investments.
B) the owners' inability to ensure that managers will act in the owners' interest. → Principle agent
C) the difficulty lenders have in sorting out good credit risks from bad credit risks. → Adverse Selection
D) all of the above.
E) only (A) and (B) of the above.

31) Because information is scarce,
A) equity contracts are used much more frequently to raise capital than are debt contracts.
B) monitoring managers gives rise to costly state verification.
C) government regulations, such as standard accounting principles, can help reduce moral hazard.
D) all of the above are true.
E) only (B) and (C) of the above are true.

Long Answer Questions (4 questions, 40 marks total)

Ch 4
1. Country A and Country B each have 1,000 units of resources. In Country A one unit of resources can produce 9 litres of wine or 5 kilograms of cheese, while in Country B one unit of resources can produce 9 litres of wine or 6 kilograms of cheese. Suppose that Country A wishes to consume at least 3,000 kilograms of cheese and 3,600 litres of wine while Country B wishes to consume at least 2,700 kilograms of cheese and 4,950 litres of wine.
   i. In separate diagrams plot the production possibilities curves (PPCs) for both countries indicating the values for the x- and y- intercepts, and illustrate their consumption bundles on the PPCs, N,B, Plot litres of wine (Qw) on the x-axis and kilograms of cheese (Qc) on the y-axis. (3 marks)

COMM 220 MOCK (A)

Ch7 1. The indifference curves of two investors are plotted against a single budget line. Indifference curve A is shown as tangent to the budget line at a point to the right of indifference curve B's tangency.

(a) Investor A is less risk averse than investor B.
b. Investor A is more risk averse than investor B.
c. Investors A and B are equally risk averse.
d. It is not possible to say anything about the risk aversion of the portfolio of the two investors.

Ch12 2. According to the liquidity premium theory of the term structure:

a. The interest rate for each maturity bond is determined by supply and demand for that maturity bond because buyers of bonds may prefer bonds of one maturity over another, interest rates on bonds of different maturities do not move together over time. → segmented markets theory
(b.) The interest rate on long-term bonds will equal an average of short-term interest rates that people expect to occur over the life of the long-term bonds plus a term premium. → liquidity premium
c. Because of the positive term premium, the yield curve will not be observed to be downward sloping.
d. None of the above.

4, 5, 6, 7%
4 yrs bond: $\frac{4+5+6+7}{4} = 5.5\% + 1\%$

Ch2 3. Where Es is the price elasticity of supply and Ed is the price elasticity of demand, the fraction of the tax passed on to consumers in the form of higher prices is:

a. Es/(Ed-Es).
(b.) Es/(Es-Ed).
c. Ed/(Es-Ed).
d. Ed/(Ed-Es).

$\frac{E_S}{E_S - E_D}$ = % of tax paid by consumers

$E_S = 0.4$, $E_D = -1.2$

$\frac{0.4}{0.4 - 1.2} = .25$ (25%) → 75% → sellers

Ch9 4. An example of the _____ problem would be if John borrowed money from Dan in order to purchase a used car and instead took a trip to Las Vegas using those funds.

a. Agency.
b. Adverse selection. → poor selection = Safe 5% / Risky 10% } 7.5%
(c.) Moral hazard.
d. Costly state verification. → $ to monitor actions of the co.

Ch4 common (and up hill)

Use the following information to answer Questions 5 and 6:

Labour force participation rate	Employment level	Unemployment rate
75.3%	2,544,800	9.1%

5. What is the unemployment level in this economy?

(a) 254,760.
b. 264,030.
c. 276,486.
d. Cannot be determined.

5. Un. Rate = $\frac{\text{Unemp}}{LF}$ (LF = 2,544,800 + Employed)

$0.091 = \frac{LF - \text{Employed}}{LF}$

$0.091LF = LF - 2,544,800$

$\frac{2544800}{0.909} = \frac{0.909L}{0.909}$

$2799559.96 = LF$

$2799559.96 - 2,544,800$

6. What is the working age population in this economy?

a. 3,673,550.
(b) 3,717,875.
c. 3,811,167.
d. Cannot be determined.

6. $0.753 = \frac{2799559.96}{Pop}$

$\frac{0.753(Pop)}{0.753} = \frac{2799559.96}{0.753}$

$Pop = 3717,875$

ii. Which country has a comparative advantage in wine? In cheese? Explain. (4 marks)

iii. Suppose both countries follow its comparative advantage in deciding where to produce on its PPC, suggest terms of trade which would satisfy both countries, and illustrate the new combinations of commodities in your diagrams for part (a). (5 marks)

Ch.15

Question 2

Assume interest rate on USD is 8.25% per annum while interest rate on pound sterling is 12.5% per annum. Spot rate of USD/pound is $1.74and the one-year forward rate of USD/pound is $1.684.

(i) Is there an opportunity of covered interest arbitrage? Support your answer with detailed calculations. (2 marks)

↗ F formula ↗ Profit, F formula

(ii) Describe your arbitrage strategy based on a USD 1 million transaction. (2 marks)

(iii) What would be the arbitrage profit to be made? Support your answer with detailed calculations. (4 marks)

Question 3

The demand and supply of unskilled labour are estimated by the following equations:

Demand: $L_d = 4{,}950 - 225W$

Supply: $L_s = -1{,}175 + 400W$

Where W is the hourly wage rate and L is millions of labour hours.

a) Calculate the equilibrium wage and quantity of labour (2 marks)

b) If the government introduces a minimum wage of $11.80, calculate the deadweight loss. (3 marks)

c) Plot the demand and supply curves indicating the values for the x- and y- intercepts. Illustrate the equilibrium wage and quantity of labour, and the deadweight loss. (3 marks)

d) Calculate the arc wage elasticity demand for labour between the equilibrium and the minimum wages. (2 marks)

Question 2:

iii) Longer way

$\frac{\$1 \text{ million USD}}{1.74} = 574,712.6437$ Pounds

$\times 1.125$ (i foreign)

6,465,517.242 pounds (After 1 year)

$\times 1.684$ (convert back to USD)

1,088,793.103 ⇒ USD

↘ we get

1 Million USD

$\times 1.0825$ (i domestic)

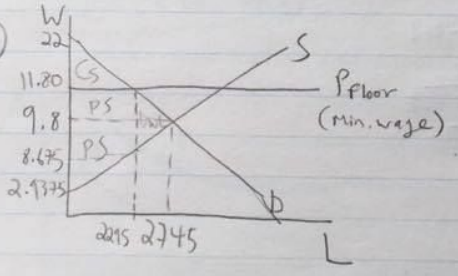
1,082,500 USD

↘ we must pay

$1,088,793.103 - 1082500 = \$6293$

Question 3:

c)+g)



$4950 - 225w = -1,175 + 400w$

$\frac{6125}{625} = \frac{625w}{625}$

$9.8 = w$

$L = 4950 - 225(9.8)$

$= 4950 - 2,205$

$L = 2745$

$L_D = 4950 - 225(1180)$

$L_D = 4950 - 2655$

$L_D = 2,295$

$2295 = -1,175 + 400w$

$\frac{3470}{400} = \frac{400w}{400}$

$8.675 = w$

$DWL = (2745 - 2295) \times \frac{1}{2} \times (11.8 - 8.675)$

↓

$\$703.125$

D // $0 = 4950 - 225w$

$225w = 4950$

$w = 22$

S // $0 = -1175 + 400w$

$1175 = 400w$

$2.9375 = w$

c) $Q = 2K^{0.6}L^{0.9}$

short run = just L, not 4k

* long Run

$2400 = 2K^{0.6}(4K)^{0.9}$

$= 2K^{0.6}(3.482K^{0.9})$

$2400 = 6.9644K^{1.5}$

$\frac{1}{1.5}(344.6095) = K^{1.5(\frac{1}{1.5})}$

$49.1532 = K$

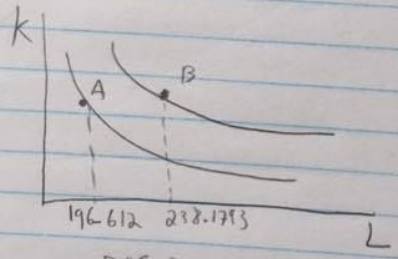
$L = 4(49.1532) = 196.612$

d) $3200 = 2K^{0.6}(4K)^{0.9}$

$K = 59.448$

$L = 4(59.5448)$

$L = 238.1793$



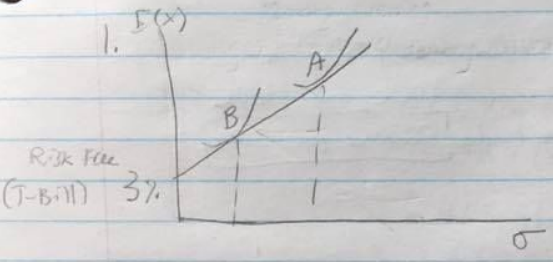
Dif. Isoquant

Scale effect = 238.1793 − 196.612

41.5666 increase in labor

Mock exam #1

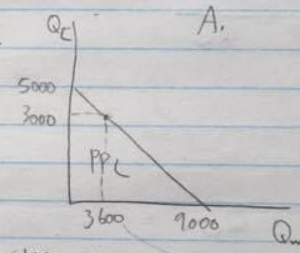
1.



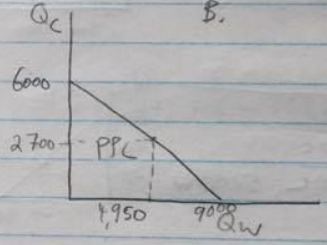
Chapter 14 (long answer question section)

1.

i. A.



B.



$9 \times 1000 = 9000$

$5 \times 1000 = 5000$

→ if not given

$5000C = 9000W$

$1C = 1.8W$

$3000C = 5400W$

$9000W$

$-5400W$

$3600W$ ✓

ii. (B) $6000C = 9000W$

$1C = 1.5W$

$0.667C = 1W$

(A) $5000C = 9000W$

$1C = 1.8W$

$0.5C = 1W$

Country A has a comparative advantage in wine because they have lower opportunity cost of making cheese

iii) A

$9000W$

$-5400W$ → (give up)

$3600W$

$3000C$ (get)

B

$6000C$

$-3300C$ (give up)

2700

$+4950W$ (get)

-5500 (give up)

Hilroy

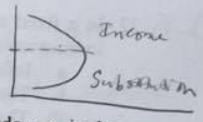
Ch.3 14. The trade to GDP ratio for a nation that had $6,350 million in exports, $4,450 million in imports, and GDP of $19,620 million would be:

(a) 0.55.
b. 0.60.
c. 0.65.
d. 0.70.

$\frac{\text{Exports} + \text{Imports}}{\text{GDP}}$

Ch.6 15. On the portion of a worker's labour supply curve that is backward-bending,

a. The income effect is negative.
b. The substitution effect is negative.
c. The substitution effect outweighs the income effect.
(d) The income effect outweighs the substitution effect.



Ch.15 16. Suppose the exchange rates between the United States and Canada are in long-run equilibrium as defined by the idea of purchasing power parity. If the law of one price holds perfectly, then differences between U.S. and Canadian rates of inflation would:

Real Exchange rate = $\frac{\text{Nominal Xchange Rate} \times P_{\text{foreign}}}{P_{\text{Domestic}}}$

a. Have no effect on nominal exchange rates.
b. Be completely offset by changes in the real exchange rate.
(c) Be completely offset by changes in the nominal exchange rate.
d. Lead to a change in the real purchasing power of each country's currency when it is converted to the other country's currency.

17. Every financial market has which of the following characteristics?

a. It determines the level of interest rates.
b. It allows common stock to be traded.
c. It allows loans to be made.
(d) It channels funds from lenders-savers to borrowers-spenders.

Use the following information to answer Questions 17 and 18:

Suppose that Dan's utility function is given by $U(I) = 10\sqrt{I}$, where I represents annual income. He is offered a chance to take a job that offers a 0.7 probability of earning $85,000 and a 0.3 probability of earning $34,000.

18. The standard deviation of the job's income is:

(a) $23,371.14.
b. $23,829.39.
c. $24,494.90.
d. $24,745.91.

$E(x) = 0.7(85,000) + 0.3(34,000)$
$= 59,500 + 10,200$
$= 69,700$

$\sigma^2 = Pr_1(x_1 - E(x))^2 + Pr_2(x_2 - E(x))^2$
$= 0.7(85,000 - 69,700)^2 + 0.3(34,000 - 69,700)^2$

19. If Dan were to take the job, how much insurance premium would he be willing to pay to protect against the variable income associated with the job?

a. $2,356,17.
(b) $2,411.34.
c. $2,584.71.
d. $2,718.98.

(3) $2594 = 10\sqrt{I}$
$259.4 = \sqrt{I}$
$67,288.36 = I$

(4) $69,700 - 67,288.36$

Risk Premium = E(x) − Risk Free (Insurance)
(1) 69700

20. In which of the following situations would you prefer to be the borrower?

a. The interest rate is 9 percent and the expected inflation rate is 7 percent.

$9 - 7 = 2$

borrower = lowest real interest

$E(U) = 0.7(10\sqrt{85,000}) + 0.3(10\sqrt{34,000})$
(2) $E(U) = 2594$

4 - 1 = 3

b. The interest rate is 4 percent and the expected inflation rate is 1 percent.
c. The interest rate is 13 percent and the expected inflation rate is 15 percent. 13 - 15 = -2
(d.) The interest rate is 25 percent and the expected inflation rate is 30 percent. → 25 - 30 = -5

Ch.8 21. Overnight funds are: Banks charge each other
a. Loans made by the Bank of Canada to banks.
b. Loans made by the banks to the Bank of Canada.
(c) Loans made by banks to each other.
d. Funds raised by the federal government in the bond market.

Ch.15 22. In a fixed exchange standard, if the foreign interest rate rises relative to the domestic interest rates:
a. Inflation will increase.
b. The domestic currency must be depreciated.
(c) The central monetary authority must meet the demand out of its reserves.
d. The central monetary authority must increase the supply of domestic money.

Ch.9 23. The "lemons problem" is a term used to describe the:
a. Moral hazard problem.
(b.) Adverse selection problem.
c. Free-rider problem.
d. Diversification problem.

Ch.7 24. The tendency for individuals to assign higher values to goods when they own the goods than when they do not possess the goods is known as the:
a. Income effect.
b. Anchoring effect.
c. Substitution effect.
(d.) Endowment effect.

Ch.5 25. If the firm hires to a point where the marginal wage expense of labour is greater than the marginal revenue product of labour, then:
a. Profits could be increased by increasing employment.
(b.) Profits could be increased by reducing employment.
c. Total cost must be greater than the total revenue.
d. B and C are correct

Ch.1
RP = $\frac{100}{116.9} \times 4.94$
= 4.226
%Δ = $\frac{4.226 - 3.412}{3.412} \times 100$
= 23.85%

26. The retail price of a loaf of bread was $2.89 in 2005 and $4.94 in 2015. When 2010 is the CPI base year, the CPI value is 84.7 for 2005 and 116.9 for 2015. What is the percentage change in real price of bread from 2005 to 2015?
a. 12.57%.
b. 15.89%.
(c) 23.75%.
d. 24.36%.

Real Price = $\frac{CPI_{base}}{CPI_{current}} \times$ Nominal Price current
$\frac{100}{84.7} \times 2.89 = 3.412$ (RP)

27. If fluctuations in interest rates become smaller, then, other things equal, the demand for stocks _____ and the demand for long-term bonds _____.
a. Decreases; decreases.
(b.) Decreases; increases.
c. Increases; increases.
d. Increases; decreases.

7. An individual's reservation wage: (Minimum your willing to work for) → lotto (unearned income)
   a. Decreases as non-labour income increases.
   b. Is determined by supply and demand in the labour market. → equilibrium wage
   c. Is the amount of money the individual earns by working an additional hour. → actual wage
   (d.) Is the value of the marginal hour of leisure time if the individual does not work.
   opp. cost

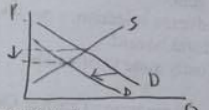
Ch.13 8. All of the following are differences in capital flows today from the past, except: → stocks/bonds/financial investments
   a. The increasing variety of financial instruments. → This is a difference
   b. The reduction in transaction costs for foreign investment. → dif.
   c. The need to protect from sudden changes in currency values. → This is a dif.
   (d.) The problem of volatility in financial capital flows. = Not a dif, always there. Can't avoid ups and downs
   ups and downs

Ch.10 9. Which of the following is TRUE for a coupon bond?
   a. The price of a coupon bond and the yield to maturity are positively related. (YTM) ↑ P_{Bond} ↓
   b. The yield to maturity is greater than the coupon rate when the bond price is above the par value. 6% < YTM 10%
   (c.) When the coupon bond is priced at its face value, the yield to maturity equals the current yield. → coupon = current price
   d. The yield is less than the coupon rate when the bond price is below the par value.

Ch.6 10. A wage increase creates a substitution effect which leads the worker to desire _____ leisure, and an income effect which leads the worker to desire _____ leisure.
   a. More; less.
   (b.) Less; more.
   c. Less; less.
   d. More; more.

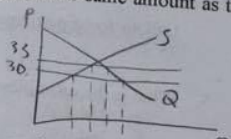
Sub effect: W↑, H↑, L↓
Income effect: W↑, H↓, L↑

11. Everything else held constant, when bonds become less widely traded, and as a consequence the market becomes less liquid, the demand curve for bonds shifts to the _____ and the interest rate _____.
   a. Right; rises.
   b. Right; falls.
   c. Left; falls.
   (d.) Left; rises.



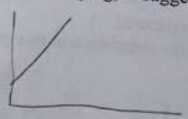
P↓ i↑

12. Compared to a tariff, an import quota, which restricts imports to the same amount as the tariff, will leave the country as a whole:
   (a.) Worse off than a comparable tariff.
   b. Not as bad off as a comparable tariff.
   c. About the same as a comparable tariff.
   d. Any of the above can be true.



tariff = less DWL
Import quota = more DWL

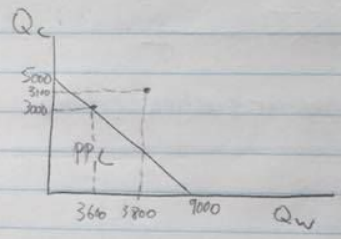
Ch.13 13. When the yield curve is steep and upward-sloping, it suggests that the economy is more likely to enter:
   a. Recession.
   b. Expansion.
   c. A boom time.
   (d.) B and C.



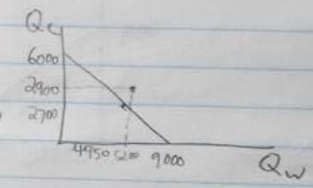
iii. cont

Trade anything between 5400w and 4950w in return for anything between 3000c and 3300c
For example, let's say they trade **5200w for 3100c**

A
9000 w
− 5200 w
3800 w, 3100 c



B
6000 c
− 3100 c
2900 c, 5200 w



Question 2

i. 1.74 USD/Pond = R
1.684 USD/Pond = F

USA $i = 8.25\%$

UK $i^* = 12.5\%$

USA → ← UK

$$(1+i) = \frac{(1+i^*)F}{R}$$

$$1.0825 = \frac{(1.125)(1.684)}{1.74}$$

USA ↖ ↓ → UK

$1.0825 \neq 1.088713103$

yes, because overall return in UK is different to the return on US asset.

ii) Invest 1 million in UK (Loan)
Borrow 1 million in USA

* Always invest in higher and borrow in lower

iii) Arbitrage profit =
$(1.088713 - 1.0825) \times 1 \text{ million}$
$= \$6293$ USD

Question 4

A firm's production function is $Q=2K^{0.6}L^{0.9}$, where Q is units of output, K is units of capita, and L is units of labour. The cost of capital is $80 per hour and the cost of labour is $30 per hour.

a)Find the marginal rate of technical substitution. (2 marks)

b)Find the optimal capital to labour ratio. (1 mark)

c)Find the optimum quantities of K and L required to produce 2,400 units of output. (4 marks)

d)The Firm wants to increase output to 3,200 units. Find the optimum input mix to produce the new quantity. Calculate the scale effect in the employment of labour. (3 marks)