Midterm Examination

Wilfrid Laurier University

EC239OC, Spring2018

Duration: 2 hours

Materials allowed: non-programmable calculator

Specific Instructions for this Exam:

- Please record your name and student number on the multiple choice answer card, exam paper and on the exam booklet.
- There are 20 multiple choice questions in PART A worth a total of 10 marks. Please record your answers on the multiple choice answer card.
- There are three short-answer questions in PART B (each worth 4 marks). Answer any **TWO** of them. This section must be answered on the exam booklet.
- There are three problem-solving questions in PART C (each worth 6 marks). Answer any **TWO** of them. This section must be answered on the exam booklet.
- Hand in the multiple choice answer card, the exam paper and the exam booklet at the end of the exam.

PART A: MULTIPLE CHOICE. CHOOSE THE ONE ALTERNATIVE THAT BEST COMPLETES THE STATEMENT OR ANSWERS THE QUESTION

Refer to the following table for questions 1, 2 & 3

	Country A	Country B
Labor hours to make 1 unit of X	5	4
Labor hours to make 1 unit of Y	4	2
Labor hours available	300	200

1) Country A has a comparative advantage in …….. and country B has a comparative advantage in ……..
A) X, Y B) X, none
C) Y, X D) none, Y

2) In the absence of trade, the price of X in terms of Y would be …… in country A and …… in country B.
A) 1/2, 4/5
B) 1/2, 5/4
C) 2, 1.25
D) 5/4, 2

3) If country A and country B both specializes in the good in which they have comparative advantage, country A will produce…….. and country B will produce ……..
A) 50Y, 75YX
B) 100Y, 60X
C) 100Y, 60X
D) 60X, 100Y

Refer to the following table for questions 4 & 5

Good	Home Unit Labor Requirement (a_{Li})	Foreign Unit Labor Requirement (a_{Li}^*)	Relative Home Productivity (a_{Li}^*/a_{Li})
Carrot	5	60	12
Potato	20	140	7
Onion	6	30	5
Rice	5	20	4
Wheat	10	5	0.5

4) If the relative wage (w/w*) is 4.5, Home will produce –
A. Carrot, potato, onion and rice
B. Rice and wheat
C. Onion, rice and wheat
D. Carrot, potato and onion

5) If the relative wage (w/w*) is 6.5 , Home will import –
A. Carrot, potato, onion and rice
B. Rice and wheat
C. Onion, rice and wheat
D. Carrot, potato and onion

6) The nation of Acirema is "small", unable to affect world prices. It imports peanuts at the price of $10 per bag. The demand curve is D = 400 – 10P & the supply curve is S = 50 + 5P. Consider an import quota that limits imports to 50 bags. The domestic price in Acirema will increase to
A) $25
B) $30
C) $20
D) $15

7) The slope of a country's production possibility frontier with cloth measured on the horizontal and food measured on the vertical axis in the specific factors model is equal to _____ and it _____ as more cloth is produced.
A) $-MPL_C/MPL_F$; is constant
B) $-MPL_C/MPL_F$; becomes steeper
C) $-MPL_F/MPL_C$; becomes steeper
D) $-MPL_F/MPL_C$; is constant
E) $-MPL_F/MPL_C$; becomes flatter

8) When a country's labor market is in equilibrium in the specific factors model, the wage rate
A) will be the same in both sectors.
B) will be higher in the sector where product price is lower.
C) will be higher in the sector where product price is higher.
D) will be higher in the export-competing sector.
E) will be higher in the import-competing sector.

9) In the specific factor model, the effect of an increase in the productivity of labor in the production of food will cause a(an) _____ in the quantity of labor used to produce cloth, a(an) _____ in the quantity of labor used to produce food and a(an) _____ in the wage rate.
A) decrease; increase; no change
B) increase; decrease; increase
C) increase; increase; no change
D) increase; decrease; decrease
E) decrease; increase; increase

10) In the specific factors model, a 5% increase in the price of food accompanied by a 10% increase in the price of cloth will cause _____ in the welfare of labor, _____ in the welfare of the fixed factor in the production of food, and _____ in the welfare of the fixed factor in the production of cloth.
A) an ambiguous change; an ambiguous change; an ambiguous change
B) an ambiguous change; an increase; a decrease
C) a decrease; an ambiguous change; an ambiguous change
D) an increase; a decrease; an increase
E) an ambiguous change; a decrease; an increase

11) If Australia has more land per worker, and Belgium has more capital per worker, then if trade began between these two countries,
   A) the real income of labor in Belgium would decline.
   B) the real income of capital owners in Australia would increase.
   C) the real income of landowners in Belgium would decline.
   D) the real income of labor in Australia would decline.
   E) the real income of labor in both countries would decline.

12) In the 2-factor, 2 good Heckscher-Ohlin model, the production possibility frontier is kinked when
   A) the opportunity cost of production is constant.
   B) a country does not engage in trade.
   C) there is no factor substitution in production.
   D) transportation costs are very high.
   E) there are unemployed factor resources.

13) In the 2-factor, 2 good Heckscher-Ohlin model, trade will _____ the owners of a country's _____ factor and will _____ the good that uses that factor intensively.
   A) benefit; scarce; export
   B) benefit; scarce; import
   C) harm; abundant; import
   D) benefit; abundant; export
   E) harm; scarce; export

14) When there are external economies of scale, an increase in the size of the market will
   A) decrease the number of firms and lower the price per unit.
   B) increase the number of firms and lower the price per unit.
   C) not affect the number of firms, but will lower the price per unit.
   D) increase the number of firms and raise the price per unit.
   E) decrease the number of firms and raise the price per unit.

15) In the presence of external economies of scale, trade
   A) will unambiguously improves welfare in both countries.
   B) will unambiguously improve welfare in the exporting country and worsen welfare in the importing country.
   C) will unambiguously worsen welfare in the exporting country and improve welfare in the importing country.
   D) will unambiguously worsens welfare in both countries.
   E) may or may not improve welfare in both countries.

16) An industry is characterized by scale economies, and exists in two countries. Should these two countries engage in trade such that the combined market is supplied by one country's industry, then
   A) consumers in both countries would have higher prices and fewer varieties.
   B) consumers in the importing country only would have higher prices and fewer varieties.
   C) consumers in both countries would have more varieties and lower prices.
   D) consumers in the exporting country only would have higher prices and fewer varieties.
   E) consumers in both countries would have fewer varieties at lower prices.

17) Two countries engaged in trade in products with scale economies, produced under conditions of monopolistic competition, are likely to be engaged in
A) Heckscher-Ohlinean trade.
B) intra-industry trade.
C) price competition.
D) inter-industry trade.
E) immiserizing trade.

18) In the model of monopolistic competition, compared to a firm with a higher marginal cost, a firm with a lower marginal cost will set a _____ price, produce _____ output, and earn _____ profits.
A) higher; less; more
B) higher; more; more
C) lower; less; less
D) higher; less; less
E) lower; more; more

19) The principle benefit of tariff protection goes to
A) the domestic government.
B) domestic producers of the good produced.
C) foreign producers of the good produced.
D) foreign consumers of the good produced.
E) domestic consumers of the good produced.

20) In the exporting country, an export subsidy will
A) hurt consumers and lower the overall economic welfare of the exporting country.
B) help consumers and have no effect on the economic welfare of the exporting country.
C) hurt consumers but raise the overall economic welfare of the exporting country.
D) help consumers and raise the overall economic welfare of the exporting country.
E) help consumers but lower economic welfare of the exporting country.

PART B: SHORT-ANSWER QUESTIONS

Answer ANY TWO of the following questions [4 x 2 = 8 marks]

Question 1:
Discuss the three common misconceptions about comparative advantage. (4 marks)

Question 2:
Consider the Specific Factor Model with two goods (cloth and food) and three factors of production (Labour, Land and Capital). Now, suppose there is an improvement in technology that raises the marginal product of labour in cloth industry.

i. How will the allocation of labour change due to this technological improvement?
ii. What will happen to the real income of workers in the cloth and food industry?
iii. What will happen to the real income of the specific factors in the cloth and food industry?

[Use diagrams to explain your answer.] (4 marks)

Question 3:
a) Show with the help of a **diagram** how a Country A that has comparative advantage in the production of "Tennis Rackets" might not be able to beat Country B in prices when B pioneered the Tennis Racket industry with a head start in Production. (2 marks)

b) In this situation, if the government of Country A restricts all imports of Tennis Rackets, how would the welfare change for domestic producers and consumers? (2 marks)

PART C: PROBLEM SOLVING QUESTIONS

Answer Any Two of the following Questions [6 x 2 = 12 marks]

Question 1:

(HO model, with two goods and with two factors of production) Suppose that at current factor prices a ton of steel is produced using 40 hours of labor and 2 acre of land, and a ton of wheat is produced using only 10 hours of labor and 2 acre of land. Suppose that the economy's total resources are 1200 hours of labor and 120 acres of land. Initially, P_S = \$1200/ton & P_W =\$600/ton.

(a) Now suppose that the labor supply increases to 2400 hours. State and prove the Rybczynski theorem. (3 marks)

(b) Suppose P_S increases to \$1800/ton (from the initial situation). State and prove the Stolper-Samuelson theorem. (3 marks)

Question 2:

Suppose a small country can import "rice" at a world price of \$200 per ton. Assume that at a price of \$200, domestic quantity-demanded equals 200 million tons, and domestic quantity-supplied equals 100 million tons. Assume that for every \$10 that price changes, quantity-supplied changes by 3 million tons, and quantity-demanded changes by 2 million tons.

a. Using a supply and demand diagram, show the free-trade equilibrium for this small country, clearly showing the autarky price, the free-trade price, the quantity-supplied, the quantity-demanded, and the quantity of imports. (2 marks)

b. Now suppose the small country's government imposed a \$40 tariff on rice imports. Calculate the effect of this tariff on the domestic price, quantity-supplied, quantity-demanded, and imports, and show this on your graph. Calculate the effects on producer surplus, consumer surplus, and the government revenue from the \$40 tariff. Relative to free trade, is the country better or worse off? (4 marks)

Question 3:

Suppose we have a monopolistically competitive automobile industry in Canada. In autarky, the two relevant characterizations of a typical firm are:

$AC = (F/S)\, n + c;$
$P = c + 1/ (b \times n)$ where $b = 1/72{,}000$

Here, the size of the domestic market for automobile is $S_C = 2{,}000{,}000$ per period. The fixed cost of automobile production, F = $4,000,000,000. The marginal cost, c = $10,000. Now suppose the United States has identical cost function as Canada but a market size of $S_{US} = 8{,}000{,}000$.

(i) Calculate the equilibrium number of firms and the equilibrium price in the U.S. and Canada automobile markets without trade. (2 marks)

(ii) If U.S. and Canada allows free trade, what will be the equilibrium number of firms and the equilibrium price in the integrated market? (2 marks)

(iii) Suppose, the U.S. and Canada integrate their automobile market with a third country, which has an annual market size of 10 million for automobiles. Find the number of firms and the price per automobile in the new integrated market (with 3 markets combined) after trade.
(1 marks)

(iv) Are consumers better off with free trade? In what ways? (0.5 +0.5= 1 mark)