MIDTERM EXAMINATION #1 KEY

I. True – False (1 point each) – indicate your answer with an X after the correct answer.

1. True ______ False ___X__  Adam Smith stated that the baker rises early to bake bread motivated primarily by benevolence for his fellow man.

2. True ___X__  False ______ Minimum wage legislation in Santa Monica is an example of a price floor.

3. True ______ False ___X__  The latest round of the World Trade talks collapsed largely over a dispute about subsidies – developed countries complained that farmers from developing countries are too heavily subsidized.


6. True ______ False ___X__  Unemployment typically decreases when GDP growth is declining, as we have seen since the last US recession.

7. True ______ False ___X__  In the past century real GDP increased faster than nominal GDP.

8. True ______ False ___X__  If the GDP deflator changed to 110, relative to the base year, the economy would have experienced moderate deflation.

9. True ______ False ___X__  If good X and Y are substitutes, then when the price of X increases the quantity of Y will decrease.

10. True ___X__  False ______ In the market for CD’s, holding all other things constant, an increase in the population size will increase the price of CD’s.

II. Multiple Choice (2 points each)

11. Which of the following events could have resulted in the change from point A to point B in Figure 1?
   a.) The unemployment rate falls from 6.1% to 5.1% capital
   b.) The capacity utilization rate rises from 74% to 85% goods
   c.) A reduction in personal income taxes
   d.) None of the above e.) All of the above
12. Inflation is likely to be _________ at point C relative to point A.
   a.) higher
   b.) lower
   c.) equal
   d.) cannot tell from the given information

13. Future economic growth is likely to be ___________ for the economy operating at point C relative to the economy operating at point B.
   a.) higher
   b.) lower
   c.) equal
   d.) cannot tell from the given information.

14. The PPF illustrated in the figure is bowed out because
   a.) resources are limited
   b.) resources are specialized
   c.) opportunity costs are increasing
   d.) opportunity costs are constant
   e.) both b and c

15. In his visit to our class Vernon Smith explained that his double-oral auction experiment
   a.) showed that prices and quantities fluctuate widely across experiments and the results are not consistent with Adam Smith’s theory of the invisible hand.
   b.) showed that buyers need to have information on sellers costs of production in order for markets to work smoothly
   c.) showed that sellers need to have information on buyers income and preferences in order for markets to work smoothly
   d.) showed that prices and quantities are relatively constant across experiments and the results are consistent with Adam Smith’s theory of the invisible hand.

16. In his recent article in the Wall Street Journal, Vernon Smith argued that the main contributor to the electricity problems experienced on the East Coast and in California can best be summarized by the following:
   a.) supply is limited because of too little electricity generation, there is a need to build more plants
   b.) supply is limited because of monopoly power, a handful of electricity power distributors are colluding on prices and there is a need for more distributors to enter the market
   c.) demand is non-responsive to price, under the average price system consumers pay a constant price per unit of electricity used
   d.) demand is too responsive to price, under the variable price system many consumers are punished by high prices
17. In describing price floors and price ceilings we discussed an article about the cotton industry. Which statement below is true and best describes the argument made in the article.

a.) US cotton farmers are unfairly targeted by a coalition of developing country cotton farmers – developing countries have colluded, restricting supply, setting the world price of cotton artificially high.

b.) US cotton farmers receive subsidies on cotton production, leading to overproduction of cotton, increasing the world demand for cotton (because the US is a major consumer of cotton), increasing the price of cotton and incomes of poor cotton farmers in developing countries.

c.) US cotton farmers receive subsidies on cotton production, leading to overproduction of cotton, increasing the world supply of cotton (because the US is such a major producer of cotton), reducing the price of cotton and incomes of poor cotton farmers in developing countries.

d.) US cotton farmers receive subsidies on cotton production because their land is not suitable for production of other types of crops and politicians are worried about losing votes.

18. In 1982 nominal GDP was $270 and real GDP was 300 constant dollars. In 1992 nominal GDP was $300 and real GDP was 300 constant dollars. What happened to the price level during these 10 years?

a.) there was inflation

b.) there was no change in prices

c.) there was deflation

d.) there is not enough information to answer this question

19. You bought a new house and have to pay fixed mortgage payments over the years. The real value in terms of goods of each mortgage payment decreases if

a.) there is deflation

b.) there is inflation

c.) your salary substantially increased and prices remain the same

d.) the interest rates went up

e.) all of the above

20. To calculate GDP, we use the value of

a.) only final goods and services

b.) only intermediate goods and services

c.) both final goods and services and intermediate goods and services

d.) final goods and services or intermediate goods and services because it does not matter which we use.

21. Which of the following is a final good or service?

a.) the grilled chicken purchased by Taco Bell for use in their burritos

b.) a new replacement muffler installed by Midas Mufflers

c.) the fertilizer purchased by Royal Lawn and Landscape
d.) the computers purchased by Office Depot for sale to its customers

22. The purchase of stocks and bonds is
   a.) included in GDP as an investment
   b.) included in GDP as a consumption expenditure
   c.) included in GDP as an intermediate good
   d.) **not included in GDP as an investment**

23. In the circular flow, how are the "value of production," "income," and "expenditures" related?
   a.) they have no relationship to each other
   b.) once tax payments are subtracted at each stage, they are equal
   c.) **expenditures on GDP equals the value of production which equals income earned**
   d.) once net exports of goods and services are subtracted from GDP, they are equal

24. A person is considered unemployed if the person
   a.) is without a job
   b.) is working less than 40 hours per week
   c.) is working without pay
   d.) **does not have a job and is actively looking for a job**

25. Using the table at right, the working-age population is
   a.) 155 million
   b.) 170 million
   c.) **195 million**
   d.) 250 million

26. Using the same table, the number of people in the labor force is
   a.) 145 million
   b.) **155 million**
   c.) 170 million
   d.) 195 million

27. Using the same table, the unemployment rate is
   a.) 5.1 percent
   b.) 5.9 percent
   c.) **6.5 percent**
   d.) 6.9 percent
28. During the Great Depression, the unemployment rate rose to a maximum of about
a.) 10 percent  
  b.) **25 percent**  
  c.) 45 percent  
  d.) 65 percent

29. During 1998, Levi Strauss announced that it would close its US factories and would move its sewing division to Mexico. This corporate move will
a.) increase structural unemployment in the US  
   b.) increase seasonal unemployment in the US  
   c.) increase cyclical unemployment in the US  
   d.) increase unemployment in Mexico

30. During a recession, cyclical unemployment _________ and real GDP _________
a.) increases; increases  
   b.) increases; decreases  
   c.) decreases; increases  
   d.) decreases; decreases
III. (15 points) Basic Equilibrium Concepts

Suppose the monthly demand and supply for rental housing in Anchorage is given as follows:

<table>
<thead>
<tr>
<th>Monthly Price</th>
<th>Quantity Demanded</th>
<th>New Quantity Demanded</th>
<th>Quantity Supplied</th>
<th>New Quantity Supplied</th>
</tr>
</thead>
<tbody>
<tr>
<td>$100</td>
<td>200</td>
<td>150</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>200</td>
<td>180</td>
<td>130</td>
<td>30</td>
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<td>300</td>
<td>160</td>
<td>110</td>
<td>60</td>
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<td>400</td>
<td>140</td>
<td>90</td>
<td>90</td>
<td>90</td>
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<tr>
<td>500</td>
<td>120</td>
<td>80</td>
<td>120</td>
<td>120</td>
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<td>600</td>
<td>100</td>
<td>50</td>
<td>140</td>
<td>140</td>
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<td>700</td>
<td>80</td>
<td>30</td>
<td>160</td>
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<td>800</td>
<td>60</td>
<td>10</td>
<td>180</td>
<td>180</td>
</tr>
<tr>
<td>900</td>
<td>40</td>
<td>-10</td>
<td>200</td>
<td>200</td>
</tr>
</tbody>
</table>

a. (2 points) What is the equilibrium price of housing? At this equilibrium, how many units of housing are bought and sold each month?
   \[ P = $500 \text{ and } Q = 120 \] (where quantity demanded = quantity supplied)

b. (3 points) Suppose the city of Anchorage decides that housing is too costly and restricts the price of housing to $400 per month. Illustrate this change in the figure at right. Does this have any real effect on the market for housing? In particular, is the market still in equilibrium or does a shortage or surplus arise? What is the amount of the shortage or surplus if one exists?
   Yes, there is now a shortage in the housing market. Individuals demand 140 units at this price but suppliers are only willing to supply 90 units, consequently there is a shortage of 50 units.

c. (2 points) What is the economic term for this price limit? Price ceiling

d. (3 points) Suppose that the population of Anchorage falls, lowering the demand for housing by 50 units across the board. Indicate the new demand schedule in the table above. What is the new equilibrium price and quantity of housing?
   The price of housing is now $400 and the quantity is 90.

f. (2 point) Has there been a shift in, or a movement along, the supply curve for fried chicken? a movement along the curve – an increase in quantity supplied
e. (4 points) Suppose the price limit is still in effect. Is the limit as effective in part b as it is in part d? Discuss the economic efficiency of an effective limit. What are some reasons a city might advocate this type of policy?
   In part d the ceiling has no effect because it is the same as the market equilibrium price, whereas, in part a, the ceiling restricts the price and a shortage results. In part b a shortage exists and is inefficient in economic terms. In part d the ceiling is useless – as it is equal to the market equilibrium. A city might advocate rent control on the basis of providing higher quality housing to poorer households.
IV. (20 points) Opportunity Costs, Specialization, and Trade
Suppose that Robinson Crusoe and his mate Lucky have been shipwrecked on a remote island. Robinson and Lucky can spend time either fishing or picking coconuts. Crusoe can pick 10 coconuts a day or spear 1 fish and Lucky can pick 6 coconuts a day or spear 2 fish. Robinson and Lucky had a falling out after the wreck and consequently won’t speak and they refuse to help one another out.

a. (4 points) In the space at below, draw the production possibilities for both Robinson and Lucky, clearly labeling both axes.

b. (3 points) Compare the opportunity costs of producing fish for Robinson and Lucky. For whom is “fish production” cheaper? For Robinson, the cost of spearing 1 fish is 10 coconuts (what he gives up), and for Lucky the cost of spearing 1 fish is 3 coconuts (what he gives up). Clearly, it costs Lucky less to fish (he gives up only 3 coconuts which is less than Robinson’s 10) – we can say that Lucky has a comparative advantage in fishing.

c. (3 points) Compare the opportunity costs of picking coconuts between Robinson and Lucky. For whom is “coconut production” cheaper? For Robinson, the cost of picking 1 coconut is 1/10 of a fish (what he gives up) and for Lucky, the cost of picking 1 coconut is 1/3 of a fish (what he gives up). Clearly, it cost Robinson less to pick coconuts (1/10 < 1/3) and Robinson has a comparative advantage in coconut production.

d. (4 points) Suppose that both Robison and Lucky devote half of their time to each activity. Show the production point in each diagram. How much of each good can be produced by each person? What is the total island production of fish and coconuts (sum of both Lucky and Robinson)? As shown at point A in the figures above, Robinson could spear 1/2 fish and pick 5 coconuts while Lucky could spear 1 fish and pick 3 coconuts. Total island production would be roughly 1 1/2 fish and 8 coconuts.

e. (4 points) Over time Robinson and Lucky reconcile. Again friends, Robinson recalls the principle of comparative advantage explained in a piece written by an old friend David Ricardo. Now Robinson and Lucky decide to specialize in the activity they are best in. Show the new production point in each diagram. Compare the total island production of fish and coconuts to your answer in part (d). Now, Robinson specializes in coconut production and produces 10 coconuts per day while Lucky specializes on fishing and catches 2 fish per day. Total island production is now 10 coconuts and 2 fish. Clearly total island production is more when Lucky and Robinson specialize.

f. (2 points) Explain how Robinson and Lucky both benefit from trade. Suppose that Robinson and Lucky agree to trade 1 fish for 5 coconuts (which makes the price of 1 coconut 1/5 of a fish). Robinson could trade five of his coconuts for 1 fish in which case he is clearly better off than part d where he devote 1/2 of his time to each activity. Lucky would also be better off than part d – he would trade one of his fish for five coconuts which is clearly better than the 1 fish and 3 coconuts he could have produced by spending 1/2 of his time on each activity.
V. Macroeconomic problems:

1. Employment (3 points)
The following table provides data on recent employment statistics:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Civilian labor force.....</td>
<td>146,540</td>
<td>146,530</td>
<td>146,545</td>
</tr>
<tr>
<td>Employment............</td>
<td>137,478</td>
<td>137,625</td>
<td>137,573</td>
</tr>
<tr>
<td>Unemployment...........</td>
<td>9,062</td>
<td>8,905</td>
<td>8,973</td>
</tr>
<tr>
<td>Not in labor force....</td>
<td>74,712</td>
<td>74,977</td>
<td>75,234</td>
</tr>
<tr>
<td>Unemployment Rate</td>
<td>6.2</td>
<td>6.1</td>
<td>6.1</td>
</tr>
</tbody>
</table>

a.) Complete the table.
b.) Describe the change in the unemployment rate since July of 2003. How has this trend been interpreted in light of US economic recovery?

2. GDP (8 points)
The following table provides recent information on GDP

<table>
<thead>
<tr>
<th></th>
<th>Nominal GDP (billions)</th>
<th>Real GDP (billions)</th>
<th>GDP Deflator</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002:Q3</td>
<td>10506.2</td>
<td>9485.6</td>
<td>110.8</td>
</tr>
<tr>
<td>2002:Q4</td>
<td>10588.8</td>
<td>9518.2</td>
<td>111.2</td>
</tr>
<tr>
<td>2003:Q1</td>
<td>10688.4</td>
<td>9552.0</td>
<td>111.9</td>
</tr>
<tr>
<td>2003:Q2</td>
<td>10802.7</td>
<td>9629.4</td>
<td>112.2</td>
</tr>
</tbody>
</table>

a.) Complete the table.
b.) As you know, real GDP presents data on GDP from a particular base period. Is the base year given in the following table? Why or why not?

c.) Has there been inflation or deflation from the third quarter in 2002 to the second quarter in 2003? Explain.
3. Consumer Price Index (4 points)

The table below presents information on Nobel prize winners in economics.

<table>
<thead>
<tr>
<th>Year</th>
<th>Winners in Economics</th>
<th>Swedish Krones</th>
<th>e-rate</th>
<th>Nominal US dollars</th>
<th>CPI</th>
<th>2002 dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>1971</td>
<td>John R. Hicks, Kenneth J. Arrow</td>
<td>450,000</td>
<td>4.89</td>
<td>91,959</td>
<td>36.7</td>
<td>450,774</td>
</tr>
<tr>
<td>1976</td>
<td>Milton Friedman</td>
<td>681,000</td>
<td>4.16</td>
<td>163,785</td>
<td>56.9</td>
<td>517,837</td>
</tr>
<tr>
<td>1998</td>
<td>Amartya Sen</td>
<td>7,600,000</td>
<td>8.07</td>
<td>941,935</td>
<td>163</td>
<td>1,039,596</td>
</tr>
<tr>
<td>2002</td>
<td>Daniel Kahneman, Vernon L. Smith</td>
<td>10,000,000</td>
<td>8.94</td>
<td>1,119,081</td>
<td>179.9</td>
<td>1,119,081</td>
</tr>
</tbody>
</table>

a.) The first Nobel Prize in Economics was awarded in 1969. As you can see in the table, the prize is awarded in Swedish Krones and the value has varied considerably over time. I have calculated the value in US dollars (so don’t worry about the Swedish Krones part). Calculate the value of the 1971 prize won by Prof. Hicks and Arrow in 2002 dollars.

b.) Compare the Hicks and Arrow prize to the prize awarded to Professor Smith and Kahneman this past year? Would you have rather won the prize in 1971 or in 2002?