This assignment consists of Graded, In Class (also graded) and Practice (not graded) questions. The In Class and Practice questions deal with material that we will cover next class. Please read Chapter 6 of the textbook and the online lecture notes for next class and be ready to discuss the practice questions in class.

Multiple Choice

1. Suppose that you would like to buy all goods and services that are produced by the U.S. economy in 2002 (you hit it big by discovering oil in the Pacific Ocean). Which one of the following describes how many dollars it will cost you to buy everything?
   (a) Nominal GDP in 2002.
   (b) Real GDP in 2002, with 1996 as the base year.
   (c) Per-capita GDP in 2002.
   (d) all of the above.

2. Which one of the following items would not count in the current year’s GDP?
   (a) The quantity of wheat a farmer produces but is not sold. Instead the wheat is stored in silos for future use.
   (b) The cooking, cleaning, and laundry services of a housekeeper.
   (c) The total value of apples and oranges produced in the current year.
   (d) Government spending on welfare benefits for the poor and elderly.

3. If the only information you are given is that the real value of movie ticket sales for Star Wars in 1977 exceeds the real value of movie ticket sales for Forest Gump in 1994, you can definitely conclude that (given a fixed base year)
   (a) More people saw Star Wars than Forest Gump at the theater.
   (b) The price of movie tickets was higher in 1994 than in 1977.
   (c) both (a) and (b)
   (d) we cannot conclude (a) or (b) without more information.

4. Which one of the following statements is true about potential GDP?
   (a) Potential GDP measures the maximum amount of GDP the economy can produce.
   (b) When actual GDP equals potential GDP there is no one unemployed.
   (c) Actual GDP can exceed potential GDP when there is an economic boom.
   (d) All of the above.

5. Macroeconomic models use abstract concepts such as "price level" and "national income" that are calculated by combining many markets into one. This process is known as
   (a) analysis and synthesis.
   (b) integration and derivation.
   (c) conceptualization.
   (d) aggregation.
6. Over the last 50 years the U.S. economy has experienced both an increase in real wages and total labor hours worked. Using the supply-demand version of the labor market, which one of the following can explain this?
   (a) An increase in population and size of the labor force.
   (b) High energy prices which reduce the productivity of workers.
   (c) An increase in total factor productivity.
   (d) This cannot be explained by supply and demand since higher wages should cause firms to hire less workers.

7. A real estate salesperson sells a house in 1999 that was built in 1990. That salesperson also gets paid a commission for her real estate services. How does this transaction get counted in the GDP statistics?
   (a) The price of the house and the real estate salesperson's commission are both included in 1999's GDP.
   (b) Neither the price of the house or the commission is included in 1999's GDP.
   (c) The real estate salesperson's commission but not the price of the house is included in 1999's GDP.
   (d) The price of the house would be included in both 1990's GDP and the GDP for 1999.

8. Which of the following transactions would be included in GDP for 2001?
   (a) On January 5, 2001, Chris Carter sold 100 shares of stock in IBM Corporation.
   (c) Nadav Daniel buys a used desk from the "Struggling Students Used Furniture" store on May 9, 2001.

9. Which one of the following would cause potential GDP to grow over time?
   (a) Growth in the national capital stock.
   (b) Growth in total factor productivity.
   (c) Growth in the size of the population.
   (d) All of the above.

10. (Can do in class) Both Sprite and Pepsi are included in the CPI. In the current year suppose that the price of Pepsi doubles and everyone switches to Sprite (no one buys Pepsi). All else being equal, which one of the following is true?
    (a) The CPI would not change since no one is buying the more expensive Pepsi.
    (b) People are paying more for soda.
    (c) The CPI would increase since it uses the quantities of Sprite and Pepsi purchased in the base year.
    (d) None of the above.

11. (Can do in class) The inflation rate for the economy increases. Which one of the following is definitely true?
    (a) the prices of all goods and services increase by the same amount.
    (b) the purchasing power of everyone’s wages (the real wage) is lower
    (c) nominal interest rates will increase if inflation is expected.
    (d) since people’s nominal wages are adjusted to inflation, the are no negative effects from the higher inflation.
12. **(Can do in class)** In 1980 the price of gasoline was as high as $1.20 per gallon. During the energy price spike in 2001 the price of gasoline reached $2.00 per gallon. The CPI in 1980 = 0.81 and CPI in 2001 = 1.76 (1982 = base). We can conclude that gasoline in 2001
   (a) is more expensive than in 1980 in real terms.
   (b) is less expensive than in 1980 in real terms.
   (c) is less expensive than in 1980 in nominal terms.
   (d) we cannot say anything about the nominal or real price of gasoline in 1980.

Problems

1. The population of a “Starship” is 10. The following gives the employment status of each member of the crew:

   Kirk: Captain and on the job full time.
   Spock: Science Officer and working full time.
   McCoy: Self-Employed Doctor
   Scotty: Loses job because he’s unable to keep up with new advances in engineering. Looking for another job.
   Uhura: Works in communications job but also looking for job as a singer.
   Sulu: Pilots the ship full time.
   Checkov: Is in between jobs but taking his time to decide among several possible opportunities.
   Decker: Relieved from duty because of drinking problem and doesn’t bother looking for another job since no one will hire him. Sits around in his room all day.
   Daystrom: Part time job in cafeteria and going to school to learn new engineering skills so he can qualify for Scotty’s old job.
   Tracy: Locked up in the brig (jail) for violating “prime directive.”

   Using the official definitions, compute the following: (i) “working-age” population, (ii) labor force, (ii) labor force participation rate, (iii) unemployment rate, (iv) natural unemployment rate.

2. **(Practice)** Chapter 6, Problem 3 (p 122 of text)

3. **(Practice)** Chapter 6, Problem 4 (p 122 of text)

4. **(Practice)** In 2002, suppose that the nominal wage = $25/hour and the price level, as measured by the CPI is 1.25 (using 1996 = base).
   (a) Compute how much would the wage rate in 2002 would be worth in 1996 dollars (i.e., the real wage).
   (b) Suppose that the nominal wage doubles to $50/hour (an increase of 100%). (i) If this is due to workers being more productive (not inflation), compute the real wage. (ii) If this is due to only inflation, compute the new price level and real wage.