

Question 1

For each of the following transactions, explain briefly why they would or would not be counted in the GDP of the United States. In your explanation, point out what component(s) or element(s) of GDP change and why.

- a) German auto producer Daimler AG builds a van factory in South Carolina.
- b) You buy the latest Samsung Galaxy J2 cell phone produced at a factory in South Korea.
- c) You baby-sit for your uncle's children and he gives you \$25 for a job well done.
- d) US auto producer Ford builds a factory in Puebla, Mexico.
- e) You buy a fresh loaf of bread at your local bakery.
- f) A Chrysler dealership in Utah has 20 unsold new 2019 model cars at the end of 2019.
- g) You marry your accountant and (s)he then takes care of your tax returns for free.

Question 2

Apriland is a small economy that produces only gadgets. The table below shows production and prices of gadgets for two consecutive years along with the population of Apriland.

Table: Gadget GDP in Apriland

2019 Population of Apriland	12,000
2018 Gadget Prices (base year)	\$500
2018 Population of Apriland	10,000
2019 Gadget Production	4,400
2019 Gadget Prices	\$600
2018 Gadget Production	4,000

Use the table above to answer the following:

- a) Compute nominal GDP in 2018 and 2019. Make your calculations explicit.
- b) Compute real GDP in 2018 and 2019. Make your calculations explicit.
- c) Has economic activity in Apriland grown? At what rate? Explain briefly.
- d) Has Apriland's standard of living increased, decreased, or stayed the same? Show us and explain your answer briefly.

Question 3

Sweetown has many small coffee shops, and each coffee shop offers a variety of cupcakes for sale. As an economics project you have been assigned to draw up a cupcake price index (CPI). The table below summarizes price data for recent years. The base year is 2017.

Table: The Cupcake Price Index

Cupcake	2017 Quantities	2017 Prices	2018 Prices	2019 Prices
Banana	4	\$1.10	\$1.15	\$1.25
Pumpkin	1	\$1.10	\$1.10	\$1.20
Blueberry	2	\$1.25	\$1.45	\$1.50

Use the table above to answer the following (make your calculations explicit):

- a) Compute the cupcake price index (CPI) for each year.
- b) Compute the rate of inflation in the CPI between:
 - i. 2017 and 2018.
 - ii. 2018 and 2019.
 - iii. 2017 and 2019

Question 4

Lin is a hairdresser at a salon in a small town. In each of the following situations, explain Lin's type of job market situation with as much detail as possible, i.e. whether Lin is employed or unemployed and, if unemployed, what kind.

- The local economy is in a minor recession and the salon lays Lin off. The owner assures her that she will be rehired when business picks up again. Lin waits to be re-hired.
- A large university, the major employer in the town, permanently closes, and this hurts all of the salons in town. The salon fires Lin because the owner can only afford to stay open on week-ends.
- Lin is dissatisfied with her schedule at the salon and quits her job. She is qualified to work at other salons and immediately begins to send her résumé to salons all over town.
- Lin quits her job and uses her savings to enroll in college full-time toward a marine biology B.A.

Question 5

In the morning of December 31st, Eddy goes to his local bank to borrow \$10,000, to be repaid in one year. The bank loans officer tells Eddy the nominal rate the bank will charge him is 6%. This rate is determined taking into account the bank expects inflation for the year that will start on January 1st to be 3%, because that is the bank's forecast.

- What is the real interest rate that Eddy will pay in one year? Explain briefly.
- If inflation over the term of this loan turns out to be higher than the bank forecasted, will Eddy be hurt or will the bank be hurt? Explain briefly your answer.
- If inflation over the term of this loan turns out to be lower than the bank forecasted, will Eddy be hurt or will the bank be hurt? Explain briefly your answer.

Question 6

Economists expect the budget deficit of the US to increase significantly in 2020 because of a decrease in net taxes.

- Assume households spend most of the net tax decrease. Explain briefly in words and graphically how a larger budget deficit will impact interest rates and investment.
- In addition, now assume that the economy enters a recession and private businesses do not have enough cash to invest, so that investment at the macro level contracts. Explain briefly in words and graphically how this will impact the equilibrium interest rates and investment you found in (a).

Question 7

You read in the news that in the month of March the labor force participation rate in the US suffered a sharp decline to 62.7% and the headline unemployment rate (the one commonly used) shot up from 3.5% to 4.4%. Economists think this sharp decline in the participation rate suggests that the U.S. headline unemployment rate of 4.4% is significantly understating the deterioration in the economy.

- Is it possible that the headline participation rate decreases while, simultaneously, the unemployment rate increases? Why or why not? Explain briefly.
- According to your answer in (a), would economists then be correct? Explain briefly.
- Are there other measures of unemployment that would give a more accurate description of the labor market situation? If so, which? Explain briefly.