1. What are the four macroeconomic agents? What are the three markets in which the agents interact?

the four macroeconomic agent consist of Household, Firms, The government and the rest of the world / They interact in the three market : The goods and service market The labor market and the money market.

2. What is sticky price? Explain why price may be sticky.

sticky price adjusts slowly to the equilibrium.
sticky price due to minimum wage policy, employment contract and labor union.

3. Explain the four main categories of unemployment.

1.) Frictional Unemployment : unemployment when people looking / switching for a job.
2.) Structural Unemployment : changes in a structure of the economy — technological change, geographical change, change in demand for labor skill
3.) Cyclical Unemployment : due to fluctuations in business cycles
4.) Seasonal Unemployment : due to changing seasons

4. Classify the following events into the categories of unemployment.
- Some friends just graduated from college and have been looking for jobs. Frictional Unemployment
- Christine lost her job as a biologist at a biotech-company when the whole industry went into recession. Cyclical unemployment
- Gerhard, who used to be a taxi driver, stopped looking for a job three months after he lost his job. Not in the labor force
- Dirk used to work as a wooden-doll maker. Now all kids want plastic dolls, so he is out of work. Structural unemployment
- The hotel part-timers were laid off during low season. Seasonal unemployment
- Aditi, a high-tech engineer, just decided to quit her job; she is being interviewed for a better-paid job in a multinational company. Frictional unemployment
- A man lost his job as a public reader as literacy has increased in his village. Structural unemployment

5. Suppose there are 100 people in labor force and 60 people currently in employment. Find the unemployment rate. Can we find labor force participation rate? If not, what information do we need?

$$\text{unemployment rate} = \frac{\text{unemploymented}}{\text{employed} + \text{unemploymented}} = \frac{40}{100} = 0.4$$

we can't find the labor force participation rate b/c we don't know total population.

6. What is the discouraged-worker effect? How can it affect the unemployment rate?

Discouraged - worker effect is people who want to work but cannot find jobs become discouraged and stop looking for work.

These people are not classified as unemployed and not included in calculation of the unemployment rate, so the unemployment rate fall. that can mislead people think more people have got their jobs

7. On average, nations in Europe pay higher unemployment benefits for longer periods of time than the US. How would this affect the unemployment rates in these nations? Explain which type of unemployment is most directly affected.

Unemployment rate in Europe will increase. Frictional unemployment is most directly affected.

8. What is inflation? It is often said that inflation reduces one's purchasing power, and hence inflation is bad. How can inflation reduce one's purchasing power? Is there a case where inflation may not be bad?

Inflation is an increase in the overall price level

Inflation raises both wage and price of good, so inflation doesn't reduces purchasing power.

But if our wage are fixed due to employment contracts, then inflation will reduse our purchasing power.

In case where inflation may not bad is when your wage increase

9. Who – lender or borrower – is better off, given unanticipated deflation? Explain with examples.

lender is better than borrower in deflation.

Example you borrow 100 ฿ from your friend in 2020 and return 100 ฿ in 2021.
Assume that 100 baht can buy 4 fried chicken in 2020. Then, there is unanticipated deflation and 100 baht can buy 5 fried chicken in 2021. Now your friend are better off.

10. When inflation is anticipated, what will the central bank do with the interest rate? (Hint: Fisher Equation)

When inflation is anticipated, the central bank will increase interest rate.

11. The CPI is 120 in year 1 and 150 in year 2. All inflation is anticipated. If the bank charges an interest rate of 30%, what is the bank's real interest rate?

$$\text{inflation rate} = \frac{150 - 120}{120} \times 100\%$$

$$= 25\%$$

$$\text{real interest rate} = I - \Pi$$

$$= 30\% - 25\%$$

$$= 5\% \quad ※$$

12. Explain why inflation is necessary to a growing economy with reference to the money supply.

Increasing money supply is necessary but it often cause inflation.
Economy and its population grow will need money for their transections and the Govt want us to use money as the mean of exchange, so inflation is necessary

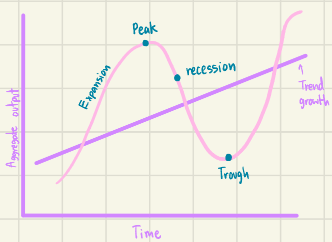
13. What are the two administrative costs of inflation? Explain.

menu cost : cost from changing menus and price lists frequently

shoe leather cost : when interest rates are high, the opportunity cost of holding cash outside banks is high.

14. Draw a diagram of business cycles and the trend line. Label the four phases of business cycles. Answer the following questions.

- Which phase do you expect to see inflation? Peak
- Which phase do you expect to see high unemployment? Trough
- Which phase should the government use expansionary policy? Give example. Trough Ex. covid19 outbreak
- Which phase should the government use contractionary policy? Give example. Peak Ex. when output and employment grow
- What factors determine the trend line?



depend on quality & quantity of factor of production
- land
- labor
- capital
- entrepreneurship

15. An article states that capital stock and labor force are both increasing at an annual rate of 7%. The same article also states that real output is growing by 11%. Explain why this is possible.

Capital stock and labor force are both increase that make higher productivity, so the real output is growing.