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

The four macroeconomic agents are the household, firm, government, and the rest of the world. The three markets in which the agents interact are the goods-and-services market, the labor / factor market, and the money / financial market.

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

Sticky price refers to the way price adjust slowly to the equilibrium in macroeconomics. The reason behind the sticky price is because of the minimum wage policy, employment contract, and worker union.

3. Explain the four main categories of unemployment.

① frictional unemployment: result of the normal turnover in the labor market
② structural unemployment: result of changes in the structure of the economy resulting in job loss
③ cyclical unemployment: due to fluctuations in the business cycle
④ seasonal unemployment: due to changing of 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. discouraged-workers effects
   - 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?

unem. rate = unem. / labor f.

unem. rate = $\frac{100-60}{100} = \frac{40}{100} = 40\%$

- we cannot find the labor force participation rate because we need the population number as well.

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

The discouraged-worker effect is when the people who want to find jobs but cannot find one become discouraged so they will stop looking for jobs. It affects the unemployment rate by making it seem less than what it actually is. since these people are not classified as unemployed.

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.

This might cause the unemployment rate in Europe to be higher than the US because they will receive higher pay even when they are unemployed. The type of unemployment that will be most directly affected is probably the frictional unemployment group. Because they are the result of the normal turnover in the labor market. For example, they do not have to hurry find a job.

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 = an increase in the overall price level
- inflation does NOT usually reduce one's purchasing power since income also rises, but it will reduce only if the wage is fixed from the employment contract
- inflation might not be bad if we anticipate the inflation and the interest rate given by the bank is higher than the inflation rate. ∴ this will make the value of the money increase.

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

In an unanticipated deflation the lender will be better of because value of the money that was lend to the borrower will decrease. Additionally, when you get the money back, the value of the money might be more that what you gave in the beginning as well. For example, if the lender give the borrower $100 and then a deflation occur, the value of that $100 might reduce to $80. This means the borrower will have a smaller amount to spend.

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

$i = r + \pi$ — inflation r

nominal int. rate — real int. rate

- when inflation is anticipated, the central bank will increase the interest rate

r consumer price index

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?

inflation $r = \frac{150-120}{120} \times 100 = 25\%$.

$30 = r + 25 \rightarrow r = 30 - 25$

∴ real int. rate = 5%

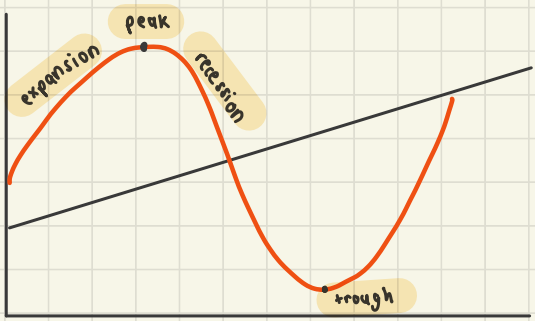
12. Explain why inflation is necessary to a growing economy with reference to the money supply.

Inflation is necessary to a growing economy because as the economy grows, more people will need money for their transactions. That's why if the is no inflation, there would not be enough money supply for people to spend.

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

1) menu cost: cost from changing menu/pricelist frequently
2) shoe leather cost: when the opportunity cost of holding cash outside of the bank 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? expansion
- Which phase do you expect to see high unemployment? recession
- Which phase should the government use expansionary policy? Give example. during recession (eg. lowering the price) boost investment
- Which phase should the government use contractionary policy? Give example. during expansion (eg. increase tax) reduce spending
- What factors determine the trend line? the quality & quantity of FoPs



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.

It is possible because the output is the result of the capital and the labor force. So, if the capital and labor force is increasing, the output will most likely increase as well.