fern.

Exercise 1

Introduction to Macroeconomics

1. What are the four macroeconomic agents? What are the three markets in which the agents interact?
2. What is sticky price? Explain why price may be sticky.
3. Explain the four main categories of unemployment.
4. Classify the following events into the categories of unemployment.
   - Some friends just graduated from college and have been looking for jobs.
   - Christine lost her job as a biologist at a biotech-company when the whole industry went into recession.
   - Gerhard, who used to be a taxi driver, stopped looking for a job three months after he lost his job.
   - Dirk used to work as a wooden-doll maker. Now all kids want plastic dolls, so he is out of work.
   - The hotel part-timers were laid off during low season.
   - Aditi, a high-tech engineer, just decided to quit her job; she is being interviewed for a better-paid job in a multinational company.
   - A man lost his job as a public reader as literacy has increased in his village.
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?
6. What is the discouraged-worker effect? How can it affect the unemployment rate?
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.
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?
9. Who - lender or borrower - is better off, given unanticipated deflation? Explain with examples.

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

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?

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

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

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?
    - Which phase do you expect to see high unemployment?
    - Which phase should the government use expansionary policy? Give example.
    - Which phase should the government use contractionary policy? Give example.
    - What factors determine the trend line?

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.

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

Four Macroeconomic agents
1 Household
2 Firms
3 Government
4 Rest of the world

Three markets
1 Good and service market
2 Labor market
3 Money (financial) market

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

Sticky price is price adjusts slowly to the equilibrium.
Price may be sticky because of minimum wage policy, employment contract and labor union.
For example: in employment contract, you can't change price imidietly you have to wait until the end date.

3. Explain the four main categories of unemployment.

1 Frictional unemployment → due to normal turnover (looking / switching job) in labor market
2 Structural unemployment → due to changes in structure of economy
   - technological change
   - geographical change
   - change in demand of labor skills
   - labor market rigidities
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 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?

unemployment = 100 − 60 = 40 people

unemployment rate = $\frac{40}{100} \times 100 = 40\%$

We can't find the labor force participation rate because we need to know total population first.

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

Discouraged-worker effect happen when people want to work but can't find jobs and become discourage and stop looking for work. These people aren't classified as unemployed and aren't include in calculation of unemployment rate, so unemployment rate falls. It can mislead that 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 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 overall price level.
If our wages are fixed due to employment contracts, inflation will reduce our purchasing power.
The case where inflation may not be bad is when you are the borrowers or when your wage increase.

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

Lender is better because when lender got money back, it will have more purchasing power.

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

When inflation rate is high, bank will set higher nominal 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?

i

$i = r + \pi$

π = inflation rate

$\pi = \frac{150-120}{12\cancel{0}} \times 10\cancel{0}$

$\pi = 25\%$

$r = i - \pi$

$r = 30 - 25$

$r = 5$

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

Because economic are growing when people using more money then money supply increase and inflation occurs.

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

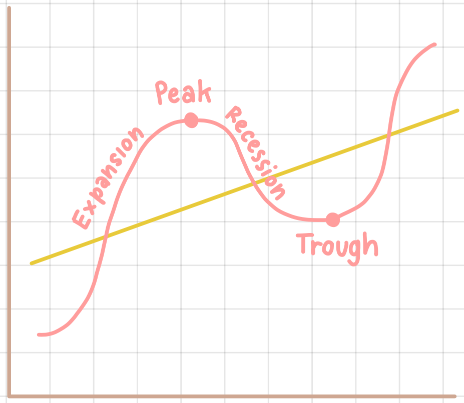
1 Menu cost - costs from changing menus / price lists frequently

2 Shoe leather cost - when interest rates are high, 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. in Covid pandemic
- Which phase should the government use contractionary policy? Give example. Peak ex. during time of high economic growth
- What factors determine the trend line?

Quality & quantity of Factors of Productions
1 Land
2 Labor
3 Capital
4 Entrepreneuship



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.

Because factor of production (capital & labor) increase, so the production become more efficient
Then the output grow.