Problem 1. Potential GDP is defined as

(a) the maximum GDP the economy could possibly produce

(b) GDP produced when the economy is fully utilizing all of its resources

(c) GDP produced when unemployment is zero

(d) GDP produced when natural unemployment is zero

Problem 2. Define the following terms:

(a) cyclical unemployment

(b) natural unemployment

(c) frictional unemployment

(d) structural unemployment

(e) minimum wage unemployment

(f) efficiency wage unemployment

Problem 3. Define a recession and an expansion.

Problem 4. According to Keynes, the real wage is

(a) pro-cyclical

(b) counter-cyclical

(c) acyclical

(d) bicyclical

(e) none of the above

For problems 5 and 6, consider a country with the following statistics:

Population (Pop)	$250,000$
Employed (E)	$182,000$
Unemployed (U)	$18,000$,

where the population given is the civilian population.

Problem 5. What is the labor force participation rate (LFPR)?

Problem 6. What is the unemployment rate? What is the employment-population ratio?

For problems 7 through 10, consider a country with the following statistics:

Population (Pop)	$250,000$
Employed (E)	$182,000$
Unemployed (U)	$18,000$,

where the population given is the civilian population.

Problem 7. If the natural rate of unemployment was 5% and the frictional rate of unemployment was 2%, then what is the cyclical rate of unemployment?

Problem 8. If the natural rate of unemployment was 5% and the frictional rate of unemployment was 2%, then what is the structural rate of unemployment?

Problem 9. If the natural rate of unemployment was 5% and the country produced the potential level of GDP, then what will be the number of employed workers?

Problem 10. If the natural rate of unemployment is 5%, cyclical unemployment is 4%, and each worker could produce 3 units of output, then what is potential GDP?

Problem 11. The size of the labor force is 100,000 and the number of people registered as unemployed equals 10,000. There are currently 1,000 discouraged workers. What is the "true" unemployment rate, i.e. the one that includes the discouraged workers?

Problem 12. Consider the following unemployment statistics:

$$u_f = 3\% \quad u_s = 2\% \quad u_m = 0\% \quad u_e = 0\% \quad u = 4\%$$

How does potential GDP compare to actual real GDP?

Problem 13. In a country, the overall rate of unemployment is 11% and the natural rate of unemployment is 5%. Assume that the Okun's coefficient is $\alpha = 2$. Find the percentage GDP gap in this country.