



BIRZEIT UNIVERSITY

Economic Department

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Econ 3321- Intermediate Macroeconomic

Second Exam

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1.	(A)	(B)	<del>(C)</del>	(D)
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17.	<del>(A)</del>	(B)	(C)	(D)
18.	(A)	(B)	<del>(C)</del>	(D)
19.	(A)	(B)	(C)	<del>(D)</del>
20.	(A)	(B)	(C)	<del>(D)</del>

D

57

PART 1: Multiple Choice (60 points- 3 points each)- Please choose the best answer

1. The reservation wage is  
 (A) The wage that an employer must pay workers to reduce turnover to a reasonable level  
 (B) The wage that ensures a laid-off individual will wait for re-hire, rather than find another job  
 (C) The wage that would make an individual indifferent between working and not working  
 (D) The wage offer that will end a labor strike (اضراب العمال)

2. Which of the following is consistent with an increase in the inflation rate?  
 (A) A decrease in the price of oil.  
 (B) A decrease in the unemployment rate.  
 (C) A decrease in unemployment benefits.  
 (D) All of the above

3. An increase in the nominal money growth rate is expected to  
 (A) increase the unemployment rate in the short run but not in the medium run.  
 (B) decrease the unemployment rate in the short run but not in the medium run.  
 (C) increase the inflation rate in the short run but not in the medium run.  
 (D) decrease the unemployment rate both in the short run and in the medium run.

4. When the actual unemployment rate exceeds the natural rate of unemployment,  
 (A) the inflation rate decreases  
 (B) the inflation rate increases  
 (C) the natural level of output exceeds the actual output level  
 (D) expected price level exceed the actual price level

5. Which of the following events will cause an increase in the price level?

- (A) an increase in the unemployment rate  
 (B) a reduction in the markup  
 (C) an increase in the unemployment benefits  
 (D) a reduction in  $P^e$

$$P = P^e (1 + \mu) F(u, z)$$

6. The neutrality of money is consistent with which of the following statements?  
 (A) Changes in the money supply will not affect the price level in the medium run.  
 (B) Changes in the money supply will not affect the price level in the short run.  
 (C) Changes in the money supply will not affect employment in the medium.  
 (D) Changes in the money supply will not affect employment in the short run.

7. When the economy is operating at a point where output is greater than the natural level of output, which of the following occurs?

- (A) the price level will be higher next period than it is this period.  
 (B) the price level is greater than the expected price level.  
 (C) the unemployment rate is less than the natural unemployment rate.  
 (D) all of the above

$$Y > Y_n \quad P > P^e$$

$$u_n > u$$

8. Suppose the expected inflation rate is 8 percent and the unemployment rate is 3 percent. If the inflation rate rises to 10 percent and the expected inflation rate does not change.

- (A) the short-run Phillips curve will shift upward.  
 (B) the natural unemployment rate will rise.  
 (C) the short-run Phillips curve will shift downward.  
 (D) there will be a movement along the short-run Phillips curve.



$$\pi = \pi^e + (m+z) - \alpha u$$

$$3\% = 8\%$$

9. In the wage-setting relation, the nominal wage tends to decrease when

- (A) the price level increases.
- (B) the unemployment rate decreases.  $\uparrow$
- (C) the minimum wage increases.  $\uparrow$
- (D) unemployment benefits decrease.  $\downarrow$

$$W = P^e F(u, z)$$



10. The aggregate demand (AD) curve is downward sloping because:

- (A) A reduction in the money supply will cause an increase in the interest rate, a reduction in investment, and a reduction in output  $\propto$
- (B) A reduction in the aggregate price level will cause a reduction in the interest rate and an increase in output
- $\alpha$  (C) A reduction in price level will cause an increase in the real wage, a reduction in employment, and a reduction in output
- (D) As price level increase, goods and services become relatively more expensive and individual is represent by reducing the quantity demanded of goods and services  $\propto$

$$Y = Y(\frac{M}{P}, G, T)$$



11. The natural level of output is the level of output that occurs when

- (A) the unemployment rate is zero.
- (B) there are no discouraged workers in the economy.
- (C) the economy is operating at the unemployment rate consistent with both the wage-setting and price-setting equations.
- (D) the goods market and financial markets are in equilibrium.  $\propto$

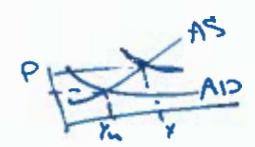
12. Which of the following will shift the aggregate supply curve upward?

- (A) An increase in the markup over labor cost
- (B) An increase in the expected price level
- (C) An increase in the unemployment benefit
- (D) All of the above

$$P = P^e (1 + \mu) F(u, z)$$

13. Suppose the Phillips curve is represented by the following equation:  $\pi_t - \pi_{t-1} = 0.05 - 2u_t$ . Given this information, we know that the natural rate of unemployment in this economy is

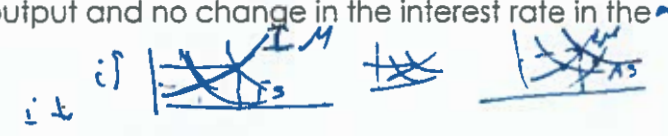
- (A) 25%.
- (B) 5%.
- (C) 2.5%.
- (D) 10%.



14. For this equation, assume that the economy is initially operating at the natural level of output and that the expected price in period t is based on the following:  $p_t^e = p_{t-1}$ . Based on our understanding of the AS-AD model, we know with certainty that a reduction in taxes will cause which of the following?

- (A) An increase in output and no change in the price level in the short run  $\propto$
- (B) An increase in employment and no change in the nominal wage in the short run  $\propto$
- (C) A reduction in the price level, no change in output and no change in the interest rate in the  $\propto$  medium run
- (D) A reduction in investment in the medium run

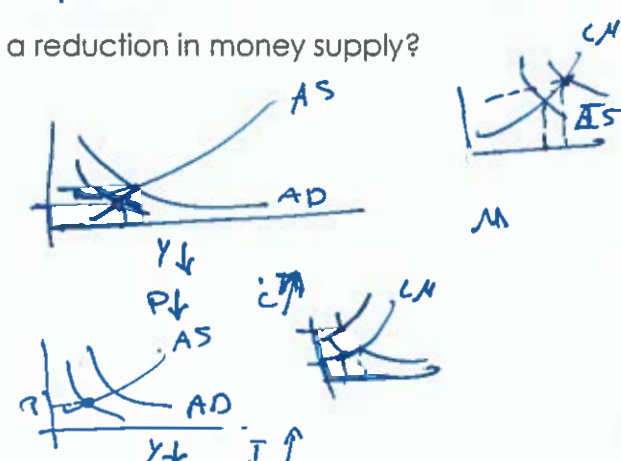
$$Y = Y(\frac{M}{P}, G, T)$$



15. Which of the following represents the short run effect of a reduction in money supply?

- (A) An increase in the price level
- (B) A decrease in the interest rate
- (C) A decrease in the investment
- (D) All of the above

$$\downarrow \frac{M}{P} \Rightarrow \begin{matrix} P \downarrow \\ Y \downarrow \\ i \uparrow \end{matrix}$$

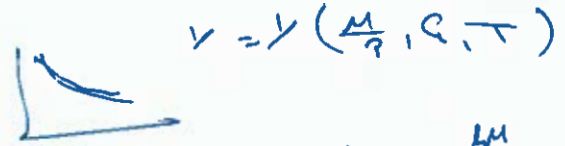


16. An increase in the price of oil will cause which of the following in the medium run?

- (A) an increase in the unemployment rate
- (B) no change in the level of output  $\times$
- (C) a reduction in the interest rate
- (D) all of the above

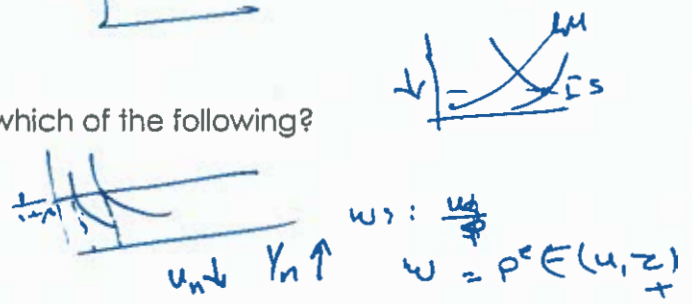
17. In the aggregate demand relation, a reduction in the price level causes output to increase because of its effect on:

- (A) The interest rate
- (B) The firm's markup over cost
- (C) Government spending
- (D) The expected price level



18. A reduction in minimum wage will tend to cause which of the following?

- (A) Shift WS relation to the right
- (B) Shift AS curve upward
- (C) An increase in the natural level of output
- (D) An increase in the nominal wage



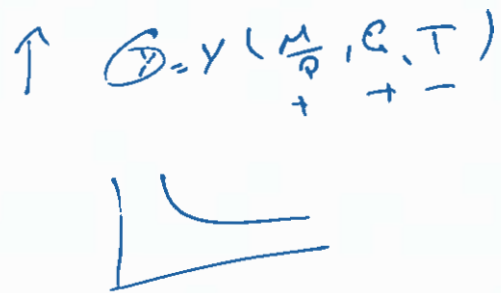
19. Which of the following facts about wage setting is true?

- (A) Most workers in Palestine have their wage set by collective bargaining.
- (B) The minimum wage in Palestine is ~~1450 NIS~~.
- (C) Wages for entry level jobs at KFC are set by negotiation with the company.
- (D) All of the above

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20. The aggregate demand curve will shift to the right when which of the following occurs?

- (A) a rise in the price level  $\times$
- (B) a reduction in consumer confidence
- (C) a reduction in the money supply
- (D) a reduction in taxes



PART 2: short Answer Questions (40 points) - Please show your work

10/2

Question # 1 (12 points)

For this question, use the "Modified" Phillips relation we saw in class:  $\pi_t = \pi_t^e + (\mu + z) - \alpha u_t$ .

- Derive the natural rate of unemployment ( $u_n$ ) using the equation above.
- "The natural rate of unemployment be different across countries and even change over time" Is this statement true, false, or uncertain?
- let  $\pi_t^e = \pi_{t-1}$ . let the natural rate of unemployment be 6%,  $\pi_{t-1} = 2\%$ , the current unemployment rate be 7.4%, and use  $\alpha = 1$ . Given this information, what should the inflation rate be today?

a) at the natural rate of unemployment  $u_n = u_t$ ,  $\pi_t = \pi_t^e$

$(\pi_t - \pi_t^e) = (\mu + z) - \alpha u_n \Rightarrow u_n = \frac{(\mu + z)}{\alpha}$

b) ~~uncertain~~ True  
 it's different across countries but ~~do not~~ must not be seen over time  $\rightarrow$  it doesn't change over time  
 Markup and other factors  $u_n \propto \mu, z, \frac{1}{\alpha}$  when the price of oil changes the Markup will change leading to  $u_n$  to change.

c)  $\pi_t - \pi_{t-1} = \cancel{(\mu + z)} - \alpha (u_t - u_n)$   
 $\pi_t - \pi_{t-1} = -\alpha (u_t - u_n)$   
 $\pi_t - 0.02 = -0.074 + 0.06$   
 $\pi_t = 0.6\%$

Question # 2 (12 points)

2/12

Define the natural rate of unemployment. How is the natural rate of unemployment determined? Be precise about what factors might cause the natural rate to change. Use the labor market model in your answer.

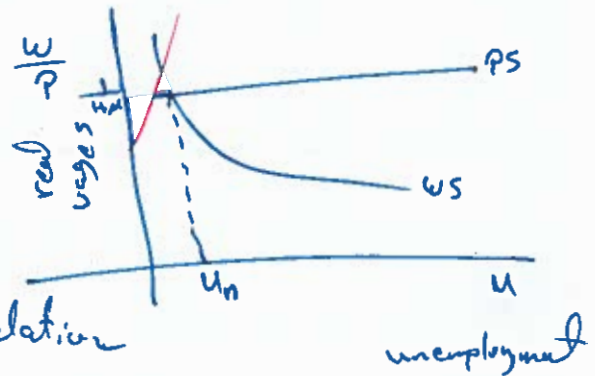
→ is the rate of unemployment that make the real wage by Price setting equal to the Real wage in Wage setting Relation → at which ~~wage~~ the output at its natural rate.

$$\boxed{P = P^e} \quad \boxed{U = U_n}$$

WS:  $W = P F(u, z) \Rightarrow \frac{W}{P} = F(u, z)$

PS:  $P = (1+\mu)W \Rightarrow \frac{W}{P} = \frac{1}{1+\mu}$

→ the intercept between the PS and WS curve is the natural rate of unemployment



~~u = z - \frac{1}{\mu}~~

the shifter of the WS or PS setting relation will cause a change in the  $u_n$ .

the markup, minimum wages, ~~reservation wages~~, unemployment benefit it can be affected also by the labor force ~~and labor force~~

5/6

Question # 3 (16 points)

Suppose the economy begins with output equal to its natural level. Then there is a decrease in consumer confidence (انخفاض ثقة المستهلك) as households attempt to increase their saving for a given level of disposable income.

- A. Based on your understanding of the AS-AD model and the IS-LM model, graphically illustrate and explain what happens to output, the interest rate, and the price level in the short run? What happens to investment and private saving in the short run? Is it possible that the decline in consumer confidence will actually lead to a fall in private saving in the short run?
- B. Based on your understanding of the AS-AD model and the IS-LM model, graphically illustrate and explain what happens to output, the interest rate, and the price level in the medium run? What happens to investment in the medium run?

A)

$$AD: Y = Y \left( \frac{M}{P}, G, T, \dots + \frac{C}{Y} \right)$$

$$AS: P = P^e (1 + \mu) F \left( 1 - \frac{Y}{Y_n}, Z \right)$$

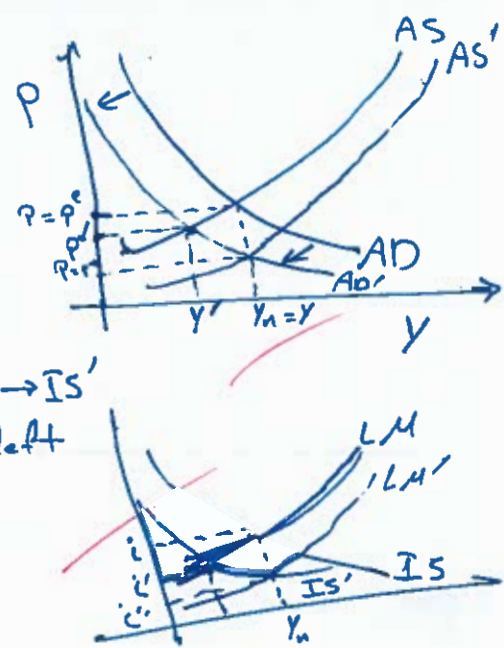
decrease Consumption → shift the AD curve to the left  
 $AD \rightarrow AD'$

output will decrease  $Y_n \rightarrow Y'$   
 Price level will decrease  $P \rightarrow P'$   
 Interest rate will decrease  $i \rightarrow i'$

$I = I(i, Y)$   
 $\downarrow i \rightarrow \uparrow I$   
 $Y \downarrow \rightarrow \downarrow I$   
 we are uncertain about investment it may decrease or increase

Private saving will ~~decrease~~ increase !!

$S = S(Y - T)$ ;  $Y \downarrow \rightarrow S \downarrow$



B) in the medium-run  $\Rightarrow Y < Y_n$  and  $P < P^e$  that lead the price expected price to decline  
 $P^e \downarrow \rightarrow W \uparrow \rightarrow P \downarrow \rightarrow$  the AS curve shift downward from  $AS \rightarrow AS'$  now the output is at natural level of output and the price decline. output under  
 Back to the Initial level.

→ decrease in the Prices  $\rightarrow$  rise the <sup>real</sup> money supply stock → shift the LM curve to the right  $LM \rightarrow LM'$

\* output → unchanged → back to the initial output

\* Interest rate → decrease  $i \rightarrow i''$

\* Prices → decreases

\* Investment → increase

$I = I \left( \frac{Y}{Y_n}, i \right)$   
 $i \downarrow, Y \text{ unchanged} \rightarrow I \uparrow$