

**Multiple-choice questions. 3 points each.**

1. Which of the following measures is the best indicator of total economic activity in an economy?
  - (a) Real GDP
  - (b) Inflation
  - (c) Growth of inflation
  - (d) Nominal GDP
  
2. The GDP deflator is a measure of the
  - (a) average level of prices of intermediate goods and services in the economy.
  - (b) average level of prices of final goods and services in the economy.
  - (c) total production of the economy adjusted for inflation.
  - (d) total production of the economy unadjusted for inflation.
  
3. Structural unemployment can result from which of the following?
  - (a) A persistent mismatch between the skills and characteristics of workers and the requirements of the jobs.
  - (b) A slow down of the economy
  - (c) Rising and falling inflation
  - (d) Normal process of searching for jobs
  
4. Suppose the working-age population of a fictional economy can be described as follows:
  - 20 people are retired
  - 70 have full-time employment
  - 30 have part-time employment
  - 15 are looking for employment but not currently employed
  - 18 would like employment but are not looking for employment because they think no jobs are availableWhat is the unemployment rate?
  - (a) 9.8%
  - (b) 13%
  - (c) 24.8%
  - (d) 21.6%

5. Which one of these people are *not* included in the labor force?
- (a) A person who quit their job in order to return to school.
  - (b) A person who lost their job during the recession and is looking for work.
  - (c) A person who needs full-time work but can only find part-time work.
  - (d) A person who quit their job because they hate it, but they can't find another job.
6. Suppose there is a **decrease** in wages in the consumption leisure model. What impact does the **substitution effect** have on the decisions for consumption and leisure?
- (a) Decrease in leisure and increase in consumption
  - (b) Increase in leisure and decrease in consumption
  - (c) Decrease in leisure and decrease in consumption
  - (d) Increase in leisure and increase in consumption
7. If there is an increase in wages, what is the expected impact on consumption, leisure, and labor supply?
- (a) Consumption is indeterminate, leisure increases, labor supply decreases
  - (b) Consumption, leisure, and labor supply all increase.
  - (c) Consumption is indeterminate, leisure decreases, labor supply increases
  - (d) Consumption increases, leisure and labor supply are indeterminate.
8. Which of the following causes a parallel downward shift of the budget constraint in the consumption and leisure model?
- (a) Decrease in wages
  - (b) Increase in wages
  - (c) Decrease in firms' profits
  - (d) Decrease in lump-sum taxes

9. Suppose a consumer substitutes consumption for leisure while keeping utility the same (consumption decreases and leisure increases). What happens to the slope of the utility curve while moving in this direction.
- (a) The slope gets flatter as marginal utility of consumption decreases and the marginal utility of leisure increases.
  - (b) The slope gets steeper as marginal utility of consumption decreases and the marginal utility of leisure increases.
  - (c) The slope gets steeper as marginal utility of consumption increases and the marginal utility of leisure decreases.
  - (d) The slope gets flatter as marginal utility of consumption increases and the marginal utility of leisure decreases.
10. Which of the following causes an increase in demand for labor?
- (a) An improvement in technology that increases the marginal product of labor.
  - (b) A destruction of capital stock requiring hiring workers to make up for the drop in capital.
  - (c) A increase in the supply of leisure
  - (d) An increase in wage.
11. Which variable(s) are under the control of a representative consumer in the consumption / leisure model?
- (a) Consumption, leisure, and labor supply.
  - (b) Consumption, leisure, and wage
  - (c) Consumption and wage
  - (d) Consumption, leisure, labor supply, and wage
12. Which of the following items is not part of the social planner's problem?
- (a) Indifference curves
  - (b) Consumption and leisure decisions
  - (c) Production possibilities frontier
  - (d) Consumer budget constraint
13. Which of the following represents the optimal choice of the social planner?
- (a)  $MP\_Labor = wage$
  - (b)  $MU\_leisure/MU\_cons = MP\_labor$
  - (c)  $MP\_labor = MU\_leisure$
  - (d)  $MU\_leisure/MU\_cons = wage$

14. Which of the following is a result of an increase in government expenditures on the socially optimal outcome?
- (a) Increase in consumption, increase in leisure
  - (b) Increase in consumption, no change in leisure
  - (c) Increase in consumption, indeterminate change in leisure
  - (d) Decrease in consumption, decrease in leisure
15. Which of the following is a result of a destruction of capital that decreases labor productivity on the socially optimal outcome?
- (a) Decrease in consumption, decrease in leisure
  - (b) Decrease in consumption, increase in leisure
  - (c) Increase in consumption, indeterminate change in leisure
  - (d) Decrease in consumption, indeterminate change in leisure
16. Which of the following leads to an increase in capital stock per worker in the long-run in the Solow growth model?
- (a) Decrease in savings
  - (b) Increase in savings
  - (c) Increase in consumption
  - (d) Increase in leisure
17. Which of the following leads to an increase in the long-run level of capital per worker in the Solow growth model?
- (a) Decrease in the marginal product of labor
  - (b) Decrease in the population growth rate.
  - (c) Increase in the rate of capital depreciation rate.
  - (d) Increase in the population growth rate.
18. Suppose a change in capital utilization techniques results in a decrease in the capital depreciation rate. What is the impact predicted by the Solow growth model?
- (a) Decrease in long-run capital stock per worker and no change in long-run output per worker.
  - (b) Decrease in long-run capital stock per worker and decrease in long-run output per worker.
  - (c) Increase in long-run capital stock per worker and increase in long-run output per worker.
  - (d) Increase in long-run capital stock per worker and decrease in long-run output per worker.

19. What is the impact of an improvement in technology in the Solow growth model?
- (a) No change in long-run capital per worker and an increase in long-run output per worker.
  - (b) Increase in long-run capital per worker and an no change in long-run output per worker.
  - (c) Increase in long-run capital per worker and an increase in long-run output per worker.
  - (d) No change in either long-run output per worker or long-run capital per worker.
20. Which of the following is a prediction of the Solow growth model?
- (a) Growth in output per worker is lower for countries with higher savings rates.
  - (b) Capital stock per worker grows faster with a larger labor force.
  - (c) Rich countries will have low rates of economic growth and poor countries will have high rates of economic growth.
  - (d) Rich countries will have high rates of economic growth and poor countries will have low rates of economic growth.

21. (5 points) Suppose an economy produces only automobiles and trains and experienced the following quantities and prices:

	Price 2019	Qty 2019	Price 2020	Qty 2020
Automobiles	\$15,000	280	\$16,000	300
Trains	\$180,000	12	\$195,000	15

Compute the **growth rate of real GDP**.

22. (5 points) Suppose an economy produces only automobiles and trains and experienced the following quantities and prices:

	Price 2019	Qty 2019	Price 2020	Qty 2020
Automobiles	\$15,000	280	\$16,000	300
Trains	\$180,000	12	\$195,000	15

Compute the **inflation rate**.

23. (5 points) Suppose there is a decrease in demand for labor which causes a **decrease in the real wage**. Describe and illustrate consumers' optimal choices for consumption, leisure, and labor supply. If there is an effect that is indeterminate, explain why.

24. (5 points) Suppose there is a destruction of capital stock that makes labor less productive. Describe and illustrate the impact on producers' decisions for labor demand and production.

25. (5 points) Suppose there is a **decrease in government expenditures**. Describe and illustrate the impact on the socially optimal outcomes for consumption, leisure, employment, and real GDP using the social planners' problem. If any effect is indeterminate, explain why.



26. (5 points) Suppose there is an improvement in technology. Describe and illustrate the impact on the long-run level of capital stock per worker and output per worker.

27. (5 points) Suppose there is a decrease in government borrowing. Describe and illustrate the impact on the long-run level of capital stock per worker and output per worker.

28. (5 points) Use the Solow growth model to describe and illustrate why lesser-developed countries can have high rates of growth but highly-developed countries have low rates of growth.