

1. The rate of labor-augmenting technological progress ( $g$ ) is the growth rate of:
  - A) labor.
  - B) the efficiency of labor.
  - C) capital.
  - D) output.
  
2. In the Solow growth model with population growth and technological change, the steady-state growth rate of income per person depends on:
  - A) the rate of population growth.
  - B) the saving rate.
  - C) the rate of technological progress.
  - D) the rate of population growth plus the rate of technological progress.
  
3. With population growth at rate  $n$  and labor-augmenting technological progress at rate  $g$ , the Golden Rule steady state requires that the marginal product of capital (MPK):
  - A) net of depreciation be equal to  $n + g$ .
  - B) net of depreciation be equal to the depreciation rate plus  $n + g$ .
  - C) plus  $n$  be equal to the depreciation rate plus  $g$ .
  - D) plus  $g$  be equal to the depreciation rate plus  $n$ .
  
4. In the Solow model with technological progress, the steady-state growth rate of total output is:
  - A) 0.
  - B)  $g$ .
  - C)  $n$ .
  - D)  $n + g$ .
  
5. Conditional convergence occurs when economies converge to:
  - A) the same steady state as other economies.
  - B) the Golden Rule steady state.
  - C) the balanced-growth steady state.
  - D) their own, individual steady states.

6. If two economies are identical (with the same population growth rates and rates of technological progress), but one economy has a lower saving rate, then the steady-state level of income per worker in the economy with the lower saving rate:
  - A) will be at a lower level than the steady state of the high-saving economy.
  - B) will be at a higher level than the steady state of the high-saving economy.
  - C) will be at the same level as the steady state of the high-saving economy.
  - D) will grow at a slower rate than the high-saving economy.
  
7. Differences in factor accumulation and/or differences in production efficiency must account for all international differences in:
  - A) human capital and physical capital.
  - B) saving rates and population growth rates.
  - C) income per person.
  - D) labor efficiency.
  
8. Which of the following changes would bring the U.S. capital stock, currently below the Golden Rule level, closer to the steady-state, consumption-maximizing level?
  - A) increasing the population growth rate
  - B) increasing the rate of capital depreciation
  - C) increasing the rate of technological progress
  - D) increasing the saving rate
  
9. A possible externality associated with the process of accumulating new capital is that:
  - A) a reduction in labor productivity may occur.
  - B) new production processes may be devised.
  - C) old capital may be made more productive.
  - D) the government may need to adopt an industrial policy.

10. One explanation for greater economic development in moderate versus tropical climates is that institutions established by colonial settlers in moderate climates \_\_\_\_\_, while institutions established by colonists in tropical climates \_\_\_\_\_.

- A) were based on English common law; were based on the Napoleonic Code
- B) were based on the Napoleonic Code; were based on English common law
- C) protected property rights; were extractive and authoritarian
- D) were extractive and authoritarian; protected property rights

11. Endogenous growth theory rejects the assumption of exogenous:

- A) production functions.
- B) rates of depreciation.
- C) population growth rates.
- D) technological change.

12. The endogenous growth model's assumption of constant returns to capital is more plausible if capital is defined to include:

- A) plant and equipment.
- B) knowledge.
- C) depreciation.
- D) technology.

13. In the two-sector endogenous growth model, the fraction of labor in universities ( $u$ ) affects the steady-state:

- A) level of income.
- B) growth rate of income.
- C) level of income and growth rate of income.
- D) level of income, growth rate of income, and growth rate of the stock of knowledge.

14. Empirical results justify substantial government subsidies to research based on the finding that the private return to research is:

- A) greater than the social return to research.
- B) approximately equal to the social return to research.
- C) less than the social return to research.
- D) positive, but the social return to research is negative.

15. Schumpeter's thesis of "creative destruction" is an explanation of economic progress resulting from:

- A) using up scarce natural resources to create new products.
- B) breaking down barriers to trade and development.
- C) new product producers driving incumbent producers out of business.
- D) creating new methods to destroy the environment.