

## E322\_Summer\_08\_Intermediate Macroeconomics

### Final Exam: Sample Questions

#### Chapter\_05

1. A competitive equilibrium is Pareto optimal if there is no way to rearrange or to reallocate goods so that
  - (a) anyone can be made better off.
  - (b) no one can be made worse off.
  - (c) someone can be made better off without making someone else worse off.
  - (d) someone can be made better off without making everyone else worse off.

Answer: C

2. The rate at which one good can be converted technologically into another is called
  - (a) the marginal rate of transformation.
  - (b) the marginal rate of substitution.
  - (c) the marginal product of labor.
  - (d) rate of conversion.

Answer: A

3. In the one-period competitive model we have been studying
  - (a) both consumption and total factor productivity are exogenous.
  - (b) consumption is exogenous and total factor productivity is endogenous.
  - (c) consumption is endogenous and total factor productivity is exogenous.
  - (d) both consumption and total factor productivity are endogenous.

Answer: C

4. A competitive equilibrium is a state of affairs in which
  - (a) markets clear, and output is maximized.
  - (b) output is maximized, and all agents are equally well-off.
  - (c) all agents are equally well-off and agents are price-takers.
  - (d) agents are price-takers, and markets clear.

Answer: D

5. In an economic model, an endogenous variable is
  - (a) a stand-in for more complicated variables.
  - (b) determined by the model itself.
  - (c) determined outside the model.
  - (d) a variable that has no effect on the workings of the model.

Answer: B

6. In an exogenous growth model, growth is caused by
- (a) capital accumulation.
  - (b) government policies.
  - (c) human capital accumulation.
  - (d) forces that are not explained by the model itself.

Answer: D.

7. The idea that an improvement in technology causes an increase in population but causes no increase in the average standard of living is attributed to
- (a) Adam Smith.
  - (b) Thomas Malthus.
  - (c) Robert Solow.
  - (d) Milton Friedman.

Answer: B

8. The Malthusian model performs poorly in explaining economic growth after the
- (a) French Revolution.
  - (b) American Revolution.
  - (c) Industrial Revolution.
  - (d) Bio-technology Revolution.

Answer: C

9. The Solow model emphasizes the role of which of the following factors of production?
- (a) Land
  - (b) Labor
  - (c) Capital
  - (d) Natural resources

Answer: C

10. Before the Industrial Revolution, standards of living differed
- (a) greatly over time and across countries.
  - (b) little over time but differed greatly across countries.
  - (c) greatly over time but differed little across countries.
  - (d) little over time and across countries.

Answer: D

11. There is evidence that income per worker is converging in
- (a) the richest countries and the poorest countries.
  - (b) the richest countries but not the poorest countries.
  - (c) the poorest countries but not the richest countries.
  - (d) neither the richest nor the poorest countries.

Answer: B

12. In the Malthusian model, the population growth rate is

- (a) exogenous.
- (b) positively related to consumption per worker.
- (c) negatively related to consumption per worker.
- (d) assumed to be constant.

Answer: B

13. The Malthusian model emphasizes fixity in which of the following factors of production?

- (a) Labor
- (b) Land
- (c) Energy
- (d) None of the above

Answer: B

14. In the Malthusian model, state-mandated population control policies are likely to

- (a) decrease the equilibrium size of the population and increase the equilibrium level of consumption per worker.
- (b) decrease the equilibrium size of the population and have no effect on the equilibrium level of consumption per worker.
- (c) have no effect on the equilibrium size of the population and increase the equilibrium level of consumption per worker.
- (d) have no effect on the either equilibrium size of the population and the equilibrium level of consumption per worker.

Answer: A

15. In more modern times as opposed to the times of Malthus, higher standards of living appear to

- (a) decrease death rates and increase birth rates.
- (b) decrease death rates and also decrease birth rates.
- (c) decrease death rates and have no effect on birth rates.
- (d) have had effects on neither death rates nor birth rates.

Answer: B

16. Malthus was too pessimistic because he did not foresee the effects of

- (a) ever increasing amounts of land for cultivation.
- (b) increases in the capital stock and the effects of such increases on production.
- (c) improved nutrition and health care.
- (d) improved family planning practices.

Answer: B

17. All of the following increase total factor productivity **except**

- (a) new inventions.
- (b) more capital.
- (c) new management techniques.
- (d) favorable changes in government regulations.

Answer: B.

18. The per-worker production function relates output per worker

- (a) to capital per worker.
- (b) to the participation rate.
- (c) to production per worker.
- (d) in different countries.

Answer: A

19. The slope of the output per worker function is equal to the

- (a) marginal product of capital.
- (b) marginal product of labor.
- (c) savings rate.
- (d) growth rate of the population.

Answer: A

20. In Solow's model of economic growth, suppose that  $s$  represents the savings rate,  $z$  represents total factor productivity,  $k$  represents the level of capital per worker, and  $f(k)$  represents the per worker production function. Also suppose that  $n$  represents the population growth rate and  $d$  represents the depreciation rate of capital. The equilibrium level of capital per worker,  $k^*$ , will satisfy the equation:

- (a)  $szf(k^*) = (n + d)k^*$
- (b)  $szk^* = (n + d)f(k^*)$ .
- (c)  $nf(k^*) = \frac{sk^*}{(s + d)}$ .
- (d)  $f(k^*) = \frac{s}{(n + d)}k^*$ .

Answer: A

21. In Solow's exogenous growth model, the principal obstacle to continuous growth in output per capita is due to

- (a) the declining marginal product of labor.
- (b) the declining marginal product of capital.
- (c) limits in the ability of government policymakers.
- (d) too little savings.

Answer: B

22. In the steady state of Solow's exogenous growth model, an increase in the savings rate

- (a) increases output per worker and increases capital per worker.
- (b) increases output per worker and decreases capital per worker.
- (c) decreases output per worker and increases capital per worker.
- (d) decreases output per worker and decreases capital per worker.

Answer: A

23. The Golden Rule of capital accumulation maximizes the steady-state level of

- (a) output per worker.
- (b) capital per worker.
- (c) consumption per worker.
- (d) investment per worker.

Answer: C

24. In the Golden Rule steady state, the marginal product of capital is equal to the

- (a) savings rate plus the population growth rate.
- (b) population growth rate plus the depreciation rate.
- (c) depreciation rate plus the savings rate.
- (d) savings rate divided by the marginal product of labor.

Answer: B

25. In the steady state of Solow's exogenous growth model, an increase in the growth rate of labor force

- (a) increases output per worker and increases capital per worker.
- (b) increases output per worker and decreases capital per worker.
- (c) decreases output per worker and increases capital per worker.
- (d) decreases output per worker and decreases capital per worker.

Answer: D

26. In the steady state of Solow's exogenous growth model, an increase in total factor productivity

- (a) increases output per worker and increases capital per worker.
- (b) increases output per worker and decreases capital per worker.
- (c) decreases output per worker and increases capital per worker.
- (d) decreases output per worker and decreases capital per worker.

Answer: A

27. For the Solow model to accurately explain the observed divergence of growth experience around the world would require

- (a) differences in savings rates across countries.
- (b) differences in population growth rates across countries.
- (c) barriers to the introduction of new technologies.
- (d) inadequate educational opportunities in poor countries.

Answer: C

28. Suppose that two countries share identical levels of total factor productivity, identical labor force growth rates and identical savings rates. According to the Solow model
- (a) the country with the greater initial level of output per worker will grow more rapidly than the country with the smaller initial level of output per worker.
  - (b) the country with the smaller initial level of output per worker will grow more rapidly than the country with the greater initial level of output per worker.
  - (c) both countries will have the same growth rates of output per worker, even if they start out with different levels of output per worker.
  - (d) if both countries start out with different levels of income per worker, both countries may have different growth rates of output per worker, but we cannot be certain which country will have the higher growth rate of output per worker.

Answer: B

29. In the context of the Solow growth model, so-called growth miracles, such as Japan, South Korea, Singapore and Hong Kong are most easily explained by
- (a) reductions in the population growth rate.
  - (b) increases in the savings rate.
  - (c) removal of barriers to technology.
  - (d) improvements in public health.

Answer: C

30. In the endogenous growth models of Lucas and Romer, an increase in a worker's level of human capital
- (a) increases the amount of additional human capital she can produce, but does not increase the amount of output she can produce.
  - (b) increases the amount of additional output she can produce, but does not increase the amount of human capital she can produce.
  - (c) increases both the amount of additional human capital she can produce and the amount of output she can produce.
  - (d) increases neither the amount of additional human capital she can produce nor the amount of output she can produce.

Answer: C

31. Which of the following statements best describes the characteristics of accumulating physical capital and human capital?
- (a) Both physical capital accumulation and human capital accumulation are characterized by decreasing marginal returns.
  - (b) Physical capital accumulation is subject to decreasing marginal returns, but human capital accumulation is not.
  - (c) Human capital accumulation is subject to decreasing marginal returns, but physical capital accumulation is not.
  - (d) Neither physical capital accumulation nor human capital accumulation is characterized by decreasing marginal returns.

Answer: B

32. Which of the following is best characterized as being nonrivalrous?

- (a) Consumption goods
- (b) Services
- (c) Physical capital
- (d) Knowledge

Answer: D

33. A key characteristic of the production function in the endogenous growth model presented in the text is that

- (a) there are increasing returns to scale in human capital.
- (b) there are decreasing returns to scale in human capital.
- (c) there are constant returns to scale in human capital.
- (d) at low levels of human capital, there are increasing returns to scale in human capital, while at high levels of human capital, there are decreasing returns to scale in human capital.

Answer: C

34. In the endogenous growth model presented in the text, suppose that  $u$  represents the fraction of time spent working (as opposed to accumulating human capital),  $b$  represents the efficiency of human capital accumulation,  $H$  represents the amount of human capital, and  $d$  represents the marginal product of efficiency units of labor. Consumption equals

- (a)  $buH$ .
- (b)  $duH$ .
- (c)  $bud$ .
- (d)  $budH$ .

Answer: B

35. In the endogenous growth model presented in the text, suppose that  $u$  represents the fraction of time spent working (as opposed to accumulating human capital) and  $b$  represents the efficiency of human capital accumulation. The growth rate of consumption equals

- (a)  $u(1-b) - 1$ .
- (b)  $1 + b(1-u)$ .
- (c)  $(1-b)(1-u)$ .
- (d)  $b(1-u) - 1$ .

Answer: D

36. In the endogenous growth model presented in the text,

- (a) consumption grows faster than human capital
- (b) human capital grows faster than consumption.
- (c) both consumption and human capital grow at the same rate.
- (d) neither consumption nor human capital grows in the steady-state.

Answer: C

