1. For an individual who consumes only two goods, X and Y, the opportunity cost of consuming one unit of X in terms of how much Y must be given up is reflected in (A) the individual’s marginal rate of consumption. (B) the slope of the individual’s budget constraint. (C) the slope of the individual’s indifference curve. (D) None of the above.

2. If the prices of all goods increase by the same proportion as income, the quantity demanded of good X will (A) decrease. (B) increase. (C) remain unchanged. (D) change in a way that cannot be determined from the information given.

3. The production function \( q = \sqrt{KL} \) (A) exhibits constant returns to scale and constant marginal productivities for K and L. (B) exhibits diminishing returns to scale and diminishing marginal productivities for K and L. (C) exhibits constant returns to scale and diminishing marginal productivities for K and L. (D) exhibits diminishing returns to scale and constant marginal productivities for K and L.

4. A firm whose production function displays increasing returns to scale will have a total cost curve that is (A) a straight line through the origin. (B) a curve with a positive and continually decreasing slope. (C) a curve with a positive and continually increasing slope. (D) a curve with a negative and continually decreasing slope.

5. If the demand faced by a firm is inelastic, selling one more unit of output will (A) increase revenues. (B) decrease revenues. (C) keep revenues constant. (D) increase profits.

6. Which of the following conditions would result in the short run marginal cost curve *not* correctly reflecting the supply behavior of a profit maximizing firm? (A) The firm is a price taker. (B) Price exceeds average total cost. (C) The elasticity of demand facing the firm is -3. (D) the firm can vary several inputs in the short run.

7. A deadweight loss of consumer and/or producer surplus occurs when (A) producers fail to maximize profits. (B) mutually beneficial transactions cannot be completed. (C) consumers do not maximize their utility. (D) the price of inputs increases.

8. Perfect price discrimination (A) is a common occurrence in situations with many buyers. (B) occurs fairly often in situations with only a few buyers. (C) is only observed in competitive markets. (D) rarely occurs because firms do not have sufficient power to differentiate among specific buyers.

9. In the price leadership model (A) firms believe that price increases result in a very elastic demand, while price decreases result in an inelastic demand for their product. (B) each firm acts as a price taker. (C) one dominant firm takes the reactions of all other firms into account in its output and pricing decisions. (D) firms coordinate their decisions to act as multi-plant monopolies.
10. The Prisoners’ Dilemma is not a constant sum game because (A) some outcomes are better than others for both players, (B) the prisoners’ sentences are necessarily non-zero, (C) the game does not have a Nash equilibrium, (D) the sum of the prisoners’ sentences in non-zero.

11. In the Cournot model, each firm assumes that its rival will _______ its output when the firm adjusts its own output. Which word best completes the sentence? (A) increase, (B) not change, (C) decrease, (D) either increase or decrease.

12. In a perfectly competitive market a firm’s rental rate for a machine (\( r \)) will be given by: \( r = P(r + d) \) where \( r \) is the prevailing rate of interest and \( d \) is the depreciation rate. In this formula \( P \) represents (A) the present market price of the machine, (B) the initial purchase price of the machine (assuming this differs from its present market price), (C) the price of the firm’s product, (D) the depreciated value of the machine.

13. A game can be described as “fair” if the expected value of the game (including any costs of play) is (A) positive, (B) zero, (C) negative, (D) one.

14. With moral hazard fair insurance contracts are not viable because (A) individuals’ aversion to risk is reduced, (B) insurance company’s administrative costs are increased, (C) individuals fear unscrupulous agents, (D) probabilities of loss are increased over what is expected.

15. An individual is willing to pay something for information because (A) information is costly, (B) it is always better to know than not to know, (C) this allows him or her to increase utility, (D) information is a public good.

16. Adverse selection arises because (A) insurance buyers have more information than insurance sellers, (B) insurance sellers have more information than insurance buyers, (C) individuals can select which insurance company to patronize, (D) insurance companies can exercise too much control over who they insure.

17. Adverse selection in competitive insurance markets harms (A) high risk individuals, (B) low risk individuals, (C) owners of insurance companies, (D) everyone.

18. One way the “lemons problem” in the used-car industry can be mitigated is by (A) raising the price of used cars, (B) hiring auto experts to sell used cars, (C) requiring sellers to guarantee trouble-free cars, (D) allowing owners to trade in their own cars when they purchase a used car.

19. The “lemons model” predicts quality deterioration in the used car market because (A) used cars require increasing maintenance, (B) suppliers and demanders have different information about cars’ quality, (C) used cars are generally of a lower quality than new cars, (D) people will usually buy new cars if they are available.

20. Risk averse individuals will diversify their investments because this will (A) increase their expected returns, (B) provide them with some much-needed variety, (C) reduce the variability of their returns, (D) reduce their transactions costs.

21. The classical economists believed that (A) the aggregate supply curve slopes upward to the right.
22. In the Keynesian theory, an excess supply of money must be balanced by an equal excess (A) supply of output. (B) supply of bonds. (C) demand for bonds. (D) demand for output.

23. When money demand is assumed to be highly interest elastic, then the money demand schedule is (A) relatively steep. (B) relatively flat. (C) always negatively sloped. (D) positively sloped.

24. In the case where the LM schedule is relatively steep and the IS schedule is relatively flat, the most effective policy would be a change in (A) money supply. (B) government expenditures. (C) government spending financed by a change in taxes. (D) taxes.

25. the lower the value of the interest elasticity of investment demand, the (A) flatter will be the IS curve. (B) steeper will be the IS curve. (C) flatter will be the LM curve. (D) steeper will be the LM curve.

26. Monetary policy will be (A) less effective the higher the interest elasticity of investment, and (B) more effective the higher the interest elasticity of investment, and thus the flatter the IS schedule. (C) equally effective regardless of whether or not the interest elasticity of investment is higher or lower, or the IS curve is flatter or steeper. (D) more effective with a vertical IS curve.

27. Which of the following statements is correct? (A) According to the Keynesians, the economy is unstable because of the instability of aggregate demand, which is primarily due to the private investment component of aggregate demand. (B) In the Keynesian view, the economy would achieve full employment if left free from destabilizing government policies. (C) The Keynesians, are noninterventionist; they do not favor active monetary and fiscal policies to stabilize the economy. (D) According to their model, both the Keynesians and classicalists reach the same policy conclusions.

28. Which of the following statements is correct? (A) The classical aggregate supply schedule is horizontal while the Keynesian aggregate supply schedule slopes upward to the left. (B) The classical aggregate supply schedule is vertical while the Keynesian aggregate supply schedule is horizontal. (C) the classical aggregate supply schedule is vertical while the Keynesian aggregate supply schedule slopes upward to the right. (D) the classical aggregate supply schedule slopes upward to the right while the Keynesian aggregate supply schedule is vertical.

29. According to the rational expectations hypothesis, expectations are (A) always formed on the basis of past behavior of the price level only. (B) formed on the basis of all the available relevant information concerning the variable being predicted. (C) always formed on the basis of the current price behavior only. (D) None of the above.

30. The new classical economists (A) favor the classical view that markets, including labor markets, clear. (B) agree with Keynes’ assumption that wages are sticky. (C) do not believe that the updated classical model, with the rational expectations assumption substituted for the perfect
information assumption, provides a starting point for the construction of useful macroeconomic models. (D) none of the above.

Part II. Answer the following questions (40 points)

1. Ms. Fogg is planning an around-the-world trip. The utility from the trip is a function of how much she spends on it (Y) given by \( U(Y) = \log Y \). Ms. Fogg has $10,000 to spend on the trip. If she spends all of it, her utility will be \( U(10,000) = \log 10,000 = 4 \). (In this problem we are using logarithms to the base 10 for ease of computation.)
   (1) If there is a 25 percent probability that Ms. Fogg will lose $1,000 of her case on the trip, what is the trip's expected utility? (5 points)
   (2) Suppose that Ms. Fogg can buy insurance against losing the $1,000 (say, by purchasing traveler's checks) at an actuarially for premium of $250. Show that her utility is higher if she purchases this insurance than if she faces the chance of losing the $1,000 without insurance. (5 points)
   (3) What is the maximum amount that Ms. Fogg would be willing to pay to insure her $1,000? (5 points)
   (4) Suppose that people who buy insurance tend to become more careless with their cash than those who don't and assume that the probability of their losing $1,000 is 30 percent. What will be the actuarially fair insurance premium? Will Ms. Fogg buy insurance in this situation? (5 points)

2. A person purchases a dozen eggs and must take them home. Although making trips home is costless, there is a 50 percent chance that all of the eggs carried on one trip will be broken during the trip. This person considers two strategies:
   Strategy 1: Take all 12 eggs in one trip.
   Strategy 2: Make two trips, taking 6 eggs in each trip.
   (1) List the possible outcomes of each strategy and the probabilities of these outcomes. Show that, on average, 6 eggs make it home under either strategy. (5 points)
   (2) Could utility be improved further by taking more than two trips? How would the desirability of this possibility be affected if additional trips were costly? (5 points)

3. The theory of rational expectations says that actual inflation always equals expected inflation. Is this true or false? Explain your answer. (10 points)