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2021 Taiwanese Economics Olympiad

Preliminary – Round 1: Literacy of Economics and Finance

Question Booklet

Time Saturday, March 27, 2021, 10:00 to 11:30 (90 minutes)

Location Taipei Fuhsing Private School, Taipei, Taiwan

Instructions

- Fill in your contestant number in the boxes at the top.
- Use only a blue or black pen or pencil.
- Answer all questions on the answer sheet.
- Do all rough work in the question booklet.

Information

- This is an individual-based round.
- The number of questions is 30. All answers will be graded (4 points for a correct answer, minus 1 point for an incorrect answer, and zero points for no answer).
- If not stated otherwise, consider all goods, services, and assets infinitely divisible.
- Numbers of goods, firms, and people may be only integers.
- You may leave the examination venue more than 60 minutes after this round begins.

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1. In economics, people need to make a choice because there is/are
 - (A) uncertainty.
 - (B) a deadweight loss.
 - (C) scarcity of resources.
 - (D) high accounting costs.

2. Asymmetric information does not lead to
 - (A) externalities.
 - (B) moral hazards.
 - (C) market failure.
 - (D) adverse selection.

3. Henry did a great job in the Taiwanese Economics Olympiad, and his mother allowed him to choose one product no more than NT\$2,000 as an award. Here is Henry's wish list:

Item	Price (NT\$)
Scale model	2,200
Video game	1,400
Comic book	1,800
Teddy bear	800
T-shirt	1,200

If Henry goes for the video game on the list, what is the opportunity cost after he makes this decision?

- (A) The scale model
 - (B) The video game
 - (C) The comic book
 - (D) The Teddy bear and the T-shirt

4. Irene, who lives in Taipei, ditched her weekend tuition and hung out with friends in an amusement park in Kaohsiung. Which of the following statements is incorrect?
 - (A) Irene's tuition fee was a sunk cost.
 - (B) Irene's travel cost was an implicit cost.
 - (C) Irene's cost of her amusement park ticket was an explicit cost.
 - (D) What she could have learned in the tuition was an opportunity cost.

5. Two goods, A and B, are substitutes if
 - (A) people buy less A when the price of B increases.
 - (B) people buy more A when the price of B increases.
 - (C) people buy less A and B when their income becomes higher.
 - (D) people buy more A and B when their income becomes higher.



6. People work from home because of COVID-19. This has resulted in
- (A) increase in the demand of video conferencing software.
 - (B) decrease in the demand of video conferencing software.
 - (C) increase in the quantity demanded of video conferencing software.
 - (D) decrease in the quantity demanded of video conferencing software.
7. Which of the following statements regarding elasticity is correct?
- (A) The income elasticity of the demand of a Giffen's good is negative.
 - (B) The demand elasticity of a certain good is always the same for all people.
 - (C) The demand elasticity of a certain good does not change if its demand curve is linear.
 - (D) The demand elasticity of a certain good is always measurable no matter how much the price may change.
8. Which of the following statements regarding deadweight loss is correct?
- (A) The net profit is not maximized if there is a deadweight loss.
 - (B) There is no deadweight loss when a market equilibrium is reached.
 - (C) There is a larger deadweight loss when the elasticity of a good is larger.
 - (D) There is a maximized deadweight loss when the government maximizes tax revenues.
9. In a perfect competition market, prices are determined by
- (A) exchange rates.
 - (B) the government.
 - (C) a dominant firm.
 - (D) market equilibrium.
10. Which of the following statements regarding a perfect competition market is correct?
- (A) In the long run, the accounting profit is 0.
 - (B) The supply curve of a firm is determined by marginal costs.
 - (C) In the long run, price is higher than the minimum of average total cost.
 - (D) In the short run, price is higher than the minimum of average total cost.
11. Which of the following statements is correct?
- (A) Private goods are rival and excludable.
 - (B) Club goods are easily exhausted if overused.
 - (C) Common goods are usually provided by the government.
 - (D) Public goods are similar to private goods when overused.

12. Suppose the supply curve of mugs is $P = 2Q - 40$, the demand curve is $P = -Q + 320$, and the price floor of a mug is set at NT\$240. In this market,
- (A) there is a shortage of 60 mugs.
 - (B) the quantity of traded mugs is 80, and the final price of each mug is NT\$240.
 - (C) the quantity of traded mugs is 120, and the final price of each mug is NT\$200.
 - (D) the quantity of traded mugs is 140, and the final price of each mug is NT\$240.
13. Objectives of government taxation do not include
- (A) reducing imports.
 - (B) reducing externalities.
 - (C) reducing transactions.
 - (D) reducing deadweight loss.
14. Which of the following statements regarding GDP measurement is correct?
- (A) Donations can lead to overestimated GDP.
 - (B) Unsalable goods can lead to overestimated GDP.
 - (C) Underground economy can lead to underestimated GDP.
 - (D) A charity sale of secondhand books can lead to underestimated GDP.
15. Which of the following statements is correct?
- (A) A CPI is used to measure unemployment.
 - (B) GDP is used to measure the total amount of trade in a market.
 - (C) A PMI is used to estimate the general condition of the service sector.
 - (D) PPP is used to estimate theoretical exchange rates of different currencies.
16. Jerry has NT\$100, and he wishes to allocate all his money to buying candy bars (C) and doughnuts (D). A candy bar is priced at NT\$3 and doughnut at NT\$5. For Jerry, the utility function (U) in this setting is $U = C \times D$. With all these taken into account, which of the following statements is correct?
- (A) The utility is maximized if Jerry buys 18 candy bars and 9 doughnuts.
 - (B) Jerry can find his consumption bundle when the budget line and utility curve are tangent to each other.
 - (C) If the price of a candy bar decreases and that of a doughnut remains the same, Jerry can obtain a greater utility.
 - (D) If Jerry buys more candy bars, he buys fewer doughnuts. This means candy bars and doughnuts are substitutes.
17. Specialization can occur if there is/are
- (A) preferences.
 - (B) Pareto efficiency.
 - (C) a market equilibrium.
 - (D) comparative advantages.



18. Country T specializes in producing apples (A) and bananas (B), and the production possibility frontier (PPF) is $A^2 + B^2 = 100$. If the market prices of an apple and a banana are \$5 and \$6 respectively, and the cost of producing every apple and banana is \$2, which of the following statements is correct?
- (A) The cost of producing apples is fixed.
 - (B) The shape of the PPF's figure is a circle.
 - (C) Country T should specialize in bananas only.
 - (D) The net profit of apples and bananas is \$50 at most.
19. Which of the following statements regarding oligopoly and monopolistic competition market is correct?
- (A) Oligopoly is similar to monopoly because firms can decide the quality of products.
 - (B) Oligopoly is similar to a perfect competition market because firms are all price-takers.
 - (C) A monopolistic competition market is similar to monopoly because firms in a monopolistic competition market can form a cartel.
 - (D) A monopolistic competition market is similar to a perfect competition market because firms in a monopolistic competition market have a lot of substitutes for their goods.
20. Imagine there is a town where the equilibrium quantity of workers is 20, and the equilibrium wage is \$60. Given the demand for workers is proportional to wages, and that the demand for workers decreases by 5 persons if wages increase by \$10, which of the following statements is correct if the town authorities make a policy of raising the equilibrium wage by 50% as the town's minimum wage?
- (A) The unemployment rate is 83%.
 - (B) 15 workers experience unemployment.
 - (C) This policy is welcomed by firms from the perspective of firms' surplus.
 - (D) This policy is welcomed by workers from the perspective of workers' surplus.
21. Which of following unemployment-related statements is correct?
- (A) Alice experiences seasonal unemployment after she was laid off because of COVID-19.
 - (B) Brian experiences cyclical unemployment as he needs not go to his salt farm because of rain.
 - (C) Cindy experiences frictional unemployment after she quit her job for finishing a master's degree.
 - (D) David experiences structural unemployment after he shut down his bookstore because of the downturn of the publishing industry.
22. Which of the following situations is irrelevant to market failure?
- (A) Used car sellers conceal flaws of cars from buyers.
 - (B) Semiconductor manufacturers discharge waste water.
 - (C) Taiwan Fire & Marine Insurance (臺灣產物保險) sets a substantially lower price than other insurance firms.
 - (D) The CPC Corp. (台灣中油) and Formosa Petrochemical Corp. (台塑石化) (two major Taiwan-based petroleum companies) adjust oil prices concertedly.

23. For long in country T, the nominal interest rate is 3%, and the inflation rate is 5%. Which of the following statements for country T is correct?
- (A) The real interest rate is positive.
 - (B) The purchasing power of currency decreases.
 - (C) The situation encourages people to do purchase later.
 - (D) The government should issue more cash to increase the real interest rate.
24. Which of the following statements regarding the economic cycle is correct?
- (A) The cycle denotes the predictability of economic prosperity.
 - (B) The Great Depression was one of the indirect factors of World War II.
 - (C) The production capacity is usually insufficient before an economic recession.
 - (D) Sluggish economy in Eastern Europe in the 1990s was a natural economic recession.
25. Which of the following statements regarding banking is correct?
- (A) A central bank creates money by issuing currency.
 - (B) Compared with demand deposits, banks usually set lower interest rates for time deposits.
 - (C) If Louis wishes to exchange his New Taiwan Dollars for U.S. Dollars, he should refer to bid prices from banks.
 - (D) Karen, now an 18-year-old Taiwanese citizen, can go to any commercial bank in Taiwan to open an account without parental company.
26. Which of the following statements regarding monetary policy is correct?
- (A) Quantitative easing is a periodic monetary policy.
 - (B) Raising the required reserve rate can also increase money supply.
 - (C) In Taiwan, the Ministry of Finance is in charge of monetary policy.
 - (D) Open market operations are intended to influence the amount of circulating cash.
27. In March 2020, 1 U.S. Dollar (USD) equaled 30.5 New Taiwan Dollars (TWD). In March 2021, 1 USD equals 28.5 TWD. Which of the following statements is correct?
- (A) Inflation slowed down.
 - (B) TWD depreciated in 2021.
 - (C) The purchasing power of TWD decreased.
 - (D) Firms would be more willing to export goods to the U.S.



28. Emily is planning for the operations of her sewing factory. She lists some financial particulars of the factory.

Item	Amount (NT\$)
Rent	100,000
Utility bills	20,000
Manager wages	200,000
Sewer wages	600,000
Materials	300,000
Advertising	30,000
Machinery maintenance	50,000
Sales revenue	2,000,000

What are the gross margin and the amount of value-added tax (VAT, 5%) of her business?

- (A) 35%; NT\$35,000
(B) 35%; NT\$100,000
(C) 55%; NT\$35,000
(D) 55%; NT\$100,000
29. Frank wishes to increase his deposit by means of a six-year installment saving plan (零存整付定期存款) at an annual interest rate of 3%. If he wishes to get \$1,000,000 when the plan matures, how much should he deposit every year? (Choose the nearest one.)
- (A) \$140,000
(B) \$150,000
(C) \$160,000
(D) \$170,000
30. Grace is deciding to buy a five-year investment plan with her \$50,000. Which of the following plans can bring her the highest expected return?
- (A) A time deposit plan at an annual interest rate of 2.5%
(B) A five-year bond at the price of \$50,000, with a face value of \$55,000 and a coupon rate of 1%
(C) A stock that has a 50% probability of growth by 10% and another 50% probability of decline by 6% every year
(D) An allocation of 40% of the aforementioned stock, 20% of the aforementioned time deposit, and 40% of an investment fund of the aforementioned bond

END OF QUESTIONS