

INSTITUTE OF ACTUARIES OF INDIA

EXAMINATIONS

25th May 2012

Subject CT7 – Business Economics

Time allowed: Three Hours (10.00 to 13.00 Hrs)

Total Marks: 100

INSTRUCTIONS TO THE CANDIDATES

1. *Please read the instructions on the front page of answer booklet and instructions to examinees sent along with hall ticket carefully and follow without exception*
2. *Mark allocations are shown in brackets.*
3. *Attempt all questions, beginning your answer to each question on a separate sheet. However, answers to objective type questions could be written on the same sheet.*
4. *In addition to this paper you will be provided with graph paper, if required.*
5. *Please check if you have received complete Question Paper and no page is missing. If so kindly get new set of Question Paper from the Invigilator*

AT THE END OF THE EXAMINATION

Please return your answer book and this question paper to the supervisor separately.

- Q. 1)** When exchange rates are floating and capital is mobile which of the following is true:
- A.** A current account surplus is balanced by equal financial account (plus capital account) deficit
 - B.** An increase in capital inflows will cause the exchange rate to depreciate
 - C.** Sum of financial, capital and current accounts is not equal to zero
 - D.** Both B and C
- [1.5]**
- Q. 2)** The amount by which aggregate demand is deficient at the full employment level of income is called:
- A.** Inflationary gap
 - B.** Deflationary gap
 - C.** Maturity gap
 - D.** Hysteresis
- [1.5]**
- Q. 3)** Which of the following does not constitute the assets side of a bank's balance sheet:
- A.** Cash
 - B.** Treasury bills
 - C.** Market loans
 - D.** Time deposits
- [1.5]**
- Q. 4)** Sub-prime debt that contributed to the recent global economic crisis is defined as:
- A.** Loans given out at lower interest rates
 - B.** Debt with high risk of default by the borrowers
 - C.** Debt with short maturity spans
 - D.** All of the above
- [1.5]**
- Q. 5)** A fall in price of currency under fixed exchange rate caused by official action is called:
- A.** Devaluation
 - B.** Depreciation
 - C.** Deflation
 - D.** Appreciation
- [1.5]**

- Q. 6)** Mr Jazzpreet, an Indian resident went to UK for a period of 6 months in 2011. During this period he earned a salary of £10000 and sends this income back to India. This income will be a part of:
- A.** Indian Gross Domestic Product at market prices
 - B.** Indian Gross National Product at factor price
 - C.** Indian Gross National Product at market prices
 - D.** Both B and C
- [1.5]**
- Q. 7)** Marginal propensity to consume of US citizens is higher than Indian citizens. If the US government and the Indian government both spend \$10 million on infrastructure spending then which of the following statements is true?
- A.** Multiplier for the US economy is larger than Indian economy
 - B.** Increase in GDP of the US economy will be greater than the increase in GDP of the Indian economy
 - C.** None of the above
 - D.** Both A and B
- [1.5]**
- Q. 8)** Suppose India's central bank (RBI) follows the objective of money supply targeting i.e. money supply does not change in the economy and is kept at some pre-determined level. An increase in autonomous investment spending (assuming full crowding out does not take place) will lead to:
- A.** Increase in interest rate
 - B.** Fall in interest rate
 - C.** Increase in output
 - D.** Both A and C
- [1.5]**
- Q. 9)** In which phase of the business cycle do firms try to cut stocks in order to save costs?
- A.** Recession
 - B.** Upturn
 - C.** Peaking out
 - D.** Stocking out
- [1.5]**

- Q. 10)** The monetary base is:
- A.** The sum of currency in circulation and commercial bank reserves
 - B.** The currency held by commercial banks
 - C.** The sum of gold and foreign exchange held by the central bank
 - D.** The sum of real assets of the banking sector plus its net worth
- [1.5]**
- Q. 11)** If in a country the banks loan out Rs80 out of every Rs100 deposited, what will be the bank multiplier:
- A.** 5
 - B.** 1.25
 - C.** 4
 - D.** Cannot be calculated without knowing the liquidity ratio
- [1.5]**
- Q. 12)** If India's central bank (RBI) increases the money supply in the economy by printing more currency notes, which of the following will be true (assume that money demand is not perfectly interest elastic)
- A.** Rate of interest will increase
 - B.** Rate of interest will decrease
 - C.** Rate of interest will not change
 - D.** Exchange rate will increase
- [1.5]**
- Q. 13)** Which of the below methods can be used to limit exchange rate volatility:
- A.** Adjustable peg
 - B.** Fully free-floating exchange rates
 - C.** Managed flexibility
 - D.** Both A and C
- [1.5]**
- Q. 14)** You are given the following data on Country A's economy in 2001 and 2011:

	2001	2011
Money supply	400	600
Real GDP	100	150
Price level	10	?

According to the quantity theory of money what would be the value of the price level in 2011?

- A. 20
- B. 15
- C. 10
- D. Cannot be calculated

[1.5]

Q. 15) Suppose a remote town accommodates one thousand resident-families. The majority of the resident-families have one earning and 4 dependent members. In the town, there are 3 eye surgeons, 2 grocery shops, and 6 private tutors. Which of the following is scarce?

- A. Eye surgeon
- B. Grocery shop
- C. Private tutor
- D. Cannot say

[1.5]

Q. 16) Tanadian (citizens of Tanada) consumers traditionally like chicken very much. However, mass drive by many voluntary organizations to promote vegetarian food habits motivated Tanadians to quit non-vegetarian foods. Consequently, Tanadians have developed distaste for chicken. As a result, which of the following is likely to happen?

- A. There will be downward movement on the Tanadians' demand curve for chicken
- B. There will be inward shift of Tanadians' demand curve for chicken
- C. There will be outward shift of Tanadians' demand curve for chicken
- D. There will be upward movement on Tanadians' demand curve for chicken

[1.5]

Q. 17) People of north India generally prefer tea with milk and sugar. Which of the following cross elasticity of demand is likely to be true with reference to tea and milk?

- A. 1
- B. - 1
- C. 0
- D. 2

[1.5]

Q. 18) If the price of a good increases, the income effect...

- A. Reinforces the substitution effect if the good is normal.
- B. Offsets the substitution effect if the good is inferior.
- C. Shows the change in the quantity demanded of the good, income held constant.
- D. None of the above

[1.5]

- Q. 19)** Which of the following statements is TRUE?
- A.** If marginal utility is decreasing and positive, total utility is increasing.
 - B.** If marginal utility is decreasing and positive, total utility is decreasing.
 - C.** If marginal utility is negative, total utility is zero.
 - D.** If marginal utility is positive, total utility is the maximum. **[1.5]**
- Q. 20)** Suppose that a \$0.10 increase in the price of gasoline results in a 20 million gallon per day reduction in quantity demanded of gasoline. From this we could conclude:
- A.** That the demand for gasoline is inelastic
 - B.** That the demand for gasoline is unitary elastic
 - C.** Nothing about the elasticity of demand for gasoline
 - D.** That the demand for gasoline is elastic **[1.5]**
- Q. 21)** If an investor knows the probabilities of all the possible outcomes, the investor faces
- A.** Risk
 - B.** Uncertainty
 - C.** Certainty
 - D.** Both risk and uncertainty **[1.5]**
- Q. 22)** Short-run total cost curve and short-run total variable cost curve are parallel to each other due to.
- A.** Total fixed cost
 - B.** Increasing total cost
 - C.** Increasing total variable cost
 - D.** Irrelevance of fixed cost in decision making **[1.5]**
- Q. 23)** Slope of Average Revenue curve for a firm will decrease if
- A.** Number of firms in the industry increase
 - B.** Number of firms in the industry decreases
 - C.** Product differentiation increases
 - D.** Positive cross-elasticity of demand for the firm's product decreases **[1.5]**

- Q. 24)** For a firm in perfect competition, when marginal revenue, marginal cost, and average variable cost equal \$17, \$17 and \$13, respectively, the firm should
- A.** Exit out of the market
 - B.** Shut down
 - C.** Continue its operation
 - D.** Raise its price
- [1.5]**
- Q. 25)** A monopolist will earn economic profits only if
- A.** It practices price discrimination
 - B.** Its average cost is less than price
 - C.** It faces an elastic demand curve
 - D.** Its marginal revenue exceeds marginal cost
- [1.5]**
- Q. 26)** Assume that pricing at marginal cost would result in an industry output of 600 units. For a Cournot oligopoly with five firms, the equilibrium industry output would be
- A.** 300 units
 - B.** 500 units
 - C.** 720 units
 - D.** 150 units
- [1.5]**
- Q. 27)** The maximin decision rule (in game theory context) may be appropriate when:
- A.** Decision makers are risk neutral and the outcomes are undesirable
 - B.** Decision makers are risk averse and the outcomes are desirable
 - C.** Decision makers are risk averse and the outcomes are undesirable
 - D.** Decision makers are risk neutral and the outcomes are desirable
- [1.5]**
- Q. 28)** Consumer surplus at large is likely to be the highest in case of
- A.** 1st degree price discrimination
 - B.** 2nd degree price discrimination
 - C.** 3rd degree price discrimination
 - D.** 4th degree price discrimination
- [1.5]**

- Q. 29)** A fundamental condition of peak-load pricing is
- A.** Those who are most able to pay for the product get charged the most at those times.
 - B.** Those who are least able to pay for the product get charged the most at those times.
 - C.** Those who have the greatest demand pay the highest price at those times.
 - D.** Those who have the least demand pay the highest price at those times. **[1.5]**
- Q. 30)** Which of the following is TRUE about a firm operating in monopolistic competition?
- A.** It will always earn normal profit in the short run.
 - B.** It will always earn supernormal profit in the short run
 - C.** It will always earn normal profit in the long run
 - D.** It will always earn supernormal profit in the long run **[1.5]**
- Q. 31)** Describe the Phillip's curve. **(1)**
- What is the accelerationist theory of inflation with regards to Phillips curve? How does this view differ according to the rational expectations theory? **(4)**
- [5]**
- Q. 32)** What are the three categories of withdrawals from and injections into the circular flow of income? Describe briefly. **[6]**
- Q.33)** Discuss the statements below:
- a)** "China manages its exchange rate with the dollar. In the short run, if China continues to peg its currency to the dollar at an abnormally low value, it will always incur a significant increase in its price level." **(3)**
 - b)** "Under fixed exchange rate regime and no restriction on movement of capital, monetary policy is effective while fiscal policy is ineffective." **(4)**
- [7]**
- Q. 34)**
- a)** What are the fiscal policy measures which can be used by the government to increase the national income? When will these measures be ineffective? **(5)**
 - b)** What are the monetary policy measures which can be used by the government to increase liquidity in the economy? When will these measures be ineffective? **(5)**
 - c)** In the last 2 years mention any two measures which have been taken by the Indian central bank (RBI) to control the level of inflation in the Indian economy? **(1)**
- [11]**

Q. 35) Mr. Brown graduated from the American Trucking Academy. His father gave him a \$400,000 tractor-trailer rig. Recently, Brown was boasting to some fellow truckers that his revenues were typically \$35,000 per month, while his operating costs (fuel, maintenance, and depreciation) amounted to only \$25,000 per month. Tractor-trailer rigs identical to Brown's rig rent for \$20,000 per month. If Brown was driving trucks for one of competing trucking firms, he would earn \$7,000 per month.

- A.** What is the dollar amount of the opportunity cost of the resources used by Brown each month?
- B.** Brown is proud of the fact that he is generating a net cash flow of \$10,000 (\$35,000 - \$25,000) per month, since he would be earning only \$7,000 per month if he were working for a trucking firm. What advice would you give to Brown?

[3]

Q. 36) Mr. Rodan wishes to start a business of door-to-door waste collection & disposal services. He estimates that this business will involve a total fixed cost of Rs. 2 lakh per year. He has also estimated that average variable cost of waste collection & disposal will be constant at Rs. 500 per family per year. According to government's price ceiling norms for such services, Mr. Rodan can charge a maximum of Rs. 600 per family per year. An economist friend of Mr. Rodan has estimated following demand function for waste collection & disposal services: $Q_d = 8,000 - 10P$, where Q_d and P are quantity demanded per year and price of waste collection & disposal services, respectively. After thorough examination of all information, he decided not to start this business. What might have been the economic reasons for such decision? Demonstrate and explain your answer.

[2]

Q. 37) Suppose there are only two firms, Alpha and Beta, in the health drink market. Both the firms have the choice to adopt one of three pricing strategies, i.e., high price, moderate price, and low price. However, they have to take decision simultaneously. Payoffs to each combination of strategies in terms of Rs. Thousand of profit are given in following payoff matrix.

		Beta's price strategies		
		High	Moderate	Low
Alpha's price strategies	High	1300, 1300	1200, 1400	800, 1500
	Moderate	1400, 700	1250, 1100	750, 800
	Low	1500, 600	800, 650	700, 700

- A.** Define dominant strategy. What is dominant strategy of Alpha in above game? Why?
- B.** Define Nash equilibrium. Identify Nash equilibrium is above game.

[5]

- Q. 38)** Differentiate between favourable, unfavourable and fair odds in case of a gamble with an example? What are three possible categories of attitude towards risk? [6]
- Q. 39)** Discuss the three types (first, second and third degree) of price discrimination with the help of suitable diagrams. Also give at least two examples of each type. [6]
- Q. 40)** What are barriers to entry which may lead to emergence of monopolies? Exhibit determination of equilibrium price and output under monopoly with the help of suitable diagram. Is it possible for a monopolist to incur losses in the short run? If a monopolist incurs losses in the short run when it should shut down? [4]
