

# INSTITUTE OF ACTUARIES OF INDIA

## EXAMINATIONS

03<sup>rd</sup> November 2014

**Subject CT7 – Business Economics**

**Time allowed: Three Hours (10.30 to 13.30 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. *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)** Which of the following statement is incorrect:
- A. In the very short run period a firm has a horizontal supply curve.
  - B. In the short run at least one factor is fixed.
  - C. In the long run, all factors are variable, but of fixed quality.
  - D. In the very long run, all factors are variable and their quality.
- [1.5]**
- Q. 2)** Good X has elastic demand curve. If price of good X falls then:
- A. Total revenue reduces and Marginal revenue is positive.
  - B. Total revenue reduces and Marginal revenue is negative.
  - C. Total revenue increases and Marginal revenue is positive.
  - D. Total revenue increases and Marginal revenue is negative.
- [1.5]**
- Q. 3)** The demand ( $Q$ ) of Good X in relation to the income of consumer ( $Y$ ) is expressed as  $Q = \frac{1}{Y}$ .
- What can be said about good X:
- A. Good X is a normal good.
  - B. Good X is a luxury good.
  - C. Good X is an inferior good.
  - D. Cannot be inferred from the given information.
- [1.5]**
- Q. 4)** In which of the following, cost per unit of output increases as the scale of production increases:
- A. Economies of scale.
  - B. Diseconomies of scale.
  - C. Economies of Scope.
  - D. External economies of scale.
- [1.5]**
- Q. 5)** Recently, there have been two significant events in the mobile industry. First, the cost of manufacturing a mobile phone has significantly reduced as a result of major technological breakthrough. Second, telecommunication service providers have increased their tariff significantly. Based on above events, which of the following is correct?
- A. Equilibrium quantity will decrease but the effect on the price is indeterminate.
  - B. Equilibrium quantity will increase but the effect on the price is indeterminate.
  - C. Price will rise but the effect on the equilibrium quantity will be indeterminate.
  - D. Price will fall but the effect on the equilibrium quantity will be indeterminate.
- [1.5]**
- Q. 6)** Which of the following statement is false:
- A. Stabilising speculation reduces price fluctuation.
  - B. Minimum efficient scale is the output level beyond which economies of scale is achieved.
  - C. Speculation is where people make trading decisions based on expectations of future price movements.
  - D. A smoker taking a term insurance can be termed as adverse selection.
- [1.5]**

- Q. 7)** A tax imposition of 4% on a good which has a price elasticity of demand equal to “-1.25” would lead to:
- A. A rise in the price of good by 4%.
  - B. A rise in the price of good by 5%.
  - C. A rise in the price of good by less than 4%.
  - D. A rise in the price of good by 5.25%. [1.5]
- Q. 8)** Following a fall in price of a good from Rs 50 to Rs 40, its demand rises from 300 units to 400 units. The price elasticity of demand using the “average” method is:
- A. -1.6667.
  - B. -1.2857.
  - C. -1.
  - D. -1.5. [1.5]
- Q. 9)** A profit maximising firm owns a cricket stadium. The stadium has fixed cost of Rs 10,000 per day and total variable cost of Rs 15,000 per day. Total revenue per day is Rs 35,000 if the stadium is booked by a cricket club. The stadium is booked by cricket clubs for about 300 days in a year. When the stadium is not booked by cricket club, the firm has option to let out the stadium to drama club which will give total revenue of Rs 17,000 per day. If the stadium is not booked by cricket club then the firm should:
- A. Let out the stadium to drama club as it would make a profit of Rs 2,000 per day.
  - B. Let out the stadium to drama club as the revenue from drama club is greater than the variable cost.
  - C. Close down the stadium as the revenue from drama club is insufficient to cover the total cost.
  - D. Close down the stadium as it would make a loss of Rs 8,000 per day. [1.5]
- Q. 10)** Which of the following is an incorrect characteristic of monopolistic competition:
- A. The demand curve is relatively inelastic.
  - B. Earns supernormal profit in short run.
  - C. Firms may use non-price competition to maintain an advantage over their competitors.
  - D. Firms have some control over price. [1.5]
- Q. 11)** A deodorant company hired an advertising agency for advertising its deodorants. In order to make the advertising campaign successful, what will advertising company try to do:
- A. Shift the demand curve of deodorant to left and make it less price elastic.
  - B. Shift the demand curve of deodorant to right and make it less price elastic.
  - C. Shift the demand curve of deodorant to left and make it more price elastic.
  - D. Shift the demand curve of deodorant to right and make it more price elastic. [1.5]
- Q. 12)** A book publication company decides to start its own e-retailing website. This is an example of:
- A. Diversification.
  - B. Strategic alliance.
  - C. Vertical Integration.
  - D. Horizontal Expansion. [1.5]

- Q. 13)** A restaurant offers discount coupons to its regular customers depending upon their spending habits i.e. customers spending higher get discount coupon of higher values. This is an example of:
- A. First degree price discrimination.
  - B. Second degree price discrimination.
  - C. Third degree price discrimination.
  - D. Transfer pricing. [1.5]
- Q. 14)** Which of the following is an incorrect statement:
- A. Firms under perfect competition have a horizontal demand curve.
  - B. Perfect competition could only exist in any industry, if there were virtually no economies of scale.
  - C. Under perfect competition, the long-run equilibrium will be where the market price is just equal to firms' long-run average cost.
  - D. In short run under perfect competition, to increase output firms will have to lower price. [1.5]
- Q. 15)** Which of the following describes the Bertrand model:
- A. Each firm makes its price and output decisions on the assumption that its rival will produce a particular quantity.
  - B. The market is stable and the rivals have been producing relatively stable quantities for some time.
  - C. Each firm is assumed to set a particular price and stick to it.
  - D. Demand being significantly more elastic above the current price than below the current price. [1.5]
- Q. 16)** Which of the following statement is correct:
- A. External benefit includes efficient staff as a result of training provided by current employer
  - B. External benefit includes efficient staff as a result of training provided by past employer
  - C. Both of the above
  - D. None of the above [1.5]
- Q. 17)** Which of the following is correct statement -Generally free market leads to:
- A. Social efficiency
  - B. Equity
  - C. Both
  - D. None of the above [1.5]
- Q. 18)** The market forces might fail to generate the required technological progress due to:
- A. Fear of losing the competitive position
  - B. Monopolistic structure
  - C. Duplication
  - D. All of the above [1.5]

**Q. 19)** Below are the man-hours required to produce given items:

<b>Country</b>	<b>Ball</b>	<b>Bat</b>
India	1 Hours	2.5 Hours
China	1.5 hours	3 Hours

Which of the following statement is correct?

- A. India has the comparative advantage in producing Ball.
- B. India has comparative advantage in producing Bat.
- C. China has comparative advantage in producing Ball.
- D. India and China both have comparative advantage in producing Ball and Bat. [1.5]

**Q. 20)** Which of the following is not a main reason for existence of international trade:

- A. Comparative advantage
- B. Difference in demand
- C. Reduced competition
- D. Non economic advantage [1.5]

**Q. 21)** Indices of Import and Export are measured in:

- A. Local currency
- B. US Dollar
- C. Export in local and import in foreign
- D. Export in foreign and import in local [1.5]

**Q. 22)** Output gap is:

- A. Aggregate demand less aggregate supply
- B. Loss of raw material in manufacturing process
- C. Actual output less potential output
- D. Potential output less actual output [1.5]

**Q. 23)** In year 2013 inflation was 8.98% and in the year 2014 inflation reduced to 4%. A product, in year 2012, was priced INR 100. What is the expected price in year 2015:

- A. 108.98
- B. 104.62
- C. 112.98
- D. None of the above [1.5]

**Q. 24)** Maturity gap is the difference between:

- A. Average maturity of loans and deposits
- B. The gap between date of valuation to maturity of the bond
- C. The gap average date of holding to average maturity date
- D. None of the above [1.5]

**Q. 25)** Increase in the money supply causes a reduction in the domestic exchange rate for the following reasons:

1. Part of excess money will be spent on foreign assets
2. Fall in the domestic interest rates
3. Speculation
4. Inflation

Which of the following is correct reason?

- A. 1 & 2
- B. 3 & 4
- C. 1, 2 & 3
- D. 2, 3 & 4

[1.5]

**Q. 26)** Which of the following are injection in the circular flow of the income model of an economy:

- A. Investment, savings and consumer spending
- B. Investment, Consumer Spending and Export
- C. Investment, Government spending and Export
- D. Consumer spending, government spending and Import

[1.5]

**Q. 27)** Following is the split of utilization of INR 100 earned in India:

INR 25 is invested  
Personal Tax of INR 10  
Import of INR 15  
Domestic consumption of INR 50

What is the value of GDP multiplier:

- A. 1.67
- B. 10.00
- C. 6.66
- D. 2.00

[1.5]

**Q. 28)** Monetary policy is NOT used to control:

- A. Inflation
- B. Unemployment
- C. Interest rate
- D. Tax

[1.5]

**Q. 29)** The proportion of deposits held by the public as cash is 0.75 and the proportion of deposits held by the banks for reserves is 0.5. The broad money supply is 1,500 million, what is the value of the narrow money supply?

- A. 1,200 million
- B. 1,125 million
- C. 1,875 million
- D. None of the above

[1.5]

- Q. 30)** At the beginning of year 2013 the accumulated government deficit is 120,000 Cr. The direct and indirect tax collection in the year 2013 is 12,000 Cr and 18,000 Cr. The government spending during the year 2013 is 45,000 Cr. What is the budget deficit at the end of the year 2013:
- A. 135,000 Cr  
 B. 105,000 Cr  
 C. 15,000 Cr  
 D. None of the above [1.5]
- Q. 31)** i) The demand equation for a good is  $Q_d = 25 - 4P$  and its supply equation is  $Q_s = 1 + 2P$ , where P is the price. Find the range of values of P at which there will be surplus of supply over demand. (2)
- ii) If the number of substitutes for this good were to increase, how would you expect the answer to the above question to change. Explain your answer. (2)  
 [4]
- Q. 32)** A risk averse magician is planning to organise his first ever foreign show. On successful completion of show he will earn \$40,000. He would earn nothing if the show is disrupted. The probability of disruption is 0.2%. His utility function is  $U(w) = 10 + w^{0.5}$ .
- Calculate the maximum premium the magician will be prepared to pay to insure against the risk of disruption of his show. [4]
- Q. 33)** i) Average revenue and average cost functions of a profit maximising firm are  $32 - 2Q$  and  $2 + Q + \frac{3}{Q}$ , respectively. Calculate the maximum profit output and the amount of profit at that output. (3)
- ii) Show with the help of a graph that the maximum profit output and the amount of profit at that output calculated in part (i) is correct. (3.5)  
 [6.5]
- Q. 34)** Two Indian companies are contemplating to launch a joint venture cement company in India. Discuss the possible benefits of this joint venture to both companies. [4]
- Q. 35)** i) Is Indian domestic aviation industry an example of Oligopoly? Discuss. (5)
- ii) Describe “dominant firm price leadership” with a help of graph. (4)  
 [9]
- Q. 36)** i) Draw a diagram showing determination of exchange rate of any currency and explain the diagram. (2+4)
- ii) List various ways in which Indian currency can be strengthened. Briefly describe how the suggested ways (any three) will lead to the strengthening of Indian currency. (3+3)  
 [12]
- Q. 37)** What is structural unemployment? Define various types of structural unemployment. [4]

- Q. 38)** i) List the four major macroeconomic objectives of any government. (2)
- ii) The current Indian economy is going through low rate of growth and high rate of inflation. What are various steps Indian government can take to reduce the inflation and improve economic growth? (3)  
[5]
- Q. 39)** i) Define three stages of technological changes. (1.5)
- ii) Discuss briefly the different forms of government intervention in the stages of technological change. (5)  
[6.5]

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