INSTITUTE OF ACTUARIES OF INDIA

EXAMINATIONS

2nd May 2016

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) The demand for X-pencils is 600 units when its price is £4. Assume that as a result of a price fall, the demand for the X-pencils increases to 900 units and the sales revenue decreases by £195

The price of the X after the fall and the price elasticity of demand are, respectively:

A. 2.38 and -1.25
B. 2.45 and -1.33
C. 2.45 and -1.29
D. 2.52 and -1.40 **[1.5]**

Q. 2) Which of the following is NOT one of the key decisions made in Microeconomics?

A. What goods and services will be produced and in what quantities?
B. What resources and production methods are going to be used?
C. How is the total national income going to be distributed?
D. How to achieve utility maximization **[1.5]**

Q. 3) The demand function of a good is
$QD = 47 - p$
And the supply function is
$QS = p^2 - 25$

Which of the following pairs is the correct equilibrium price and quantity respectively?
A. 6 & 41
B. 7 & 40
C. 8 & 39
D. 9 & 43 **[1.5]**

Q. 4) Which of the following statements about fixed factor of production is TRUE?
I. Its input level cannot be varied in short run
II. Its input level can only be varied in long run
III. Its input level can be varied in the very long run
IV. Its input level cannot be changed in a day

A. All of the above
B. I
C. I and IV
D. I, III & IV **[1.5]**

Q. 5) Under which type of market the firms will produce at socially optimum level of output?

A. Perfect competition
B. Monopoly
C. Monopolistic competition
D. Oligopoly **[1.5]**

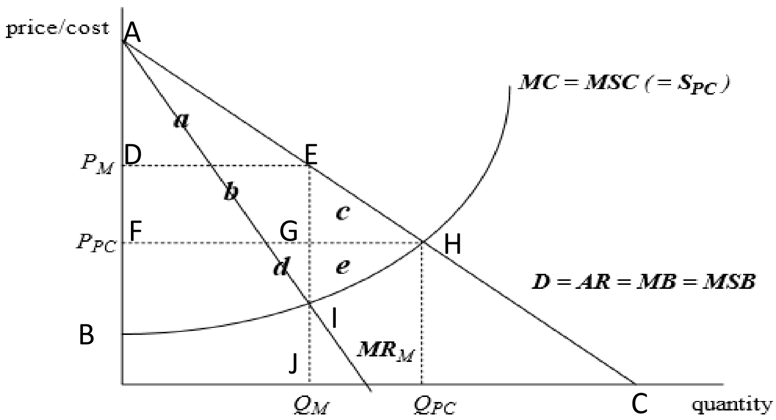
Q. 6) An existing firm deliberately keeps its prices low so as to deter new entrants to the market. This type of pricing is called

A. Loss leader
B. Limit pricing
C. Absorption pricing
D. Predatory pricing **[1.5]**

Q. 7) Which of the following is NOT true about Merit goods?

A. They confer undervalued private benefits
B. They confer large external benefits
C. They are underprovided in a free economy
D. They are always provided by government **[1.5]**

Q. 8) The following diagram shows production for a monopolistic competition.



If ***a*** and ***c*** represent the areas of triangles ADE and EGH respectively, ***b*** *and* ***d*** represent the areas of DEGF and FGIB respectively and ***e*** represents the area of GHI, the deadweight welfare loss is

A. a + c
B. b + d
C. c + e
D. a + d + e **[1.5]**

Q. 9) Two large insurance companies operating in a country decide to merge. Which type of merger is this?

A. Horizontal merger
B. Vertical merger
C. Conglomerate merger
D. None of the above **[1.5]**

Q. 10) Which of the following is NOT one of possible choices of product/growth strategy in growth vector matrix?

A. Market penetration
B. Market development
C. Product development
D. Product promotion **[1.5]**

Q. 11) Which of the following is FALSE?

A. In short run monopolistically competitive firm makes supernormal profits
B. Monopolists may benefit from economies of scale
C. Most Oligopolists sell differentiated products
D. Oligopolists always collude **[1.5]**

Q. 12) A firm is in a perfectly competitive market and is facing losses (MC>MR) in the short run. What should it do in order to maximise profits?

A. Increase output
B. Reduce output
C. Increase price
D. Reduce price **[1.5]**

Q. 13) XYZ is a large life insurance company. Its policy administration system is provided by a firm called ABC technologies. XYZ decides to purchase ABC technologies. It is an example of

A. Horizontal merger
B. Vertical integration
C. Strategic alliance
D. Diversification **[1.5]**

Q. 14) In country X, the price paid for entry to museums by foreigners are five times higher than the entry price paid by the citizens of country X. Which type of price discrimination is this?

A. First degree of price discrimination
B. Second degree of price discrimination
C. Third degree of price discrimination
D. None of the above **[1.5]**

Q. 15) Which of the following is FALSE?

A. Every dominant equilibrium is Nash equilibrium
B. Cartel is an example of Oligopoly
C. Advertising aims to shift the demand curve to the right
D. Cournot model is an example of monopolistic competition **[1.5]**

Q. 16) The profit-maximising output will always be where:

A. Average cost = marginal revenue.
B. Marginal cost = marginal revenue.
C. Average cost = average revenue.
D. Marginal cost = average revenue. **[1.5]**

Q. 17) A government may prevent horizontal mergers in an industry because:

A. By controlling sources of supply, the merged firms can prevent the entry of new firms into the industry
B. There will be a lack of synergy between the merging companies
C. The merged firms will be unable to reduce costs
D. Consumers may suffer if the merged firm achieve market dominant **[1.5]**

Q. 18) Starting from equal indices for export and import prices, the index of export prices rises by 10% and the index of import prices rises by 5% over a given period. The terms of trade at the end of the period are:

A. 110.0
B. 105.0
C. 104.8
D. 95.45 **[1.5]**

Q. 19) Examples of Market-orientated supply-side policies include

I. Tax cuts
II. Privatisation
III. Nationalisation
IV. Assistance to small firms
V. Reducing the power of labour

A. I, II and III
B. I, II and V
C. I, IV and V
D. I, III and V **[1.5]**

Q. 20) In order to finance an excess of expenditure over taxation receipts, a government could:

A. Reduce its current consumption expenditure
B. Issue government bonds
C. Raise direct taxes
D. Run an overdraft on its account at the World Bank **[1.5]**

Q. 21) The recession phase of the trade cycle

A. Is often caused by excessive consumer expenditure.
B. Is normally characterised by accelerating inflation.
C. Is most prolonged when the country has high levels of imports.
D. Is usually caused by falling aggregate monetary demand. **[1.5]**

Q. 22) Which of the following is NOT one of the main drivers for the potential globalisation of an industry?

A. market drivers
B. government drivers
C. strategic drivers
D. cost drivers **[1.5]**

Q. 23) Using all the productive resources at its disposal Country A can produce 10,000 units of Good X per year or 12,000 units of Good Y. Country B can produce 7,000 units of Good X per year or 10,000 units of Good Y.

A. Country A should specialise in the production of Good X and Country B specialise in the production of Good Y
B. Country A has an absolute advantage in the production of Good X and Y
C. Country B has a comparative advantage in the production of Good Y
D. All of the above **[1.5]**

Q. 24) Which ONE of the following would lead a country's balance of payments current account to move towards a surplus?

A. A rise in commodity imports.
B. An inflow of foreign capital into the economy.
C. An increase in foreign tourism into the country.
D. An increase in government tax receipts. **[1.5]**

Q. 25) Given following information, what is the marginal propensity to withdraw (in savings, taxes and imports)?

$Y=100$, $C_d = 0.8Y$, $J = 20$

A. 0.5
B. 0.2
C. 0.8
D. None of the above **[1.5]**

Q. 26) You are given the following data on an economy:

Consumption expenditure	$0.8\ Y_d$
Investment expenditure	80
Government expenditure on goods and services	70
Exports	50
Imports	0.1 Y
Taxation	25%

where Y_d is disposable income (i.e. income less taxes)

The effect on the current account of the balance of payments of a rise in government expenditure of 30 is

A. 5
B. 6
C. 30
D. 25 **[1.5]**

Q. 27) Following an expansionary fiscal policy to boost national income, a government can avoid crowding out by:

A. altering the multiplier
B. reducing private sector investment
C. imposing price controls
D. increasing the money supply **[1.5]**

Q. 28 If the production of a good involves an external social cost, the appropriate policy for the government is to:

A. Take the industry into state ownership
B. Impose an indirect tax on the good
C. Impose a higher rate tax on the profits of the producers
D. Provide a subsidy for the consumers of the product **[1.5]**

Q. 29) Which one of the following is an advantage for a country adopting a flexible exchange rate system regime?

A. It provides certainty for organisations engaged in international trade
B. It eliminates transaction costs
C. Monetary policy can be used to manage to exchange rate
D. It reduces the need for central banks to keep reserves of foreign exchange. **[1.5]**

Q. 30) If the demand curves for Good A shifts to the left when the price of Good B rises, we may conclude that:

A. The goods are substitutes.
B. Good A is an inferior good.
C. The goods are complements.
D. The demand for Good A is price elastic. **[1.5]**

Q. 31) Explain the impact on business of a tax cuts policy. **[4]**

Q. 32) **i)** Explain how the Central Bank can use the minimum reserve requirements to expand or contract the money supply (3)

ii) Explain why minimum reserve requirements may fail to give complete control over the stock of money in circulation. (2)
[5]

Q. 33) What are the implications of reducing unemployment below the natural levels? Please explain using non-accelerating inflation rate of unemployment (NAIRU) concept. **[3]**

Q. 34) You are given the following data on an economy in millions:

Consumer Expenditure (inclusive of indirect taxes)	110m
Investment	20m
Government Expenditure (inclusive of transfer payments)	70m
Exports	20m
Imports	50m
Net Property Income from abroad	10m
Transfer payments	20m
Indirect taxes	30m
Population	0.5m

i) Calculate the Gross Domestic Product at market prices. (1)

ii) Calculate the Gross National Income at market prices. (1)

iii) Calculate the Gross Domestic Product at basic prices. (1)

iv) Calculate the per capita Gross National Income at basic prices. (1)
[4]

Q. 35) China is currently pegging its currency against US at an abnormally low value. Explain possible negative impact of such practice over long term **[5]**

Q. 36) **i)** Define disequilibrium unemployment using appropriate diagram and its possible sources. (3)

ii) Describe appropriate policies to reduce the level of disequilibrium unemployment. (4)
[7]

Q. 37) **i)** Define price elasticity of demand (PED) and give two methods to measure it (2)

ii) Describe four factors which affect PED (4)

iii) Explain with reasons, how the PED for a laptop will be different between a student studying in university and a qualified Actuary. State your assumptions (2)
[8]

Q. 38) **i)** Describe four advantages of monopolies to the consumers (4)

ii) Give three examples of monopolies in India (1.5)

iii) Describe a perfectly contestable market (1.5)
[7]

Q. 39) **i)** Define mergers and takeovers and briefly describe two differences between mergers and acquisitions (3)

ii) Describe with a suitable example, each of three types of mergers (3)

iii) Sometimes regulators do not allow two companies to merge. Give at least one example of such an industry and briefly describe why regulators may not allow such merger (2)

[8]

Q. 40) An individual X has the following utility function

$U(W) = (W)^{1/2}$

Where W is the wealth of X. Initial wealth of X is 6400

If X goes on a holiday, it expects to lose some of his wealth on holiday with probabilities as given in the table below

Loss of wealth	**Probability of loss**
1500	40%
2800	20%
3900	20%
4800	20%

i) Calculate expected value of X's wealth if X decides to go on holiday (1)

ii) Calculate expected utility for X,

If X decides not to go on holiday,
If X decides to go on holiday

Hence, calculate expected utility for X, from the holiday (2)

iii) State if X is risk averse, risk neutral or risk loving individual (1)

[4]

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