INSTITUTE OF ACTUARIES OF INDIA

EXAMINATIONS

18th September 2017

Subject CT7 – Business Economics

Time allowed: Three Hours (10.30 to 13.30 Hours.)

Total Marks: 100

INSTRUCTIONS TO THE CANDIDATES

1. ***Please read the instructions inside the cover 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. <u>However, answers to objective type questions could be written on the same sheet</u>.***

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. You are not allowed to carry the question paper in any form with you.

Q. 1) The government of Greenland following a policy change has decided to privatize the LPG market and hence had opened the market for private players to produce and sell LPG cylinders to households. The government has decided to put a price ceiling of $10 per LPG cylinder. The equilibrium price through demand and supply for each LPG cylinder however is $12.
Which of this following event could occur following the government decision?

A. There will be excess supply of LPG cylinders in the market
B. There will be no demand for LPG cylinders in the market
C. This could lead to ‘black’ market where the cylinders are sold at more than ceiling price
D. Both A and C **[1.5]**

Q. 2) Following are NOT the determinants of price elasticity of demand:

A. Availability of substitute goods
B. Time period
C. Proportion of income spent
D. Marginal utility of consumer **[1.5]**

Q. 3) A steel manufacturing company has a total fixed cost of Rs. 10000. The average variable cost and average cost per unit at certain level of output is Rs. 20 and Rs. 40, respectively, then what is the level of output:

A. 250 units
B. 500 units
C. 177 units
D. 800 units **[1.5]**

Q. 4) Assuming the income elasticity of demand for Good X is 1.75, then a 2% increase in consumer income will increase the quantity demanded of Good X by:

A. 3.5%
B. 4.5%
C. 8%
D. 1% **[1.5]**

Q. 5) Which of the following statement is TRUE

A. Stabilising Speculation is a speculation that increases price fluctuations
B. A natural monopoly arises when long run average costs would be higher if an industry were under monopoly than if it were shared between two or more competitors.
C. Risk refers to a situation in which the probabilities of the different possible outcomes are not known.
D. Speculators use futures and forwards to try and make money based on their expectations of what the actual spot prices are likely to be in the future. They try to make profits by incurring additional risk. **[1.5]**

Q. 6) The price of Good X was recently increased from Rs. 10 to 12, following which the demand for the good reduced by 12%. The price elasticity of demand using the 'original' method for Good X is

A. -0.70213
B. -0.6
C. -1.67
D. -0.81818 **[1.5]**

Q. 7) What does Price Elasticity of Demand (PED) > 1 (in absolute terms) denote:

A. Increase in price leads to a larger percentage fall in quantity demanded
B. Increase in price leads to a smaller percentage fall in quantity demanded
C. Quantity demanded increases without any change in price
D. Quantity demanded is unchanged with change in price **[1.5]**

Q. 8) Company X, a leading pharmaceutical Company merges with another Company Y which is involved in production of Ingot (a steelmaking material). This is an example of which of the Following type of merger:

A. Vertical Merger
B. Conglomerate Merger
C. Horizontal Merger
D. Impure Merger **[1.5]**

Q. 9) Which of the following is NOT applicable to collusive oligopoly

A. Setting output quotas
B. Agreeing to poach each other's market
C. Fixing product / services price
D. Limiting product promotion or development **[1.5]**

Q. 10) A leading manufacturer of smartphone had launched a new mobile phone named ACE a year ago. The Company had priced ACE at higher end of Rs. 50,000 at the time of launch due to its growing publicity and demand. However since then the Company has been reducing the price of the mobile as the demand and average cost fell. Such price discrimination is an example of following pricing strategy:

A. Inter-temporal pricing
B. Peak load pricing
C. Two-part pricing
D. Constant pricing **[1.5]**

Q. 11) Company X and Company Y are the only two steel manufacturing companies in Country ABC. Company X has been making its price and output decision on the assumption that Company Y will produce a particular quantity of steel. Such rival behaviour of Company X is an example of:

A. Cournot Model
B. Bertrand Model
C. Nash Equilibrium
D. None of the above **[1.5]**

Q. 12) If firms under perfect competition are making supernormal profit in the short run, then in the long run

A. No new firms will enter the industry
B. They will continue to make supernormal profit
C. There will be government intervention by imposing higher taxes
D. New firms will enter the industry until firms are making normal profit again. **[1.5]**

Q. 13) Which of the following will lead to an increase in the supply of tablets?

A. A fall in the price of raw material
B. A rise in the price of tablets
C. Tax relief by the government to the manufacturer
D. A fall in the demand for laptops **[1.5]**

Q. 14) A large Telecom company ABC Ltd. having its presence in Country Y now wants to expand its business to Country X. In order to do this the Company would require huge capital investment. Following is NOT the source which can be used to finance this Growth strategy:

A. Deferment of tax payment to government
B. Issue to new shares in the stock market
C. Borrowing of loans from Private Banks
D. Ploughing back of profit from existing company. **[1.5]**

Q. 15) The firm should continue to produce in the short run provided

A. Average revenue exceeds average variable cost
B. Average revenue is equal to average variable cost
C. Average revenue is equal to average fixed cost
D. Both (B) and (C) **[1.5]**

Q. 16) Causes of Deadweight loss includes

A. Monopoly pricing
B. Taxes or subsidies
C. Price ceilings or floors
D. All of the above **[1.5]**

Q. 17) As a result of an economic policy change interest rates and consumption rise but investment falls. The new policy was:

A. An expansionary fiscal policy.
B. An expansionary monetary policy.
C. A contractionary fiscal policy.
D. A contractionary monetary policy. **[1.5]**

Q. 18) Which one of the following is most likely to be the best method of reducing long term structural unemployment?

A. Expansionary fiscal policy.
B. Expansionary monetary policy.
C. A reduction in trade union powers.
D. Better education and training. **[1.5]**

Q. 19) A depreciation of Rupee in the foreign exchange market would cause the Indian exports' value in Rupees to:

A. Rise while import values must fall.
B. Fall while import values must rise.
C. Rise while import value may rise or fall.
D. Fall while import value may rise or fall. **[1.5]**

Q. 20) Which of the following would NOT be included in the current account of a country's balance of payments?

A. Property income from abroad.
B. The purchase of shares in an Indian company by foreign investors.
C. Interest and dividends paid to the rest of the world.
D. Exports of services. **[1.5]**

Q. 21) According to the accelerator principle investment expenditure will:

A. Fluctuate more than consumer expenditure.
B. Rise when the long term rate of interest falls.
C. Accelerate if business confidence picks up.
D. Accelerate if the government increases its capital expenditure. **[1.5]**

Q. 22) If a country experiences high domestic inflation compared to its trading partners with a fixed exchange rate then the effect of the inflation will be to:

A. Decrease the country's imports.
B. Increase the country's exports.
C. Shift the country's currency supply curve in the foreign exchange market to the right requiring central bank purchases of the domestic currency to maintain the fixed exchange rate.
D. Shift the demand curve for the country's foreign exchange to the right requiring central bank purchases of the domestic currency to maintain the fixed exchange rate. **[1.5]**

Q. 23) Central Bank of TASIA has decided to intervene in the foreign exchange markets to prevent the home currency from appreciating. Post this decision TASIA's foreign exchange reserves will:

A. Decrease and the domestic money supply rise.
B. Decrease and the domestic money supply fall.
C. Increase and the domestic money supply rise.
D. Increase and the domestic money supply fall. **[1.5]**

Q. 24) Which of the following is unlikely to result from devaluation of the TASIA currency on the foreign exchange market:

A. Exports become less expensive when measured in the foreign currency.
B. Imports become more expensive when measured in the domestic currency.
C. Export values measured in the domestic currency will increase.
D. Import volumes will increase. **[1.5]**

Q. 25) If planned injections are less than planned withdrawals:

A. Unemployment will fall.
B. The balance of trade will tend to improve.
C. Inflation will tend to rise.
D. National income will rise. **[1.5]**

Q. 26) Given the following macroeconomic data:

Consumer expenditure	Rs. 70 Cr
Investment expenditure	Rs. 20 Cr
Government expenditure	Rs. 40 Cr
Exports	Rs. 20 Cr
Imports	Rs. 30 Cr
Net income from abroad	Rs. 10 Cr

What is the value of the Gross Domestic Product?

A. Rs. 150 Cr
B. Rs. 130 Cr
C. Rs. 120 Cr
D. Rs. 110 Cr **[1.5]**

Q. 27) The use of debit cards and cash withdrawal machines will have the following effect on a bank:

A. Lower the bank's liquidity ratio and increase the bank deposits multiplier.
B. Increase the bank's liquidity ratio and lower the bank deposits multiplier.
C. Lower the bank's liquidity ratio and leave the bank deposits multiplier unchanged.
D. The effect on the bank's liquidity ratio and the bank deposits multiplier will be uncertain **[1.5]**

Q. 28 The overall money multiplier effect might be smaller than the full bank deposits multiplier because:

A. Governments are pursuing an expansionary monetary policy.
B. High rates of interest are discouraging borrowing.
C. Banks are not holding excess cash reserves.
D. All proceeds of loans are re-deposited with banks. **[1.5]**

Q. 29) In a simple economy, consumption is given by the relationship
$C = 0.75\ Y$

Where C is consumption expenditure and Y is Gross Domestic Product.

If government expenditure is Rs.150 Cr, investment is Rs. 50 Cr and there is no taxation or international trade, what will be the equilibrium value of Gross Domestic Product of the economy?

A. Rs. 200 Cr
B. Rs. 266.67 Cr
C. Rs. 1,50 Cr
D. Rs. 800 Cr **[1.5]**

Q. 30) TASIA is running a current account surplus. In relation to the rest of the world TASIA's Liabilities and / or Net assets will:

A. Increase and increase respectively.
B. Decrease and increase respectively
C. Increase and decreasing respectively.
D. Decrease and decrease respectively. **[1.5]**

Q. 31) List four types of market structure and briefly explain each of them **[4]**

Q. 32) Define the following terms in context to insurance companies along with an example:
a) Moral hazard
b) Adverse selection **[3]**

Q. 33) A local food wholesaler ABC Ltd. in Country X enters into a franchise agreement with Burger King (a multinational company famous for its burgers) to sell the products of Burger King in Country X. Burger King currently has no presence in Country X.

i) What type of Strategic Alliance is this? (1)

ii) Explain the possible reasons why would Burger King enter into franchise with ABC Ltd.? (5)
[6]

Q. 34) Mr X's utility function can be described as U(w) = $\sqrt{w+100}$. Mr X owns a factory which is the only property he has. The factory has been valued at Rs. 10 lakhs. The probability of factory burning down is 0.01, in which case the factory would be worth nil.

i) Calculate the insurance premium that Mr X would be ready to pay ABC General Insurance Co Ltd. and comment on your results. (3)

Assume that ABC General Insurance Co Ltd has an initial wealth of Rs. 100 crore and utility function described as U(w) = w;

ii) Calculate the minimum premium required to offer insurance to Mr X and comment on feasibility of the insurance contract. (3)
[6]

Q. 35) People's Bank, a leading private bank in Country Snowland, is planning to merge with Trust Life Insurance Company Ltd, another leading Insurance Company in the same country. People's Bank currently has no presence in insurance industry.

i) Discuss the possible reasons for such merger (5)

ii) Discuss the possible challenges that could be faced during the merger or post-merger (3)
[8]

Q. 36) **i)** Explain what is meant by a negative externality in consumption. (1)

ii) Give an example of such an externality. (1)

iii) Draw a diagram showing the marginal social benefit curve and marginal private benefit curve when a negative externality in consumption exists. Show on your diagram the quantity that would be consumed at the market price P by the private sector as Q1 and the socially optimal level of production as Q2. (3)

[5]

Q. 37) **i)** Explain how the general government debt may be linked to this year's budget deficit and how a rising general government debt can impact on next year's budget deficit. (2)

ii) Explain why it is that countries with a high general government debt tend to have to pay a higher rate of interest on their debt, other things being equal, than countries with a low general government debt. (3)

[5]

Q. 38) Evaluate whether there is a trade-off in economic policy between inflation and unemployment. **[10]**

Q. 39) You are given the following data on an economy:

	Crs
Consumption expenditure	?
Investment expenditure	80
Government expenditure on goods and services	70
Exports	50
Imports	?
Taxation	?

Notes:

a) All tax revenues are derived from a uniform rate of income tax of 25 per cent of income.
b) Consumption expenditure is given by $C = 0.8\ Yd$ where Yd is disposable income (i.e. income less taxes) and C is consumption expenditure.
c) Import expenditure is given by $M = 0.1\ Y$ where Y is national income and M is import expenditure.

i) Determine the equilibrium value of national income. (1)

ii) Determine the current account balance at the equilibrium value of national income. (1)

iii) State whether the budget is in surplus or deficit at the equilibrium value of national income. Calculate the size of the surplus/deficit. (1)

iv) Calculate the effect on the current account of the balance of payments of a rise in government expenditure of 30 Cr. (2)

[5]

Q. 40) Discuss the direct and indirect effects of a rise in interest rates on the fiscal deficit and the national debt. **[3]**

****