

# **INSTITUTE OF ACTUARIES OF INDIA**

## **EXAMINATIONS**

**2<sup>nd</sup> December 2022**

**Subject CB2 – Business Economics**

**Time allowed: 3 Hours 15 Minutes (10.15 – 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. 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. You are not allowed to carry the question paper in any form with you.**

**Q. 1)** Which of the following conditions produces normal profits?

- A. Average revenue = marginal revenue
- B. Average revenue = average cost
- C. Marginal cost = marginal revenue
- D. Average cost = marginal cost

[1.5]

**Q. 2)** Which one of the following is a FALSE statement?

- A. A perfectly competitive market naturally maximises welfare.
- B. Potential competitors are those that are actually entering and leaving the industry.
- C. Inefficient monopolists may face competition for corporate control.
- D. A credible threat is one that rivals expect a firm to carry out.

[1.5]

**Q. 3)** Which of the following best illustrates the problems of adverse selection?

- A. A woman becomes less concerned about locking her garage after increasing her buildings and contents insurance.
- B. A man chooses not to insure his life because he has no dependants.
- C. A person affects a long-term disability policy, shortly before taking a course of flying lessons and not informing the insurer about it.
- D. A company offers cheaper life insurance to women than to men.

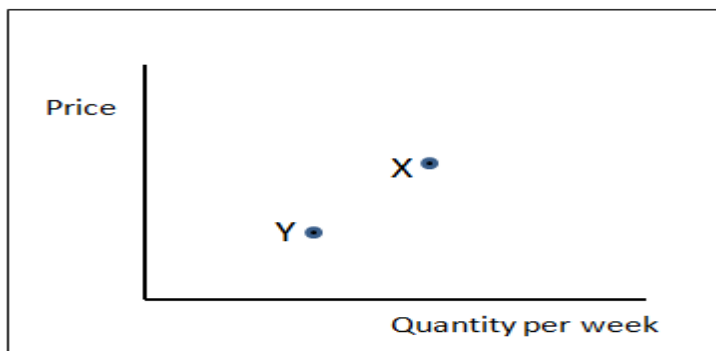
[1.5]

**Q. 4)** The price elasticity of demand for table salt is:

- A. Relatively inelastic
- B. Unit elastic
- C. Relatively elastic
- D. Highly elastic

[1.5]

**Q. 5)** In the diagram below, points X and Y represent the equilibrium price and quantity traded of a good in two successive periods.



Which of the following is a possible explanation?

- A. A technological improvement making the good easier to produce.
- B. The price of a close substitute for the good decreased.
- C. An input in the production process became cheaper.

**D.** The price of a complement good decreased.

[1.5]

**Q. 6)** If the demand of Good X is price-inelastic and the supply of Good X is price-elastic. Then the burden of goods and services tax will be borne by:

- A.** Equally by buyers and sellers
- B.** More heavily by buyers
- C.** More heavily by sellers
- D.** By neither buyers nor sellers

[1.5]

**Q. 7)** Which of the following is NOT true?

- I.** Uncertainty is a measure of the variability of an outcome.
- II.** Cross price-elasticity of demand is negative for complementary goods.
- III.** 'Third Way' supply-side policies are based on the concept of helping people to help themselves.

- A.** I and II
- B.** II and III
- C.** I Only
- D.** III Only

[1.5]

**Q. 8)** Two firms operate in a duopoly, but do not collude. Given the pay-off matrix of output options to Firms A and B below, what is the dominant strategy for the firms?

		Firm B	
		High	Low
Firm A	High	(20,20)	(50,10)
	Low	(10,50)	(40,40)

- A.** Firm A- High; Firm B- Low
- B.** Firm A- Low; Firm B- High
- C.** Firm A- Low; Firm B- Low
- D.** Firm A- High; Firm B- High

[1.5]

**Q. 9)** A monopolist in a perfectly contestable market will:

- I.** Produce as efficiently as possible and will only make normal profits.
- II.** Keep prices down, but produce supernormal profits.
- III.** Produce as efficiently as possible and make supernormal profits.

- A.** I and II
- B.** II and III
- C.** I only
- D.** III only

[1.5]

**Q. 10)** The endowment effect suggests that

- A.** Present payoffs are endowed with more appeal relative to future payoffs.
- B.** The value of a product is higher when it is owned than when it is being considered for ownership.
- C.** The utility from a product increases if other people buy it.
- D.** The value of a product increases if it is presented in an optimistic rather than pessimistic way.

[1.5]

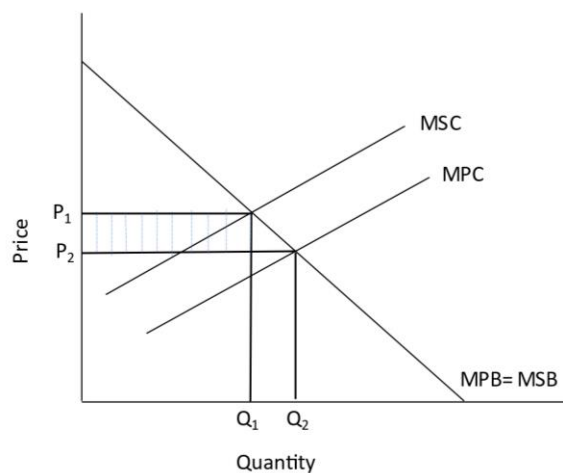
**Q. 11)** Which of the following is NOT true?

- I.** Income elasticity of demand is negative for inferior goods.
- II.** A ceiling set below the free market price results in excess demand and shortages.
- III.** For a good with a price elasticity of demand equal to -1, the substitution and income effects will be equal and will act in opposite direction.

- A.** I and II
- B.** II and III
- C.** II Only
- D.** III Only

[1.5]

**Q. 12)** The diagram below shows the market for some gadgets.



Where

MSC is the Marginal Social Cost;

MSB is the Marginal Social Benefit;

MPC is the Marginal Private Cost;

MPB is the Marginal Private Benefit;

Based on the above diagram, complete the following sentence choosing the correct option given below:

A \_\_\_\_\_ exists in this market because at the market output, \_\_\_\_\_.

- A. Negative externality;  $MSC > MPC$
- B. Positive externality;  $MSC > MSB$
- C. Negative externality;  $MSB > MSC$
- D. Positive externality;  $MSC > MPC$

[1.5]

**Q. 13)** Which of the following statements is FALSE?

- I. A credible threat is one that rivals expect a firm to carry out.
  - II. A short seller is exposed to the risk that the asset they have short sold will rise in price leading them to make loss.
  - III. The bygones principle states that sunk costs should be ignored when deciding whether to produce or sell more or less of a product.
- A. I and II
  - B. II and III
  - C. All of the above
  - D. None of the above

[1.5]

**Q. 14)** Refer to the table below:

Output	Total Variable Cost (TVC) (in ₹)	Total Cost (TC) (in ₹)
0	0	10
1	5	15
2	8	18
3	12	22
4	17	27
5	23	33
6	30	40
7	38	48

If the market price of this price-taking firm's output is ₹7, economic profit will be:

- A. ₹10
- B. ₹2
- C. ₹40
- D. ₹1

[1.5]

**Q. 15)** Which of the following is NOT a market oriented supply side policy?

- A. Measures to reduce the power of trade unions
- B. Introduction of Public private partnerships
- C. Removal of barriers to trade and capital movements
- D. Provision of factories in depressed areas

[1.5]

**Q. 16)** Which is likely to increase the amount of research performed in the country?

- A.** Introduction of Patent system
- B.** Increase in tax on profits generated by royalties
- C.** Tax on research spending
- D.** None of the above

[1.5]

**Q. 17)** Which of the following is a reason of real wages might be remaining above the equilibrium rate in a recession?

- I.** Workers resist a wage cut (maybe due to unions)
  - II.** Firms are worried about not finding right replacement
  - III.** Wages are fixed for a period of time
- 
- A.** I and II only
  - B.** I only
  - C.** III only
  - D.** I, II and III

[1.5]

**Q. 18)** What does the Austrian Economic school says about Government intervention?

- A.** Government regulation is critical in financial institutions
- B.** Given what has happened in the past successful regulations can be framed in advance
- C.** Government should only provide a framework of law
- D.** Regulation never evolve in the market

[1.5]

**Q. 19)** Which of the following policies will NOT help to address the problem of regional imbalance?

- A.** Reduced employers' national insurance contributions for firms in depressed areas
- B.** Grants to unemployed workers in depressed areas to relocate in more prosperous areas
- C.** Provision of factories in depressed areas
- D.** Shifting of Government offices in depressed areas

[1.5]

**Q. 20)** Which of the following is true for Asset bubbles?

- I.** Asset bubbles can be caused by excessive bank lending
  - II.** Government intervenes and stops the asset bubbles by regulating the prices
  - III.** Asset bubbles give rise to speculators deriving market prices
- 
- A.** I and III only
  - B.** III only
  - C.** II and III only
  - D.** I, II and III

[1.5]

**Q. 21)** Suppose we have the following information about an economy

$$Y=100, C_d=35+0.9Y, J=14$$

Where

$Y$  = National Income

$C_d$  = Consumption on domestically produced goods

$J$  = Capital Injection

What would be the aggregate demand function  $E$ ?

- A.  $49+0.9Y$
- B.  $50Y$
- C.  $-65+0.9Y$
- D.  $135+0.9Y$

[1.5]

**Q. 22)** Suppose we have the following information about an economy

$Y=100$ ,  $C_d=35+0.9Y$ ,  $J=24$  ; abbreviations are same as defined in the Q.21 above.

If the National Income rises to 110 what would be the aggregate demand?

- A. 70.6
- B. 125
- C. 148
- D. 158

[1.5]

**Q. 23)** What would be the most appropriate monetary policy measure for a developed economy to come out of a recession?

- A. Reduction in Interest rates to stimulate demand
- B. Reduction in taxes
- C. Increased Government spending
- D. Quantitative easing

[1.5]

**Q. 24)** All else being equal, the real exchange rate will increase if:

- A. Export prices fall by less than import prices
- B. Export prices rise by less than import prices
- C. The nominal exchange rate falls
- D. Export prices fall while import prices are unchanged

[1.5]

**Q. 25)** A liquidity trap occurs when:

- A. An increase in Government borrowing diverts funds from the private sector
- B. There is too much money in circulation
- C. Interest rates are at their floor so that any additional money will be held as idle balances
- D. Interest rates are so low that people do not wish to borrow

[1.5]

- Q. 26)** Which of the following is NOT likely to lead to an increase in investment? [1.5]
- A. A fall in interest rates
  - B. A rise in consumption
  - C. A fall in profits
  - D. Improved confidence in the economy
- Q. 27)** Define merit goods and explain why the following can be regarded as merit goods: [3]
- i) Pensions
  - ii) Car insurance
- Q. 28)** Suggest ways in which Governments could regulate monopolies and oligopolies. [3]
- Q. 29)** Define economies of scale and describe six main sources of plant economies of scale. [7]
- Q. 30)**
- i) Describe the barriers of entry in an industry and in a perfectly contestable market. (7)
  - ii) What is 'hit and run' strategy used by new entrants against a monopolist firm in a perfectly contestable market. (3)
  - iii) Illustrate with the help of diagram how the monopolist firm already in the market will avoid the situation that might occur from 'hit and run' strategy used by a potential rivalry firm. (6)
- [16]
- Q. 31)** In the world of Actuaria a new Government is elected in Country I and you have been appointed as an economic advisor to the finance minister. The finance minister is an ex-civil servant whose knowledge of economics is mostly derived from media. Country I is just recovering from the adverse economic impact of a global pandemic and these are very turbulent times in the global geo-political scenario as Country R which is rich in oil and natural gas as declared a war on Country U. Major economies of the world have slapped sanctions on Country R and Country R has hit back using its energy resources. The finance minister feels that Country I being a developing country (is also a net importer) hence heavily connected to global economy is likely to be affected. He has sought some time with you to discuss about a few matters that concerns the economy of Country I.
- i) The news reports show that Country R is squeezing the supply of oil and natural gas to all major economies of the world. This is expected to drive up inflation in major economies. The minister wants to know what **macroeconomic** impact this will have on Country I. Draft a response to the minister to explain the impact on Country I with respect to the actions taken by major economies and Country R. (12)
  - ii) There is a concern in the broadcast media regarding stagflation. Draft a response to the minister about what is stagflation, the biggest risk surrounding it and one possible cause of stagflation. (3)
  - iii) The minister wants to understand the IS-LM curves so that he can engage with the Central Bank of Country I to change the interest rates. Explain to the minister what is IS-LM curve and use it to show the equilibrium real national income and real interest rates. (6)

- iv) Because of global supply chains being disrupted, the President has advocated for increase in domestic production and R&D. What steps can the Government take to increase the R&D in the economy? (3)
- v) The media is criticizing the Government's discretionary powers with regard to management of the economy. The minister wants to defend the discretionary powers by giving out a media statement. Draft the positive aspects of Government discretionary powers. (3)
- [27]

- Q. 32)** You are a well-read Actuary who is working in the finance department of a large insurance company. Your Friend who has a lot of spare cash wants to invest in Cryptocurrencies. Draft a response to him about risks regarding cryptocurrencies. [5]

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