INSTITUTE OF ACTUARIES OF INDIA

EXAMINATIONS

November 2025

CB2 - Business Economics

Time allowed: 3 Hours 15 Minutes

Total Marks: 100

Q. 1) The demand for a packed mix-spring salad is given by Q = 480 – 0.3P. Which of the following is the Consumer Surplus of this item at P = $20?

A. $0
B. $24
C. $474
D. $374,460
E. $1,600 **[2]**

Q.2) In the case of a Giffen good with a decrease in its own price, which of the following statements is most likely true?

A. Both the substitution and income effects lead to an increase in the quantity purchased.
B. Both the substitution and income effects lead to a decrease in the quantity purchased.
C. The income effect leads to an increase in the quantity purchased while the substitution effect leads to a decrease.
D. The substitution effect leads to an increase in the quantity purchased while the income effect leads to a decrease with income effect dominating substitution effect.
E. The substitution effect leads to an increase in the quantity purchased while the income effect leads to a decrease with substitution effect dominating income effect. **[2]**

Q.3) Suppose that the burger market consists of three firms- McDonald's, Wendy's, and Burger King. The demand curves for their burgers are:

McDonalds: QMC = 7 – 0.3P; Wendy's: QWE = 6 – 0.2P; Burger King: QBK = 4 – 0.4P

What is the quantity demanded in the market when the price of a burger is $4? (Hint: Derive the market demand curve)

A. 17.6
B. 13.6
C. 13.4
D. 13.8
E. 17.2 **[2]**

Q.4) A life-saving medication LIFOMAT has perfectly inelastic demand because it is a necessity with no close substitutes. If the price of LIFOMAT doubles, what is the likely outcome for the quantity demanded for LIFOMAT?

A. The quantity demanded will decrease significantly
B. The quantity demanded will decrease proportionally to the price change.
C. The quantity demanded will remain unchanged.
D. The quantity demanded will increase
E. None of the above **[2]**

Q.5) The annoyance of your neighbour because she doesn't like your achingly conventional music

A. private costs
B. external costs
C. private benefits
D. external benefits
E. None of the above **[2]**

Q.6) Which of the following services might have a free rider problem?

A. Mail delivery
B. A large fireworks display
C. Space tourism
D. All of the above
E. None of the above **[2]**

Q.7) Jenny won a scholarship to four years of college. During these four years, Jenny could also do any number of things, including the following:

I. Travel the world.
II. Work to gather savings and career experience.
III. Become an expert scuba diver

Which of the following is the opportunity cost of Jenny attending college?

A. Zero.
B. II only.
C. Sum of value derived from I, II and III.
D. Most valuable of I, II and III.
E. None of the above. **[2]**

Q.8) The country of ECONOMIA is experiencing a sustained period of high inflation rate. The Central Bank of Economia decides to control high rate of inflation by raising the Required Reserve Ratio for its commercial banks. Assuming all other factors remain constant, what is the most likely outcome of this policy action by the central bank?

A. A decrease in the interest rates, an increase in lending, and a further rise in the inflation rate.
B. An increase in the money supply, leading to higher aggregate demand and sustained inflation.
C. An increase in the interest rates, a decrease in the money supply, and a reduction in the inflation rate.
D. A decrease in the interest rates, a decrease in the money supply, and an increase in real GDP.
E. An increase in the interest rates, an increase in the money supply, and a reduction in the inflation rate. **[2]**

Q.9) A country's currency appreciates. Which of the following is a likely consequence?

A. Exports become cheaper for foreigners, and imports become more expensive for domestic consumers.
B. Exports become more expensive for foreigners, and imports become cheaper for domestic consumers.
C. Both exports and imports become more expensive for domestic consumers.
D. Both exports and imports become cheaper for domestic consumers.
E. No change to imports, only exports become more expensive for foreigners. **[2]**

Q.10) In a hypothetical economy, the central bank maintains a fixed Cash Reserve Ratio (CRR). Over the past decade, the use of digital payments and mobile wallets has surged, reducing the public's preference for holding physical currency. What is the most likely long-term effect of this trend on the money multiplier?

A. The money multiplier will decrease because the public is holding less physical cash.
B. The money multiplier will increase because banks will have more deposits to lend out.
C. The money multiplier will remain unchanged because the CRR has not been altered.
D. The money multiplier will become irrelevant as the banking system becomes obsolete.
E. The money multiplier will increase because the public is holding more balance in their bank accounts. **[2]**

Q.11) During an economic boom, the government automatically collects more tax revenue due to higher incomes and corporate profits. Concurrently, government spending on unemployment benefits automatically decreases as more people find work. These phenomena, which occur without any deliberate government action, are examples of:

A. Discretionary fiscal policy
B. A balanced budget requirement
C. Automatic fiscal stabilizers
D. Expansionary fiscal policy
E. None of the above **[2]**

Q.12) *Scenario:* One hour of labour in Country A can produce either 20 kilograms of coffee or 10 kilograms of cocoa. In Country B, one hour of labour can produce 15 kilograms of coffee or 5 kilograms of cocoa.

Tricky twist: Despite Country A's higher productivity in both goods (absolute advantage), a major news outlet runs a headline stating; "Country A has no economic incentive to trade with the less productive Country B."

Why is the news headline misleading and what economic principle does it fail to grasp?

A. The headline is correct; Country A should not trade with less productive nations.
B. The headline fails to consider that Country B has an absolute advantage in cocoa production.
C. The headline ignores the principle of comparative advantage, which is based on opportunity cost, not absolute productivity.
D. The headline is only misleading if Country A and Country B have similar wage rates.
E. The headline is misleading as it is not possible for country A to be more productive than country B in production of all goods. **[2]**

Q.13) An increase in average riskiness of a bank's assets, assuming that nothing else changes, will result in:

A. an increase in the capital adequacy ratio
B. a decrease in the capital adequacy ratio
C. an increase in the liquidity ratio
D. a decrease in the liquidity ratio
E. No change to capital adequacy ratio or liquidity ratio **[2]**

Q.14) Calculate GNP at market price based on the information given below.

(Amount in Crores)

Private Final consumption expenditure ('C) = 1300;
Gross Domestic Capital Formation (I) = 400;
Government expenditure (G) = 500;
Exports (X) = 250;

Imports (M) = 200;
Net Factor Income from abroad = 60;
Depreciation = 70;
Net Indirect Taxes = 90

A. 2250 Cr
B. 2310 Cr
C. 2400 Cr
D. 2330 Cr
E. 2470 Cr **[2]**

Q.15) The annual inflation rate unexpectedly jumps from 2% to 10%. Which of the following groups will be negatively affected by this sudden increase in inflation?

A. Debtors who have a fixed-rate loan.
B. The government, which is a major borrower.
C. Creditors who are owed a fixed amount of money.
D. Business owners whose prices rise faster than their costs.
E. Creditors who are owed inflation linked repayment schedule. **[2]**

Q.16) Consider the following payoff matrix for two firms X and Y. The payoffs show the profit resulting from various combinations of prices (In '000).

Price (in '000)		X	
		2	1.8
Y	2	A (18, 5)	B (15,6)
	1.8	C (6, 15)	D (12,4)

a) State which strategy would maximise joint profit. (1)

b) Determine the dominant strategy for each firm and state whether there is a dominant equilibrium. (1)

c) Explain the Nash equilibrium for this game. (1)

d) Explain what happens to the payoff table if Firms A and B introduce a price matching clause (i.e. a promise to match the lowest price offered by a competitor) into their contracts with customers. (1)

e) State which strategy firms would choose as per the scenario in (d). (1)
[5]

Q.17) Recently, the government of Country A reduced Goods and Service Tax (GST) on refrigerators.

a) Using demand and supply curve analyse and evaluate the microeconomic impact of the reduction in the GST on the market for refrigerators. (2)

b) Explain briefly the impact of the reduction in GST in terms of the following: (4)

i) Consumer Surplus
ii) Producer Surplus
iii) Government Revenue, and
iv) Deadweight Loss. **[6]**

Q.18) **a)** Define different degrees of price discrimination observed in the market with an example. (3)

b) Explain what is meant by inertia pricing in the insurance market. (1)

c) Suggest how an insurance regulator might intervene to protect consumers from Inertia Pricing and outline a negative consequence this might have. (2)
[6]

Q.19) **a)** Briefly explain the ways a government can regulate a monopoly market? (3)

b) Explain why, despite inefficiencies, a monopoly may be considered desirable? (3)
[6]

Q.20) A Company has an assembly line of fixed size A. Total output is a function of the number of workers as shown in the following schedule:

No. of Workers (L)	Total Output (Q)	Marginal Productivity(L)	Average Productivity (L)
0	0	NA	NA
1	10	10	10
2	30	20	15
3	50	**(i)?**	16.67
4	56	6	14
5	59	3	**(iii)?**
6	60	1	10
7	60	0	**(iv)?**
8	58	**(ii)?**	7.25

a) Fill in the missing values in the above table. (1)

b) Explain with reasons the level of employment at which the law of diminishing returns first occurs. (1)

c) Suppose the market price of the output $15 and the wage rate is $90, how many workers would this firm hire? What if the market price decreases to $10 while there is no change in wage rate? (1)

d) How is law of diminishing returns different from returns to scale? (1)

e) List six factors that will lead to economies of scale. (1)
[5]

Q.21) State Say's law and explain its importance in the classical theory of employment. **[3]**

Q.22) "Low unemployment is always a sign of a healthy economy." Discuss this statement with reference to inflation and output. **[7]**

Q.23) **a)** What is the role of a central bank in maintaining economic stability? (4)

b) Evaluate the effectiveness of its monetary policy tools in achieving its mandate of price stability and maximum employment. (2)

c) Explain how 'open market operation' as an instrument of monetary policy will be used to regulate the level of economic activity in the country. (2)

[8]

Q.24) **a)** Outline methods of restricting trade between two countries. (3)

b) Explain the arguments in favour of restricting trade, specifying which arguments would be part of strategic trade theory. (6)

[9]

Q.25) For a hypothetical economy, the following data is available for the fiscal year 2024–2025 (in billions of US dollars):

- Exports of Goods: $300
- Imports of Goods: $420
- Net Invisible Receipts (Services, Income, and Transfers): $95
- Net Foreign Direct Investment (FDI): $60
- Net Portfolio Investment: -$20 (Net outflow)
- Net External Commercial Borrowings (ECBs): $30
- Change in Foreign Exchange Reserves: -$10 (A decrease in reserves)
- Errors and Omissions: $5

Using this information, calculate the following:

a) What is the value of the balance of trade? Does the country have a trade surplus or a trade deficit? (1)

b) What is the current account balance? Does the country have a current account surplus or a current account deficit? (1)

c) What is the capital account balance? Does the country have a capital account surplus or a capital account deficit? (1)

d) What is the overall balance of payments? (1)

e) Describe how a floating exchange rate will automatically move to address a current account deficit so that the balance of payment balances. (2)

[6]

Q.26) **a)** Use the AD-AS model to evaluate the short-run impact of both a positive demand shock (e.g., increased government spending) and a negative supply shock (e.g., a sudden rise in oil prices) occurring simultaneously. (6)

b) How does the ***relative magnitude*** of each shock determine the final outcome on real GDP and the price level? (3)

[9]

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