Institute of Actuaries of India

Subject CB2-Business Economics

July 2022 Examination

INDICATIVE SOLUTION

Introduction

The indicative solution has been written by the Examiners with the aim of helping candidates. The solutions given are only indicative. It is realized that there could be other points as valid answers and examiner have given credit for any alternative approach or interpretation which they consider to be reasonable.

Solution 1: C **[1.5 Marks]**
Solution 2: D **[1.5 Marks]**
Solution 3: C **[1.5 Marks]**
Solution 4: A **[1.5 Marks]**
Solution 5: D **[1.5 Marks]**
Solution 6: A **[1.5 Marks]**
Solution 7: D **[1.5 Marks]**
Solution 8: D **[1.5 Marks]**
Solution 9: B **[1.5 Marks]**
Solution 10: A **[1.5 Marks]**
Solution 11: A **[1.5 Marks]**
Solution 12: A **[1.5 Marks]**
Solution 13: C **[1.5 Marks]**
Solution 14: C **[1.5 Marks]**
Solution 15: D **[1.5 Marks]**
Solution 16: C **[1.5 Marks]**
Solution 17: D **[1.5 Marks]**
Solution 18: C **[1.5 Marks]**
Solution 19: B **[1.5 Marks]**
Solution 20: C **[1.5 Marks]**
Solution 21: D **[1.5 Marks]**
Solution 22: D **[1.5 Marks]**
Solution 23: B **[1.5 Marks]**
Solution 24: B **[1.5 Marks]**
Solution 25: D **[1.5 Marks]**
Solution 26: D **[1.5 Marks]**

Solution 27:

i) The Austrian school does not support government regulation that directs economic activity in a particular way - regulation of products or risk management.

(1)

Their argument is that successful regulation cannot be known in advance.

(1)

They believe the government should provide a framework and laws to enforce contracts and prevent fraud.

(1)

They also believe that markets function freely and regulations evolve in them.

(1)

[4]

ii) They give an example of the 2008 financial crisis which could not be prevented by all the regulations imposed in the US in the 1930s and the UK in the 1980s.

[1]

[5 Marks]

Solution 28:

i) The Production possibility curve is based on the following assumptions:

- Only two goods X (consumer goods) and Y (capital goods) are produced in different proportions in the economy.
- The same resources can be used to produce either or both of the two goods and can be shifted freely between them.
- The supplies of factors are fixed. But they can be re- allocated for the production of the two goods within limits.
- The production techniques are given and constants.
- The economy's resources are fully employed and technically efficient.
- The time period is short.

(1/2 marks for each valid point)
[Max 3]

ii) Uses or Applications of the Production Possibility Curve:

The Production Possibility Curve is of much importance in explaining some of the basic facts described as follows:

a. **Unemployment:** If we were to relax the assumption of full employment of resources, we can know the level of unemployment of resources in the economy. The higher the proportion of resources unemployed, the closer will be the production possibility curve to the origin. (1)

b. **Technological Progress:** Technical progress enables an economy to get more output from the same quantities of resources. By relaxing the assumption of given and constant production techniques, it can be shown with the help of product possibility curve the increase in the production of both the goods than before. (1)

c. **Economic growth:** By relaxing the assumptions of the fixed supply of resources and of short period, the production possibility curve helps us un explaining how an economy grows. The supplies of resources like land, labour and capital are fixed only in the short run. Development being a continuous and long run process, these resources change over time and shift the production possibility curve outwards. (2)

d. **Economic efficiency:** The Production Possibility Curve is also used to explain the three efficiencies-

(a) Efficient selection of the goods to be produced;
(b) Efficient allocation of the resources in the production of these goods and efficient choice of methods of production;
(c) Efficient allotment of goods produced among consumers.

These are, in fact, the central problems of an economy which are related to 'what, how and for whom' to produce. (2)

e. **Explaining the limited availability of resources:** The Production Possibility Curve tells us about the basic fact of human life that the resources available to mankind in terms of factors, goods, money or time are scarce in relation to wants. (1)

[7]
[10 Marks]

Solution 29:

i) Marginal utility for G looks correct, it is decreasing with increasing number of units of G.
(1)
Whereas for H it is wrong. The first entry "10" is less than the next. (1)

[2]

ii) *Any of the following are acceptable*
Make the first entry under Good H more than 12
Make the second entry under Good H less than 10
Interchange the first and second entries under Good H

(1)

iii) 1 mark for correct total for G 1mark for correct total for H (2)

iv) All combinations of G and H except 6 units of each will cost less than Rs. 100. 6 Units of G and 5 Units of H gives maximum utility of 99. (2)

[7 Marks]

Solution 30:

i) The law of diminishing marginal returns states that when increasing amounts of a variable factor are used with a given amount of a fixed factor, there will come a point when each extra unit of the variable factor will produce less extra output than the previous unit. [1]

ii) Where costs per unit of output increase as the scale of production increases [1]

iii) The law of diminishing returns is applicable only to the short run. (1/2)
One factor of production (normally capital) is assumed to be fixed and one factor of production (normally labour) is variable.
Diminishing returns eventually occur as the input of the variable factor of production is raised, which results in diminishing marginal and average product of the variable factor of production. Diminishing returns imply that short run average and marginal cost curves will eventually slope upwards.

(1)

Diseconomies of scale are applicable only to the long run average cost curve. (1/2)
All factors of production are variable in the long run and in the presence of diseconomies of scale long run average cost rises as output is increased. Diseconomies of scale mean that if all factors of production are increased in equal proportions output rises less than proportionately. Many reasons can be cited for diseconomies of scale e.g. bureaucracy of large businesses, worker alienation etc. (1)

[3]

[5 Marks]

Solution 31:

i) Oligopoly – since there is a small group of companies [1]

ii) Features of an oligopoly:

- Small number of firms involved in similar activities & share a large proportion of the industry.
- Barriers to entry -There are barriers to entry in. The existence of barriers to entry means that there is the potential to make abnormal profits in the long run in both market structures
- Interdependence -Under oligopoly there is a high degree of interdependence between firms. This means that firms have to take into account decisions made by other firms when making their price and output decisions.
- Competition - With oligopoly each firm may be selling either identical or differentiated products and they tend to compete with each other on both price and quality.
- collusion – setting prices - may form cartels/ groups and set prices that benefit the group rather than consumers
- Oligopolist faces a downward sloping demand curve & so has some control over its price (ie. It is a price taker)
- Supernormal profits can be earned in the long run.

[Max 5]

iii) Any two of the following examples:

- Oil & Gas,
- Media/ News outlets
- Petrol
- Cement
- Cars
- Electrical appliances
- Supermarkets
- Retail Banking

(1/2 mark each), Max 1 mark)

iv) Disadvantages:

- Price is set by the group this could be set at a much higher level than what the normal population can afford
- No competition and therefore downward pressure on price is absent, since only a few companies have the know-how to produce the vaccine.
- There can be severe shortages of supply since only a few firms have to cater to a large population
- Since production happens only in a few locations, any mishap in one place can have a serious effect on supply

[Max 2]

v) The government intervention can be in both price and supply regulation, subsidising cost of production, enabling easy import of raw materials and technology, regulating export of vaccines. (½)

Most vaccine doses were made available free in government health facilities. (1)

For the private sector, maximum price could be fixed or a range could be set. (1)

Reducing vaccine dosage wastages. (½)

Vaccine production costs could be subsided - for eg, lower cost of electricity for vaccine manufacturers for a specific period, reducing duty on import of vaccine raw materials or any equipment (1)

Improving cold chain infrastructure to enable longer storage and long distance transportation of vaccines. (1)

[Max 2]

[11 Marks]

Solution 32:

i) $C + I + G + X - Z$ (note to exclude transfer payments)

90 + 20 + (50 – 20) + 20 – 30 = 130 (1)

ii) *GDP at market prices + net property income from abroad*

130 + 10 = 140 (1)

iii) *GDP market prices – indirect taxes*

130 – 15 = 115 (1)

iv) *(140 – 15) / 0.5 = 125 / 0.5 = 250*

Where C is consumption, I is investment, G is government spending, X is exports and Z is imports (1)

[4 Marks]

Solution 33:

i) Demand pull inflation – when aggregate demand is significantly above aggregate supply (1)
Cost push inflation – rising prices of inputs/ factors of production, usually independent of rise in aggregate demand which pushes up price levels in the economy (1)
[2]

ii) CPI, WPI, RPI, wage inflation, construction cost inflation or any other inflation index as long as the candidate can explain what prices are tracked. CPI/ RPI –prices in retail market for a basket of goods that are essential for a household – some examples – food, utility bills, fuel, etc , WPI similar basket's price in wholesale market.
(1 mark for each with example, Max 2 marks)

iii) Russia – Ukraine war impacts on inflation

a. General increase in inflation world over (1/2)
b. Fuel price increase due to shortage of supply – Russia producer of fuel and major supplier to Europe, now the resulting short supply has pushed prices of energy up (1)
c. Shortage of supply of minerals, wheat, sunflower/ edible oil (candidates need not give examples, but should generally able to say some things that are exported from these countries are now reduced) (1)
d. Destruction/ disruption of operations in conflict zones – additional costs of setting up/ moving operations outside those places (1/2)
e. Sanctions and brands exiting sanctioned country – supply shortages and so price increases (1)

[4]
[8 Marks]

Solution 34:

i) Absolute advantage - a country has an absolute advantage in the production of a good if it can produce the good with less resources than another country. (1)

ii) Law of comparative advantage- trade can benefit all countries if they specialise in production of goods in which they have a comparative advantage. (1)

iii) Any three out of the following with a one-line explanation as to what that measure does

A. Tariffs - tax on imports, usually a percentage of price.
B. Quotas -limit the quantity of a good that can be imported
C. Exchange controls - limit on how much foreign exchange is made available to importers, citizens travelling abroad or for investment
D. Import licensing - The imposition of exchange controls or quotas often involves requiring importers to obtain licences.
E. Embargos - These are total government bans on certain imports or exports to certain countries
F. Administrative Barriers - Regulations may be designed to exclude imports
G. Procurement Policies - government favours domestic providers and makes policies suited to them
H. Dumping - governments may favour domestic producers by subsidising their exports in a process known as dumping. The goods are ‘dumped’ at artificially low prices in the foreign market.

[3]

iv) Examples:

A. Embargos - sanctions imposed during wartime
B. Administrative policies - excessive paperwork for imports or exports, customs delays
C. Quotas - maximum oil export per day
D. Tariffs - import duties on luxury cars

[3]

v) Non economic reasons

A. It may wish to maintain a degree of self-sufficiency in case trade is cut off in times of war. This may apply particularly to the production of food and armaments.
B. It may decide not to trade with certain countries with which it disagrees politically.
C. It may wish to preserve traditional ways of life. Rural communities or communities based on old traditional industries may be destroyed by foreign competition.
D. It may prefer to retain as diverse a society as possible, rather than one too narrowly based on certain industries.

[3]
[11 Marks]

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