

Engineering Economics Assignment - 1

Q.1] How will you distinguish between Micro & Macro Economics?

→ Micro Economics

- i] The branch of economics that studies decision making by a single individual, household, firm, industry, etc.
- ii] Studies the effect on prices of goods and services.
- iii] Concerned with individual labour markets and consumer behaviour.
- iv] Major facts include like demand, supply, factor pricing, product pricing, etc.

Macro Economics

- i] The branch of economics that studies decision making for the economy as a whole.
- ii] Studies Economics, growth, national income, GDP, etc.
- iii] Concerned with national, and world economics.
- iv] Major fact include like national income, distribution, general, price level, etc.

Q.2] What is the role of engineering in decision making process of an organization?

- i] Economic decision making for engineering system is called engineering economy. This definition may seem restricted to engineering project and system only, engineering economy however is also the study of industrial economics and the economic and financial factors which influence industry.
- ii] The term engineering economic decision refers to all investment decision relating to engineering projects.

- 11] The five main types of engineering economic decision are
- a] Service improvement
 - b] Equipment and process selection.
 - c] Equipment replacement.
 - d] New product and product expansion.
 - e] Cost reduction.

Q3] When company producing 18 units of product, the total cost was Rs 5,00,000 but for 19th unit the total cost becomes Rs 5,75,000 calculate marginal cost.

→ Given:- In 18th Unit → 5,00,000 Rs

In 19th Unit → 5,75,000 Rs

$$MC = \Delta TC$$

$$\Delta Q$$

$$= \frac{TC_2 - TC_1}{Q_2 - Q_1} = \frac{5,75,000 - 5,00,000}{19 - 18} = 75,000 \text{ Rs}$$

- Q4] Discuss the reasoning behind a decision to disregard sunk costs.
- i] It is the cost of an equipment/asset. This cost is not considered for any analysis.
- ii] A manufacturing firm, for example, may have a number of sunk costs, such as the cost of machinery, equipment, & the lease expense on the factory.
- iii] Sunk costs are excluded from a sell or process further decision which is a concept that applies to products that can be sold as they are or can be processed further.
- iv] All sunk costs are fixed costs but not all fixed costs are sunk costs. The difference is that sunk costs cannot be recovered. If equipment can be resold or returned at or near the purchase price, for example, it's not a

Q5] Businessman had three options that are either to work as employee in a company & earn Rs 12,00,000 per year or to start a business of spare parts & earn expected income as Rs 15,00,000 per year or to work as partner in partnership firm & earn expected income of Rs 17,00,000. If he has decided to join as partner in a partnership firm then what will be an opportunity cost of it?

I	II	III
Employee	To start a business	Work as a Partner
₹ 12,00,000	₹ 15,00,000	₹ 17,00,000

$$\begin{aligned}
 \text{Opportunity Cost} &= (12,00,000 + 15,00,000) - 17,00,000 \\
 &= 27,00,000 - 17,00,000 \\
 &= 10,00,000 \text{ Rs}
 \end{aligned}$$

Q6] Differentiate recurring cost and Variable cost.

Recurring cost.	Variable cost.
1] Recurring/Fixed cost does not vary with quantity of output.	1] Variable cost vary with the quantity of output.
2] They are related with fixed factors.	2] They are related with the variable factor.
3] They do not become zero. They remain same even when production is stopped.	3] They can become zero when production is stopped.

Q7] Selling price per Unit : Rs 1800
 Marginal cost per unit : Rs 1,200
 Fixed cost per unit : Rs 10,00,000
 Calculate :

→ a] BEP Quantity : $\frac{FC}{(SP-VC)} = \frac{10,00,000}{(1800-1200)} = 1,666.67$

b] BEP Sales : $\frac{FC}{(SP-VC)} \times SP = 1,666.67 \times 1800 \Rightarrow 30,00,000$

c] Contribution = $SP - VC = 1800 - 1200 = 600$

d] Actual sales is 800 units, then margin of safety?

→ Actual sale - BEP sale

→ $\frac{(800 \times 1800) - 30,00,000}{(1800 \times 1800)} \times 100$

→ $\frac{14,40,000 - 30,00,000}{14,40,800} \times 100$

→ 8.83%

Q8] State the difference between inflation and deflation. What are different causes of cost push inflation.

Inflation	Deflation
1] There is rise in prices of goods and factors of production	1] There is a fall in price of goods & services.
2] Employment Increases	2] Unemployment Increases.
3] The GNP increases because	3] Industry and commerce

4] can be controlled to a certain extent and by certain methods.

4] Deflation on the other hand once inflated upon the economy knows no limit & the way out is very difficult.

Causes of Cost ~~Push~~ Push Inflation.

a] It occurs due to supply side factors. It is much more difficult to control.

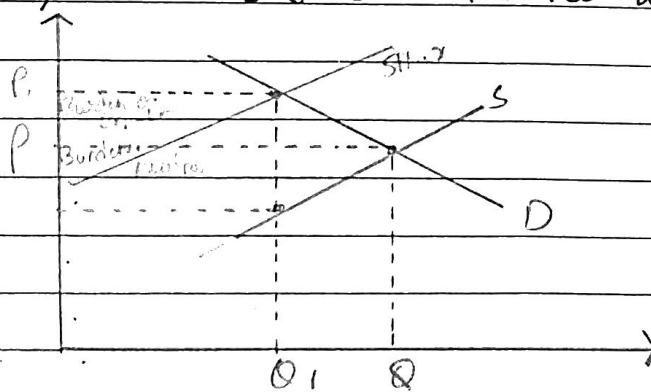
b] Higher price of commodities.

c] Higher Wage.

d] Profit - Push inflation,

e] Higher Food prices.

Q5] Explain the tax effect analysis with suitable diagram. The effective tax rate is the percent of their income than an individual or a corporation pays in taxes. The effective rate of individuals is the average rate at which their earned income such as wages and unearned income, such as stock dividends and taxes.



Q16] Explain the circular flow of income and expenditure in one economy with suitable diagram?

→ The circular flow of income is a model of the economy in which the major exchanges are represented as flow of money and goods exchanged in a closed circuit correspond in value, but run in opposite direction. The circular flow analysis is the basis of national accounts. and hence of microeconomics.

