

FM & Eco. for finance		CA R. K. Mehta
Test – 1 (Solution)		
Time Allowed: 1 hr. 30 minutes	31-Dec-2018	Total Marks: 50 Marks

Answer to Question No.1

Scenario Analysis

1. Scenario Analysis is the analysis of study of evaluation of projects under the possibilities of-
 - a) Worst case (Most Pessimistic level).
 - b) Most likely case.
 - c) Best case (Most Optimistic level).
2. **STEPS:-**
 - a) Identify various sources of uncertainty around which the scenarios will be built.
 - b) Determine the scenarios, namely, Best Case, Average Case and Worst case.
 - c) Assign probability of occurrence to each scenario.
 - d) Compute NPV and IRR in each scenario
 - e) Arrive at the appropriate decision.
3. **Merits:-**
 - a) Probabilities are very effectively used.
 - b) We are able to study the impact of change in more than one variable like recession and boom (In Sensitivity Analysis, the impact of change in only one variable is considered).
4. **Demerits:-**
 - a) There are no clearly defined scenarios in many cases.
 - b) If there are many important variables to consider, there may be many Scenarios and it will be very difficult to select the best option.

Answer to Question No.2

Financial evaluation of whether to replace (Existing) machine

Incremental Cash Outflows	Amount (₹)
Cost of new machine	2,20,000
Less : Sale value of old machine	(50,000)
Less : Tax saving on loss on sale of old machine (35% on ₹ 50,000) (WN 1)	(17,500)
Add : Additional Working Capital	30,000
Net cash outflows	1,82,500
Incremental cash inflows (for years t = 1 - 10)	
Increase in sales revenue	60,000
Less : Increase in operating cost	(20,000)
Less : Increase in Depreciation ₹ (22,000 – 10,000)	(12,000)
Profit before Tax	28,000
Less : Tax (35%)	(9,800)
Profit after tax	18,200
Add : Depreciation	12,000
Net cash inflows (CFAT)	30,200

Computation of net present Value (NPV)

Year	Cash Inflow	PVF @ 10%	Total PV
1 to 10	30,200	6.1446	1,85,567
10	30,000	0.386	11,580
PV of cash inflows			1,97,147
(-) Initial cash outflow			(1,82,500)
NPV			14,647

Recommendation

Since incremental NPV is positive, the company is advised to replace the existing Machine.

Working Note

Original cost of old machine = ₹ 1,50,000 (1,50,000 – 50,000)

Depreciation (last 5 years) = ₹ 50,000 (10,000 × 5)

Current Book value of old machine = 1,50,000 - 50,000 = ₹ 1,00,000

Sales value (Now) = ₹ 50,000

Loss on sale = ₹ 50,000 (1,00,000 - 50,000)

Answer to Question No.3

Initial Cash Outflow	Amount (₹)
Cost of new machine	2,10,000
Add: Installation Cost	30,000
	2,40,000
Less: Effective sale value of old machine (₹ 25,000 - ₹ 10,000) Tax	(15,000)
incremental Cash Outflows	2,25,000

Years	Existing Machine EAT / Cash inflow (₹)	Net Machine		
		EAT (₹)	Depreciation (₹)	Cash Inflow (₹)
1	2,00,000	2,40,000	40,000	2,80,000
2	2,50,000	3,10,000	40,000	3,50,000
3	3,10,000	3,50,000	40,000	3,90,000
4	3,60,000	4,10,000	40,000	4,50,000
5	4,10,000	4,30,000	40,000	4,70,000
6	5,00,000	5,10,000	40,000	5,50,000

Since the existing machine has been fully depreciation (book value being zero) no depreciation would be added to determine Cash Inflow.

Determination of Incremental NPV of New Machine

Years	Incremental Cash Inflow (₹)	PV Factor @12%	Total PV (₹)
1	80,000	0.893	71,440
2	1,00,000	0.797	79,700
3	80,000	0.712	56,960
4	90,000	0.636	57,240
5	60,000	0.567	34,020
6	50,000	0.507	25,350
Total Present Value of Cash Inflows			3,24,710
Less: Initial Cash Outflow			(2,25,000)
NPV			99,710

Since, NPV of new machine is positive, the company should buy it.

Answer to Question No.4**Machine MX**

Year	Profit before Depreciation	Depreciation	PBT	Tax @ 30%	PAT	Cash Inflow	PVF @ 10%	Total PV
1	2,50,000	1,30,000	1,20,000	36,000	84,000	2,14,000	0.909	1,94,526
2	2,30,000	1,30,000	1,00,000	30,000	70,000	2,00,000	0.826	1,65,200
3	1,80,000	1,30,000	50,000	15,000	35,000	1,65,000	0.751	1,23,915
4	2,00,000	1,30,000	70,000	21,000	49,000	1,79,000	0.683	1,22,257
5	1,80,000	1,30,000	50,000	15,000	35,000	1,65,000	0.621	1,02,465
6	1,60,000	1,30,000	30,000	9,000	21,000	1,71,000	0.564	96,444
PV of Cash Inflows								8,04,807
(-) Initial Cash Outflow								(8,00,000)
NPV								4,807

Note 1: Depreciation each year = [(₹ 8,00,000 - ₹ 20,000)/6 years] = ₹ 1,30,000

Note 2: Cash Inflow in the 6th year includes salvage value of ₹ 20,000.

Machine MY

Year	Profit before Depreciation	Depreciation	PBT	Tax @ 30%	PAT	Cash Inflow	PVF @ 10%	Total PV
1	2,70,000	1,65,000	1,05,000	31,500	73,500	2,38,500	0.909	2,16,796
2	3,60,000	1,65,000	1,95,000	58,500	1,36,500	3,01,500	0.826	2,49,039
3	3,80,000	1,65,000	2,15,000	64,500	1,50,500	3,15,500	0.751	2,36,940
4	2,80,000	1,65,000	1,15,000	34,500	80,500	2,45,500	0.683	1,67,670
5	2,60,000	1,65,000	95,000	28,500	66,500	2,31,500	0.621	1,43,961
6	1,85,000	1,65,000	20,000	6,000	14,000	2,09,000	0.564	1,17,876
PV of Cash Inflows								11,32,092
(-) Initial Cash Outflow								(10,20,000)
NPV								1,12,092

Note 1 : Depreciation each year = $[(\text{₹ } 10,20,000 - \text{₹ } 30,000)/6 \text{ years}] = \text{₹ } 1,65,000$

Note 2 : Cash Inflow in the 6th year includes salvage value of ₹ 30,000

Conclusion: Machine MY is recommended to be purchased as its NPV is more.

Answer to Question No.5

Statement showing working capital requirement

Particulars	Amount (₹)
Current Assets	
Stock of Raw Material	60,00,000
Stock of WIP	75,00,000
Stock of finished goods	1,80,00,000
Debtors	1,80,00,000
Total Current Asset	4,95,00,000
Current Liabilities	
Creditors (1 month)	60,00,000
Wages outstanding (1 month)	10,00,000
Working Capital	4,25,00,000

Note 1 (Monthly Statement i.e. 12,00,000 units p.a. × 1/12 months = 1,00,000 units)

Particulars	Amount (₹)
Materials (1,00,000 units @ ₹ 60)	60,00,000
Wages (1,00,000 units @ ₹ 10)	10,00,000
Manufacturing Overheads (1,00,000 units @ ₹ 20)	20,00,000
Production Cost	90,00,000
Profit	10,00,000
Sales (1,00,000 units @ ₹ 100)	1,00,00,000

Note 2 (Work in progress)(1 month)

Material = ₹ 60,00,000 × 100% = 60,00,000

Labour = ₹ 10,00,000 × 50% = 5,00,000

Overheads = ₹ 20,00,000 × 50% = 10,00,000 = ₹ 75,00,000

Note 3 (Stock of finished goods) (2 months holding period)

Material = 60,00,000 × 2 = ₹ 1,20,00,000

Labour = 10,00,000 × 2 = ₹ 20,00,000

Manufacturing overheads = 20,00,000 × 2 = ₹ 40,00,000 = ₹ 1,80,00,000

Notes 3: Debtors collection = 2 months

Investment in debtors = ₹ 90,00,000 × 2 months = ₹ 1,80,00,000 (2 months cost in context of credit sales)

Answer to Question No.6**International trade & its comparison with Internal Trade**

1. International Trade means exchange of goods and services between the countries. On the other hand, internal trade means exchange of goods and services within the domestic territory of a country.
2. International trade involves transactions in multiple currencies. On the other hand, internal trade involves transactions in domestic currencies.
3. The system of international trade is very complex due to legal system, elaborate documentation, trade barriers, exchange rates and issues relating to shipping and transport. In case of internal trade, the complexities are less and insignificant as compared to international trade.
4. Liberal international trade is necessary for promotion of international relations. Although there are some restrictions which are necessary for a particular country but overall the approach must be liberal in nature. In case of internal trade, liberal trade is also necessary for overall development within the country.

Answer to Question No.7**Classical Theory (Comparative cost) & Modern Theory (Factor Endowment)**

Classical Theory/Comparative Cost	Modern Theory/Factor Endowment
1) It can be regarded as theory Based on labour value.	1) It can be regarded as theory Based on Endowment Value.
2) Labour is considered as only factor of production.	2) Labour & Capital are considered as factors of production.
3) Comparative Advantage arises due to skill and techniques of workers.	3) Comparative advantage arises due to relative difference in the availability of resources.
4) This theory treats international trade as quite distinct from domestic trade.	4) According to this theory, International trade is only an extension of inter- regional trade.

Answer to Question No.8

Ad-valorem Tariff:- Here, import duty is imposed as specific % of monetary value of imported goods. For example,

Monetary Value	Ad-valorem Duty	Amount of Duty
₹ 1,00,000	20%	₹ 20,000
₹ 1,50,000	20%	₹ 30,000

Ad-valorem tariff suffers from one limitation, i.e., the monetary value may be intentionally under-valued in order to reduce the tax burden.

Answer to Question No.9**Export Related Measures**

- 1) **Ban on Exports:** Certain items may be banned at all times for the purposes of the exports. During Periods of shortages in home country, specified products are banned from being exported, so as to make them available for home consumption.
- 2) **Export Taxes:** An export tax is a tax collected on exported goods and may be either specific or Ad valorem. The effect of an export tax is to raise the price of the goods and to decrease exports. It increases domestic supply; it also reduces domestic prices and leads to higher domestic consumption.
- 3) **Export Subsidies and Incentives:**
 - a) This is done to promote exports, and to make the product competitive in the global market.
 - b) **Indirect Taxes** paid locally on the Materials used in the production of Exported Product, may be refunded in the form of Refund, Duty Drawback, Duty-free supply of intermediates, etc.
 - c) **Direct Tax Concessions** may also be granted to Exporters.
 - d) Government may also provide Grants, Interest Free Loans, Subsidies, and similar support to Exporters.
4. **Voluntary Export Restraints:** It is a "Voluntary" agreement between two countries, that the exporting country will restrict the volume of exports of the specified goods.

Answer to Question No.10

- 1) **Unilateral Trade Agreement:** Here, the Importing country offers certain incentives to encourage the Exporting Country to engage in international trade which will boost both Countries' economies. It includes domestic structural reforms such as lowering tariffs and reducing bureaucratic regulations.
- 2) **Bilateral Trade Agreement:** These Agreements are between two nations at a time, (or two Blocs, or a Bloc and a Country). These Agreements give those two Nations favoured trading status between each other.

Answer to Question No.11**DOHA ROUND**

1. "Doha Round" is the latest round of trade negotiations among WTO member countries. It started in November 2001 and it has not concluded yet.
2. The objective was to give more priority to the less-developed countries and also to remove the trade barriers around the world which will facilitate increased global trade.
3. Progress in negotiations were stalled after the breakdown in July 2008 when major differences were observed among developed nations.[EU ,US , Canada and Japan] and developing countries [India, Brazil, China, and South Africa]
4. There is also considerable contention against and between the European Union and United States over maintenance of agricultural subsidies.
5. Another matter of contention was related to Intellectual Property Rights (IRR) on patented medicines. The United States insisted on current position whereas other countries insisted on the change in current position particularly in case of traditional medical knowledge and practice.

Answer to Question No.12

Vertical FDI :- This type of situations arises when a multinational decides to acquire or build the operations in foreign country which fulfills the role of a supplier (Backward Vertical FDI) or the role of distributor(Forward Vertical FDI). For example, if a publisher of books in Europe acquires printing firms in USA , it is an example of vertical FDI.

Answer to Question No.13**FDI v/s FPI**

<u>FDI</u>	<u>FPI</u>
1. The objective is to make the investment in physical assets like Building , Machinery, Plant ,etc.	1. The objective is to make the investment in financial assets like Share , Debentures, Bonds, etc.
2. It increase the production capacity in the country in which the investments is made.	2. There is no increase the production capacity In the country in which the investments is made.
3. It is often accompanied by technology transfer so as to obtain the increase in production capacity.	3. There is no issue of any technology transfer in this case.
4. Along with increased output, there are other favourable factors like increase in employment and wage levels of various types of workers.	4. Here, only financial assets are acquired. So, it doesn't lead to any employment generation.
5. Voting share is 10 % or more.	5. Voting share is less than 10 %.
6. It is a long- term investment and executed for acquiring management and control.	6. It is a short term investment and executed for acquiring financial assets only.
7. There is no element of speculation in this type of investment.	7. The element of speculation is generally prevalent in acquisition of Financial Assets.