

SUGGESTED SOLUTION

CA INTERMEDIATE NOV'19

SUBJECT- F.M. AND ECONOMICS

Test Code - CIM 8408

BRANCH - () (Date:)

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ANSWER - 1

ANSWER-A

MNOP Ltd.

Balance Sheet

Liabilities	Rs.	Assets	Rs.
Equity share capital	1,00,000	Fixed assets	60,000
Current debt	24,000	Cash (balancing figure)	60,000
Long term debt	36,000	Inventory	40,000
	1,60,000		1,60,000

Working Notes

1. Total debt = $0.60 \times \text{Equity share capital} = 0.60 \times \text{Rs. } 1,00,000 = \text{Rs. } 60,000$

Further, Current debt to total debt = 0.40. So, current debt = $0.40 \times Rs.60,000 = Rs.24,000$, Long term debt = Rs.60,000 - Rs.24,000 = Rs.36,000

- 2. Fixed assets = $0.60 \times \text{Equity share Capital} = 0.60 \times \text{Rs. } 1,00,000 = \text{Rs. } 60,000$
- 3. Total assets to turnover = 2 Times : Inventory turnover = 8 Times

 Hence, Inventory /Total assets = 2/8=1/4, Total assets = Rs. 1,60,000

 Therefore Inventory = Rs. 1,60,000/4 = Rs. 40,000

(5 MARKS)

ANSWER-B

Market price per share by

(i) Walter's formula:
$$P = \frac{D + \frac{r}{(E - D)}}{K_e}$$

$$P = \frac{6 + \frac{0.25}{0.20}(10 - 6)}{0.20}$$

$$P = Rs.55$$

(ii) Gordon's formula (Dividend Growth model): When the growth is incorporated in earnings and dividend, the present value of market price per share (P₀) is determined as follows:

Gordon's theory:

$$P_0 = \frac{E_1(1-b)}{K_e - br}$$

Where,

Po = Price per share

E₁ = Earnings per share

b = Retention ratio; (1 - b = Payout ratio)

Ke = Cost of capital

r = IRR

br = Growth rate (g)

$$P_o = \frac{10 (1-0.60)}{0.20-(0.60\times0.25)} = \frac{Rs}{0.05} = Rs.80$$

(5 MARKS)

ANSWER-C

Calculation of Leverages

Particulars	(Rs.)
Sales	60,00,000
Less: Variable Cost $\left(\text{Sales x } \frac{100}{150} \right)$	40,00,000
Contribution	20,00,000
Less: Fixed Cost	5,00,000
EBIT	15,00,000
Less: Interest on Debentures	3,30,000
EBT	11,70,000

Operating Leverage =
$$\frac{Contribution}{EBIT} = \frac{Rs.20,00,000}{Rs.15,00,000} = 1.3333$$

Financial Leverage =
$$\frac{EBIT}{EBT} = \frac{Rs.15,00,000}{Rs.11,70,000} = 1.2821$$

Combined Leverage = OL × FL or
$$\frac{\text{Contribution}}{EBT}$$

= 1.3333 × 1.2821or
$$\frac{\text{Rs.}20,00,000}{\text{Rs.}11,70,000}$$
 = 1.7094

ANSWER –D
Statement showing the determination of the risk adjusted net present value

Projects	Net cash outlays	Coefficient of variation	Risk adjusted discount rate	Annual cash inflow	PV factor 1-5 years	Discounted cash inflow	Net present value
	(Rs.)			(Rs.)		(Rs.)	(Rs.)
(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii) = (v) X	(viii) = (vii)
						(vi)	— (ii)
Х	2,10,000	1.20	16%	70,000	3.274	2,29,180	19,180
Υ	1,20,000	0.80	14%	42,000	3.433	1,44,186	24,186
Z	1,00,000	0.40	12%	30,000	3.605	1,08,150	8,150

(5 MARKS)

ANSWER – 2 ANSWER –A

	Rs.
Present level of receivables is 45 lakh× 50/365	6,16,438
In case of factor, receivables would reduce to 45 lakhs× 30/365	3,69,863
The costs of the existing policyare as follows:	
Cost of financing existing receivables: 6,16,438×10%	61,644
Cost of bad debts: 45 lakhs × 0.4%	18,000
Cost of current policy	79,644
The cost under the factor are as follows:	
Cost of financing new receivable through factor:	
(Rs. 3,69,863 × 0.8 × 0.11) + (Rs. 3,69,863 × 0.2 × 0.10)	39,945
= (32,548 + 7,397)	

Factor's annual fee: 45 Lakhs × 0.01	45,000
Administration costs saved:	(35,000)
Net cost under factor:	49,945

From the above analysis it is clear that the factor's services are cheaper than Existing policy by Rs. 29,699 (Rs. 79,644 - Rs.49,945) per year. Hence, the services of the factor should be accepted.

(6 MARKS)

ANSWER-B

Limitations are:

- 1) The lease rentals become payable soon after the acquisition of assets and no moratorium period is permissible as in case of term loans from financial institutions. The lease arrangement may, therefore, not be suitable for setting up of the new projects as it would entail cash outflows even before the project comes into operation.
- 2) The leased assets are purchased by the lessor who is the owner of equipment. The seller's warranties for satisfactory operation of the leased assets may sometimes not be available to lessee.
- 3) Lessor generally obtains credit facilities from banks etc. to purchase the leased equipment which are subject to hypothecation charge in favour of the bank. Default in payment by the lessor may sometimes result in seizure of assets by banks causing loss to the lessee.
- 4) Lease financing has a very high cost of interest as compared to interest charged on term loans by financial institutions/banks.

Despite all these disadvantages, the flexibility and simplicity offered by lease finance is bound to make it popular. Lease operations will find increasing use in the near future.

(4 MARKS)

ANSWER - 3

Working Notes:

Depreciation on Machine – I =
$$\frac{30,00,000}{10}$$
 = Rs. 3,00,000
Depreciation on Machine – II = $\frac{40,00,000}{10}$ = Rs. 4,00,000

Particulars	Machine-I (Rs.)	Machine – II (Rs.)
Annual Income (before Tax and Depreciation)	12,50,000	17,50,000
Less: Depreciation	3,00,000	4,00,000
Annual Income (before Tax)	9,50,000	13,50,000
Less: Tax @ 30%	(2,85,000)	(4,05,000)
Annual Income (after Tax)	6,65,000	9,45,000
Add: Depreciation	3,00,000	4,00,000
Annual Cash Inflows	9,65,000	13,45,000

	Machine – I			Machine - II			
Year	PV of Re 1 @ 15%	Cash flow	PV	Cumulative PV	Cash flow	PV	Cumulative PV
1	0.870	9,65,000	8,39,550	8,39,550	13,45,000	11,70,150	11,70,150
2	0.756	9,65,000	7,29,540	15,69,090	13,45,000	10,16,820	21,86,970
3	0.658	9,65,000	6,34,970	22,04,060	13,45,000	8,85,010	30,71,980
4	0.572	9,65,000	5,51,980	27,56,040	13,45,000	7,69,340	38,41,320
5	0.497	9,65,000	4,79,605	32,35,645	13,45,000	6,68,465	45,09,785

(5 MARKS)

(i) Discounted Payback Period

Machine - I

Discounted Payback Period = 4 +
$$\frac{(30,00,000 - 27,56,040)}{4,79,605}$$

$$=4 + \frac{2.43.960}{4.79.605} = 4 + 0.5087 = 4.5087$$
 years or 4 years 6.10 months |

Machine - II

Discounted Payback Period =
$$4 + \frac{(40,00,000 - 38,41,320)}{6,68,465}$$

$$=4 + \frac{1,58,680}{6,68,465} = 4 + 0.2374 = 4.2374$$
 years or 4 years 2.85 months

Machine - I

NPV = 32,35,645 - 30,00,000 = Rs. 2,35,645

Machine – II

NPV = 45,09,785 - 40,00,000 = Rs. 5,09,785

(iii)

Profitability Index

Machine - I

Profitability Index =
$$\frac{32,35,645}{30,00,000}$$
 = 1.08

Machine - II

Profitability Index =
$$\frac{45,09,785}{40,00,000}$$
 = 1.13

Conclusion:

Method	Machine - I	Machine - II	Rank
Discounted Payback Period	4.51 years	4.24 years	II
Net Present Value	Rs2,35,645	Rs. 5,09,785	II
Profitability Index	1.08	1.13	II

(5 MARKS)

ANSWER - 4

Calculation of Earnings per share under the three options:

		Options			
Particulars	Option I: Issue Equity shares only	Option II: Issue 16% Debentures only	Option III: Issue Equity Shares and 16%Debentures ofequal amount		
Number of Equity Shares (nos):					
- Existing	10,00,000	10,00,000	10,00,000		
- Newly issued	2,00,000		50,000		

	$\left(\frac{\text{Rs.50,00,000}}{\text{Rs.}(10+15)}\right)$		$\left(\frac{\text{Rs.25,00,000}}{\text{Rs.}(10+40)}\right)$
Total	12,00,000	10,00,000	10,50,000
16% Debentures Rs.		50,00,000	25,00,000
	Rs.	Rs.	Rs.
Profit Before Interest			
and Tax:			
- Existing pre-tax	60,00,000	60,00,000	60,00,000
profit			
- From new projects	40,00,000	40,00,000	40,00,000
	1,00,00,000	1,00,00,000	1,00,00,000
Less: Interest on 16%		8,00,000	4,00,000
Debentures		(16% Rs.50,00,000)	(16% x Rs.25,00,000)
Profit Before Tax	1,00,00,000	92,00,000	96,00,000
Tax at 50%	50,00,000	46,00,000	48,00,000
Profit After Tax	50,00,000	46,00,000	48,00,000
Earnings Per Share	4.17	4.60	4.57
(EPS)	$\left(\frac{Rs.50,00,000}{12,00,000}\right)$	$\left(\frac{Rs.46,00,000}{10,00,000}\right)$	$\left(\frac{Rs.48,00,000}{10,50,000}\right)$
$\overline{\text{No. of Shares}}$			

Advise: Option II i.e. issue of 16% Debentures is most suitable to maximize the earnings per share

(10 MARKS)

ANSWER – 5

Firm	Α	В	С	D
EBIT	Rs. 2,00,000	Rs. 3,00,000	Rs. 5,00,000	Rs. 6,00,000
Less: Interest	Rs. 20,000	Rs. 60,000	Rs. 2,00,000	Rs. 2,40,000
EBT = Net Income	Rs. 1,80,000	Rs. 2,40,000	Rs. 3,00,000	Rs. 3,60,000
K _e (given)	12%	16%	15%	18%
Value of Equity (E) = $\frac{EBT}{K_e}$	Rs.15,00,000	Rs.15,00,000	Rs.20,00,000	Rs.20,00,000
Value of Debt (D) = $\frac{Interest}{K_d}$	Rs. 2,00,000	Rs. 6,00,000	Rs.20,00,000	Rs.24,00,000

[Note: K _d - 10%]				
Value of Firm (V) = (E + D)	Rs.17,00,000	Rs.21,00,000	Rs.40,00,000	Rs.44,00,000
K_0 - WACC - $\frac{EBIT}{\text{Value of firm}}$	11.76%	14.29%	12.50%	13.64%

(6 MARKS)

When Firm A borrows Rs. 2 Lakhs at 10% interest rate, to repay Equity Capital, the effect on WACC will be as under -

Particulars	Before	After
EBIT (given)	Rs. 2,00,000	Rs. 2,00,000
Less: Interest	Rs. 20,000	Rs. 40,000
EBT = Net Income	Rs. 1,80,000	Rs. 1,60,000
K _e (given)	12%	12%
Value of Equity (E) = $\frac{EBT}{K_e}$	Rs. 15,00,000	Rs. 13,33,333
Value of Debt (D) - $\frac{Interest}{K_d}$ [Note: K _d - 10%]	Rs. 2,00,000	Rs. 4,00,000
Value of Firm (V) = (E + D)	Rs. 17,00,000	Rs. 17,33,333
K_0 - WACC - $\frac{EBIT}{\text{Value of Firm}}$	11.76%	11.54%

Under Net Income Approach, increase in Debt content leads to increase in Value of Firm & decrease in WACC.

(4 MARKS)

ANSWER - 6

ANSWER - A

A firm's financial management may often have the following as their objectives:

- (i) The maximization of firm's profit.
- (ii) The maximization of firm's value / wealth.

The maximisation of profit is often considered as an implied objective of a firm. To achieve the aforesaid objective various type of financing decisions may be taken. Options resulting into maximisation of profit may be selected by the firm's decision makers. They even sometime may adopt policies yielding exorbitant profits in short run which may prove to be unhealthy for the growth, survival and overall interests of the firm. The profit of the firm in this case is measured in terms of its total accounting profit available to its shareholders.

The value/wealth of a firm is defined as the market price of the firm's stock. The market price of a firm's stock represents the focal judgment of all market participants as to what the value of the particular firm is. It takes into account present and prospective future earnings per share, the timing and risk of these earnings, the dividend policy of the firm and many other factors that bear upon the market price of the stock.

The value maximisation objective of a firm is superior to its profit maximisation objective due to following reasons.

- 1. The value maximization objective of a firm considers all future cash flows, dividends, earning per share, risk of a decision etc. whereas profit maximization objective does not consider the effect of EPS, dividend paid or any other returns to shareholders or the wealth of the shareholder.
- 2. A firm that wishes to maximize the shareholders wealth may pay regular dividends whereas a firm with the objective of profit maximization may refrain from dividend payment to its shareholders.
- 3. Shareholders would prefer an increase in the firm's wealth against its generation of increasing flow of profits.
- 4. The market price of a share reflects the shareholders expected return, considering the long- term prospects of the firm, reflects the differences in timings of the returns, considers risk and recognizes the importance of distribution of returns.

The maximisation of a firm's value as reflected in the market price of a share is viewed as a proper goal of a firm. The profit maximisation can be considered as a part of the wealth maximisation strategy.

(4 MARKS)

ANSWER - B

Bridge finance refers, normally, to loans taken by the business, usually from commercial banks for a short period, pending disbursement of term loans by financial institutions, normally it takes time for the financial institution to finalise procedures of creation of security, tie-up participation with other institutions etc. even though a positive appraisal of the project has been made. However, once the loans are approved in principle, firms in order not to lose further time in starting their projects arrange for bridge finance. Such temporary loan is normally repaid out of the proceeds of the principal term loans. It is secured by hypothecation of moveable assets, personal guarantees and demand promissory notes. Generally rate of interest on bridge finance is higher as compared with that on term loans.

(4 MARKS)

ANSWER - C

Concentration Banking: In concentration banking the company establishes a number of strategic collection centres in different regions instead of a single collection centre at the head office. This system reduces the period between the time a customer mails in his remittances and the time when they become spendable funds with the company. Payments received by the different collection centers are deposited with their respective local banks which in turn transfer all surplus funds to the concentration bank of head office.

(2 MARKS)

SECTION -B

ANSWER - 1

ANSWER - A

National Income

$$Y = C+I+G+(X-M)$$

$$=(100+0.9Y_d)+100+120+200-(100+0.15Y)$$

$$= 100+0.9(Y-50)+100+120+200-100-0.15Y$$

$$Y = 375 + 0.75Y$$

$$Y-0.75Y = 375$$

$$0.25Y = 375$$

$$Y = 375 \times \frac{100}{25} = 1500$$

(3 Marks)

ANSWER - B

According to Milton Friedman, permanent income is a measure of wealth which is the present discounted value of all expected future incomes. As distinguished from transitory income, it is the normal income or the income that people expect to persist into the future. The nominal demand for money is a function of total wealth, which is represented by permanent income divided by the discount rate, defined as the average return on the five asset classes in the monetarist theory world, namely: money, bonds, equity, physical capital and human capital.

(3 Marks)

ANSWER - C

In order to protect the interest of consumer's government fixes the maximum price of the commodity. This maximum price is generally lower than the equilibrium price. This is called control price or ceiling price. This price is fixed by the government because poor people cannot afford to buy the commodity at equilibrium price. This situation arises when the production of a commodity is less than its demand. In India government has a control price or ceiling price of the commodities which it considers essential for the masses. For examples maximum prices of food grains and essential items like some goods such as wheat, rice, sugar, kerosene oil etc. are during scarcity.

(2 Marks)

ANSWER – D

Trade is distorted if quantities of commodities produced, bought, and sold and their prices are higher or lower than levels that would usually exist in a competitive market. For example, barriers to imports such as tariffs, domestic subsidies and quantitative restrictions can make agricultural products more costly in a market of a country. The higher prices will result in higher production of crop. Then export subsidies are needed to sell the surplus output in the world markets, where prices are low. Thus, the subsidizing countries can be producing and exporting considerably more than what they normally would.

(2 Marks)

ANSWER – 2

ANSWER – A

(i) Lower interest rates increases disposable incomes and influence the spending decisions of households and businesses by reducing the amount of interest they pay on debt. Reductions in interest rates which they receive on deposits reduce the incentives for households to save and may encourage them to borrow and spend now rather than later, in particular, on durable goods, such as cars and household appliances, and housing. Lower interest rates are thus associated with higher household consumption and housing investment. Similarly, with lower interest rates the cost of borrowing declines, expected returns on investment projects increase, and these encourage businesses to borrow and increase their spending on investment (in capital assets like new equipment or buildings). Since households and businesses substitute between spending now and in the future, overall, lower interest rates should be associated with an increase in business investment.

(3 Marks)

(ii) Perfect information which implies that both buyers and sellers have complete information about anything that may influence their decision making is an important element of an efficient competitive market. Information failure occurs when lack of information can result in consumers and producers making decisions that do not maximize welfare. Information failure is widespread in numerous market exchanges due to complex nature of goods and services that are transacted, inaccurate and incomplete data, and non-availability of correct information.

(3 Marks)

ANSWER – B

(i) Nominal GDP is calculated in terms of current prices. Nominal GDP growth refers to the percentage change in nominal GDP over a specific period of time. Since the effect of inflation/deflation is not removed, it does not present the true picture of growth of the economy.

(2 Marks)

(ii) Optimal output is the ideal quantity of output that ensures maximum level of social welfare. This will occur at a level of output where social marginal cost (SMC) = social marginal benefit. (SMB) At this level of output the society's resources are utilised in the most efficient way.

ANSWER - 3

ANSWER - A

(i) A direct effect of monetary policy on the firm's balance sheet comes through an increase in interest rates leading to an increase in the payments that the firm must make to repay its floating rate debts. Logically, as a firm's cost of credit rises, the strength of its balance sheet deteriorates. An indirect effect occurs when the same increase in interest rates works to reduce the capitalized value of the firm's long-lived assets. Reduced net worth of businesses and individuals make it tougher for them to qualify for loans at any interest rate, thus reducing spending and price pressures. Hence, a policy-induced increase in the short-term interest rate not only acts immediately to depress spending through the traditional interest rate channel, it also acts, possibly with a time-lag, to raise each firm's cost of capital through the balance sheet channel. These together aggravate the decline in output and employment.

Conversely, a reduction in interest rates can increase the borrowing capacity of households and businesses. This is because lower interest rates are associated with higher asset prices. In turn, higher asset prices increase the equity (or collateral) of existing assets that a bank can lend against. As a result, borrowers with existing assets may be able to borrow more, which can lead to more spending.

(3 Marks)

(ii) The nature of the economic system determines the size and scope of the economic functions of the government. In a centrally planned socialistic economy, the state owns all productive resources and makes all important economic decisions. On the contrary, in a market economy, all important economic decisions are made by individuals and firms who want to maximise self interest and there is only limited role for the government. In a mixed economic system, both markets and government contribute towards resource allocation decisions.

(2 Marks)

ANSWER - B

NDPFC = Compensation of Employees + Operating Surplus + Mixed Income

$$= (viii) + (ix) + (iv) + (v) + (vi) + (vii) = 489 + 50 + 311 + 892 + 81 + 6 = 1829$$
Crores

GDPMP = NDPFC + Depreciation + Net Indirect Tax

$$= NDPFC + (ii) + (i) = 1829 + 42 + 208 = 2079$$
Crores

NNP Fc= NDPFC + Net Factor Income from Abroad

$$= NDPFC + (iii) = 2079 + (-40) = 2039 Crores$$

(5 Marks)

ANSWER – 4

ANSWER - A

(i) Since FDI involves setting up of production base (in terms of factories, power plants, etc.) it generates direct employment in the recipient country. Subsequent FDI as well as domestic investments propelled in the downstream and upstream projects that come up in multitude of other services generate multiplier effects on employment and income. FDI not only creates direct employment opportunities but also, through backward and forward linkages, it is able to generate indirect employment opportunities as well. Foreign direct investments also promote relatively higher wages for skilled jobs. However, jobs that require expertise and entrepreneurial skills for creative decision making may generally be retained in the home country and therefore the host country is left with routine management jobs that demand only lower levels of skills and ability. This may result in 'crowding in' of people in jobs requiring low skills, perpetuation of low labour standards and differential treatment.

FDIs are likely use labor-saving technology and capital-intensive methods in a labour-abundant country and cause labour displacement. Such technology is inappropriate for a labour-abundant country as it does not support generation of jobs which is a crucial requirement to address poverty and unemployment which are the two fundamental areas of concern for the less developed countries. Not only that foreign entities fail to support employment generation, but they may also drive out domestic firms from the industry resulting in serious problems of displacement of labour.

(5 Marks)

ANSWER – B

(i) A final good is a good sold to final purchasers and is consumed by the end user in its present state. It does not require any further processing and therefore will not undergo any further transformation at the hands of producer. Once a final good has been sold, it passes out of the active economic flow. The value of the final goods already includes the value of the intermediate goods that have entered into their production as inputs.

(2 Marks)

(ii) Externalities, also referred to as 'spillover effects', 'neighbourhood effects' 'third-party effects' or 'side-effects', occur when the actions of either consumers or producers result in costs or benefits that do not reflect as part of the market price. Externalities cause market inefficiencies because they hinder the ability of market prices to convey accurate information about how much to produce and how much to buy. Since externalities are not reflected in market prices, they can be a source of economic inefficiency. The four possible types of externalities are negative externality initiated in production which imposes an external cost on others, positive production externality, less commonly seen, initiated in production that confers external benefits on others, negative consumption externalities initiated in consumption which produce external costs on others, positive consumption externality initiated in consumption that confers external benefits on others. Each of the above may be received by another in consumption or in production.

(3 Marks)

ANSWER - 5

ANSWER - A

(i) The allocation responsibility of the governments involves suitable corrective action when private markets fail to provide the right and desirable combination of goods and services to ensure social welfare. In the absence of appropriate government intervention, market failures may occur and the resources are likely to be misallocated by too much production of certain goods or too little production of certain other goods. Thus, market failures provide the rationale for government's allocative function.

(3 Marks)

(ii) Non tariff measures are policy measures other than ordinary customs tariffs that can potentially have an economic effect on international trade in goods, changing quantities traded, or prices or both (UNCTAD, 2010). For example, the sound use of NTMs like sanitary and phytosanitary measures and licensing could be legitimately used to ensure consumer health and to protect plant and animal life and environment

NTMs are not the same as non-tariff barriers (NTBs). NTMs are sometimes used as means to circumvent free-trade rules and favour domestic industries at the expense of foreign competition. In this case they are called non-tariff barriers (NTBs). NTBs are a subset of NTMs that have a 'protectionist or discriminatory intent' and implies a negative impact on trade. NTMs only become NTBs when they are more trade restrictive than necessary. Some examples of NTBs are compulsory standards, often not based on international norms or genuine science; stringent technical regulations requiring alterations in production processes, testing regimes which require complex procedures and product approvals requiring inspection of individual premises.

(3 Marks)

ANSWER - B

(i) The rate between Y and Z which is derived from the given rates of another set of two pairs of currency (say, X and Y, and, X and Z) is called cross rate.

(2 Marks)

(ii) Local content policies requiring the purchase or use by a foreign enterprise of domestic products and employment of the local workforce seek to ensure that the maximum benefits from production activities accrue to local economic actors. These are essentially aimed at reducing the volume or value of imports or at restraining the employment of foreign labour.

OR

Open market operations are conducted by the RBI by way of sale or purchase of government securities to adjust money supply conditions. The central bank sells government securities to suck out liquidity from the system and buys back government securities to infuse liquidity into the system. When the RBI feels that there is excess liquidity in the market, it resorts to sale of securities thereby sucking out the rupee liquidity. Similarly, when the liquidity conditions are tight, the RBI will buy securities from the market, thereby releasing liquidity into the

market. These operations are often conducted on a day-to-day basis in a manner that balances inflation while helping the banks to continue lending.		
	(2 Marks)	