MOCK TEST PAPER – II

INTERMEDIATE (NEW): GROUP – II

PAPER – 8: FINANCIAL MANAGEMENT & ECONOMICS FOR FINANCE

PAPER 8A : FINANICAL MANAGEMENT

SUGGESTED ANSWERS/HINTS

1. (a) Computation of Weighted Average Cost of Capital (WACC) for each level of Debt-equity mix.

Debt (%)	Required return (K_d)(%)	Equity (%)	Required return (K_e) (%)	K_d× Proportion of debt + K_e Proportion and equity	Weighted Average Cost of Capital (WACC)(K_o)(%)
0	5	100	15	0%(5%)+100%(15%)	15
20	6	80	16	20%(6%)+80%(16%)	14
40	7	60	18	40%(7%)+60%(18%)	13.6
60	10	40	23	60%(10%)+40%(23%)	15.2
80	15	20	35	80%(15%)+20%(35%)	19

The optimum mix is 40% debt and 60% equity, as this will lead to lowest WACC value i.e., 13.6%.

(b) Calculation of Effective Cost of Capital

Particulars	Option 1 14% institutional Term loan (Rs. in Lakhs)	Option 2 13% Non-convertible Debentures (Rs. in lakhs)
(A) Effective capital to be raised Face value	250.00	250.00
Less: Discount	Nil	(6.25)
	250.00	243.75
Less: Cost of issue	Nil	5.00
Effective amount of capital	250.00	238.75
(B) Annual interest charges on face value of Rs. 250 lakhs	35.0	32.50
Less: Tax benefit on interest @ 50%	17.5	16.25
	17.5	16.25
(C) Effective cost of capital after tax	$\frac{B}{A}$ x 100 = 7.0%	$\frac{16.25}{238.75}$ x100 = 6.81% (approx)

So, the better option is raising of funds of Rs.250 lakhs by issue of 13% Non-convertible Debenture

(c)

Year 1			Year 2			Year 3		
Cash Flow (Rs.)	Probability	Expected Value (Rs.)	Cash Flow (Rs.)	Probability	Expected Value (Rs.)	Cash Flow (Rs.)	Probability	Expected Value (Rs.)
2,000	0.1	200	2,000	0.2	400	2,000	0.3	600
4,000	0.2	800	4,000	0.3	1200	4,000	0.4	1,600
6,000	0.3	1,800	6,000	0.4	2400	6,000	0.2	1,200

8,000	0.4	3,200	8,000	0.1	800	8,000	0.1	800
ENCF		6,000			4,800			4,200

The present value of the expected value of cash flow at 10 per cent discount rate has been determined as follows:

$$\text{Present Value of cash flow} = \frac{ENCF_1}{(1+k)^1} + \frac{ENCF_2}{(1+k)^2} + \frac{ENCF_3}{(1+k)^3}$$

$$= \frac{6,000}{(1.1)^1} + \frac{4,800}{(1.1)^2} + \frac{4,200}{(1.1)^3}$$

= (6,000 × 0.909) + (4,800 × 0.826) + (4,200 + 0.751)

= 12,573

Expected Net Present value = Present Value of cash flow - Initial Investment

= Rs. 12,573 – Rs.10,000 = Rs.2,573.

(d) **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 x Equity share capital = 0.60 × Rs. 1,00,000 = Rs. 60,000
   Further, Current debt to total debt = 0.40. So, current debt = 0.40 × Rs.60,000 = Rs.24,000,
   Long term debt = Rs.60,000 - Rs.24,000= Rs. 36,000
2. Fixed assets = 0.60 × Equity share Capital = 0.60 × Rs. 1,00,000 = 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

2. (a)

Sales in units	60,000 Rs.	50,000 Rs.
Sales Value	7,20,000	6,00,000
Variable Cost	(4,80,000)	(4,00,000)
Contribution	2,40,000	2,00,000
Fixed expenses	1,00,000	1,00,000
EBIT	1,40,000	1,00,000
Debenture Interest	(50,000)	(50,000)
EBT	90,000	50,000
Tax @ 30%	(27,000)	(15,000)

Profit after tax (PAT)	63,000	35,000

(i) Earning per share (EPS) = $\frac{63,000}{5,000}$ = Rs. 12.6 $\frac{35,000}{5,000}$ = Rs. 7

Decrease in EPS = 12.6 – 7 = 5.6

% decrease in EPS = $\frac{5.6}{12.6} \times 100 = 44.44\%$

(ii) Operating leverage = $\frac{\text{Contribution}}{\text{EBIT}}$ = $\frac{2,40,000}{1,40,000}$ $\frac{2,00,000}{1,00,000}$

= 1.71 2

(iii) Financial Leverage = $\frac{\text{EBIT}}{\text{EBT}}$ = $\frac{1,40,000}{90,000}$ $\frac{1,00,000}{50,000}$

= 1.56 2

(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.

3. (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 policy are 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) = (32,548 + 7,397)	39,945

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.

(b) The term trading on equity means debts are contracted and loans are raised mainly on the basis of equity capital. Those who provide debt have a limited share in the firm's earning and hence want to be protected in terms of earnings and values represented by equity capital. Since fixed charges do not vary with firm's earnings before interest and tax, a magnified effect is produced on earning per share. Whether the leverage is favourable, in the sense, increase in earnings per share more proportionately to the increased earnings before interest and tax, depends on the profitability of investment proposal. If the rate of returns on investment exceeds their explicit cost, financial leverage is said to be positive.

4. (a) Since funds available are restricted, the normal Net Present Value (NPV) rule of accepting investments decisions with the highest NPVs cannot be adopted straight way. Further, as the projects are divisible, a Profitability Index (PI) can be utilized to provide the most beneficial combination of investment for Rio Ltd.

Project	PV Per Rs.	Rank as per PI
Alfa (α)	Rs. 6,40,000 / Rs. 5,40,000 = 1.185	III
Beta (β)	Rs. 7,50,000 / Rs. 6,00,000 = 1.250	I
Gama (γ)	Rs. 3,18,000 / Rs. 2,60,000 = 1.223	II

Therefore Rio Ltd should invest Rs. 6,00,000 into project β (Rank I) earnings Rs. 1,50,000 and Rs.2,00,000 into project γ (Rank II) earning Rs.44,615 Rs. 2,00,000 / Rs. 2,60,000 × Rs. 58,000

So, total NPV will be Rs.1,94,615 Rs. 1,50,000 + Rs. 44,615 from Rs. 8,00,000 of investment.

(b) Calculation of Risk Adjusted rate

Risk level	Risk free rate (%)	Risk Premium (%)	Risk adjusted rate (%)
Low	8	4	12
Medium	8	7	15
High	8	10	18

The cash flows of the project considered are as following:

Point in time (yearly intervals)	0	1	2
Cash flow (Rs. in crore)	(100)	45	80

If the project is judged to be Low risk

Years	0	1	2
PV (Rs. in crore)	(100)	$\frac{45}{1+0.12} = 40.18$	$\frac{80}{(1+0.12)^2} = 63.78$

NPV = 40.18 + 63.78 – 100 = 3.96: Accept

If the project is judged to be Medium risk

Years	0	1	2
PV (Rs. in crore)	(100)	$\frac{45}{1+0.15} = 39.13$	$\frac{80}{(1+0.15)^2} = 60.49$

NPV = 39.13 + 60.49 – 100 = (0.38): Reject

If the project is judged to be High risk

Years	0	1	2
PV (Rs. in crore)	(100)	$\frac{45}{1+0.18} = 38.14$	$\frac{80}{(1+0.18)^2} = 57.45$

NPV = 38.14 + 57.45 – 100 = (4.41): Reject

5. (i) The EPS of the firm is Rs. 10 (i.e., Rs. 2,00,000/ 20,000). The P/E Ratio is given at 12.5 and the cost of capital, k_e, may be taken at the inverse of P/E ratio. Therefore, k_e is 8 (i.e., 1/12.5). The firm is distributing total dividends of Rs. 1,50,000 among 20,000 shares, giving a dividend per share of Rs. 7.50. the value of the share as per Walter's model may be found as follows:

$$P = \frac{D}{K_e} + \frac{(r/K_e)(E-D)}{K_e} = \frac{7.50}{.08} + \frac{(.10/.08)(10-7.5)}{.08} = \text{Rs. } 132.81$$

The firm has a dividend payout of 75% (i.e., Rs. 1,50,000) out of total earnings of Rs. 2,00,000. since, the rate of return of the firm, r, is 10% and it is more than the k_e of 8%, therefore, by distributing 75% of earnings, the firm is not following an optimal dividend policy. The optimal dividend policy for the firm would be to pay zero dividend and in such a situation, the market price would be

$$P = \frac{D}{k_e} + \frac{(r/K_e)(E-D)}{K_e} = \frac{0}{.08} + \frac{(.10/.08)(10-0)}{.08} = \text{Rs. } 156.25$$

So, theoretically the market price of the share can be increased by adopting a zero payout.

(ii) The P/E ratio at which the dividend policy will have no effect on the value of the share is such at which the k_e would be equal to the rate of return, r, of the firm. The K_e would be 10% (=r) at the P/E ratio of 10. Therefore, at the P/E ratio of 10, the dividend policy would have no effect on the value of the share.

(iii) If the P/E is 8 instead of 12.5, then the K_e which is the inverse of P/E ratio, would be 12.5 and in such a situation k_e> r and the market price, as per Walter's model would be

$$P = \frac{D}{K_e} + \frac{(r/K_e)(E-D)}{K_e} = \frac{7.50}{.125} + \frac{(.1/.125)\ (10-7.5)}{.125} = \text{Rs. } 76$$

6. (a) 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.

(b) Virtual Banking and its Advantages

Virtual banking refers to the provision of banking and related services through the use of information technology without direct recourse to the bank by the customer.

The advantages of virtual banking services are as follows:

- Lower cost of handling a transaction.
- The increased speed of response to customer requirements.
- The lower cost of operating branch network along with reduced staff costs leads to cost efficiency.

Virtual banking allows the possibility of improved and a range of services being made available to the customer rapidly, accurately and at his convenience.

(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

7. (a) National Income

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

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

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

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

$Y= 375+0.75Y$

$Y-0.75Y= 375$

$0.25Y= 375$

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

(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.

(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.

(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 subsidising countries can be producing and exporting considerably more than what they normally would.

8. (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.

(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.

(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.

(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.

9. (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.

(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.

(b) NDP_{FC} = Compensation of Employees + Operating Surplus + Mixed Income

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

GDP_{MP} = NDP_{FC} + Depreciation + Net Indirect Tax

= NDP_{FC} + (ii) + (i) = 1829 + 42 + 208 = 2079 Crores

NNP_{Fc}= NDP_{FC} + Net Factor Income from Abroad

= NDP_{FC} + (iii) = 2079+ (-40) = 2039 Crores

10. (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.

(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.

(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.

11. (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.

(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

(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.

(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.