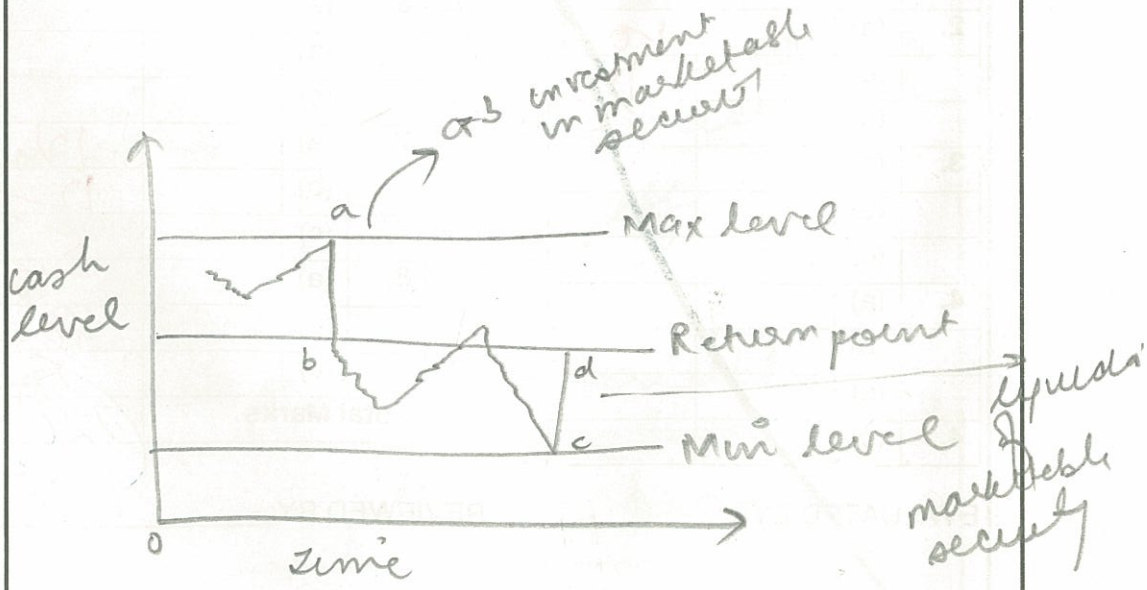
Ques 1.
(a)

Miller Orr Model

is a cash management model in Working capital management.

Assumptions

1. Cash use in firm is STOCHASTIC / RANDOM
2. Therefore application of control required to manage cash
3. no transaction cost for conversion into marketable security of cash
4. No lead time in ~~cash~~ conversion



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Explanation of model

In the given diagram,

3 limits set by firm - maximum, return point and minimum level.

As soon as cash level reaches the maximum level → conversion of cash into marketable securities of amount a-b is done.

This leads to cash returning at return point.

If the cash level reaches the minimum level → marketable securities of amount c-d sold and cash level reaches to return point.

Significance of model - suitable when cash flow is randomised as compared to Baumol model of cash mgmt.

Return point calculated =

$$RL = \left(\frac{3b\sigma^2}{4I}\right)^{1/3} + \text{Lower limit}$$

where b = transaction cost

σ = standard deviation showing variability of cash flow

I = interest rate

(b)

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Q1(b)

CAPM

Capital asset pricing model is a technique of calculation of the cost of equity through risk based approach.

equity shareholders generally demand higher rate of return if the risk exposure increases.

Assumptions of the model

2 kinds of risk

Systematic risk / Non diversifiable risk (B).

↓

cant be diversified, denoted by B.

Unsystematic risk / Diversifiable risk

↓

assumed that fully diversified by use of market portfolio

$$k_e = R_f + \beta(R_m - R_f)$$

→ risk premium

where

k_e = cost of equity

R_f = Risk free rate of return

β → systematic risk

3

Critical analysis of model

Merits	Demerits
Compared to dividend model, it takes into consideration of risk	Superiority of dividend model of cost of equity is that other factors like ~~cost~~ location cost, Leverage, growth considered

explain how the pricing of Capital Asset is done?

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Q1(c)

Interest exclusion principle

states that financial cash flows such ~~tho~~ as dividend payment, interest payment, proceeds of new equity issue will NOT BE CONSIDERED while considering cash flows from investment decision.

Rationale:

① These financial cash flows are considered while computing the cost of capital - WACC

eg: k_e considers dividend payment
k_d considers interest payment

② If considered would lead to DOUBLE COUNTING & HENCE

③ investment decision and

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financing decisions are hence considered separate

Therefore by discounting at appropriate rate ie cost of capital – ko, ~~these~~ financial ~~outflows~~ flows are already considered, hence excluded.

Could have given illustration

D

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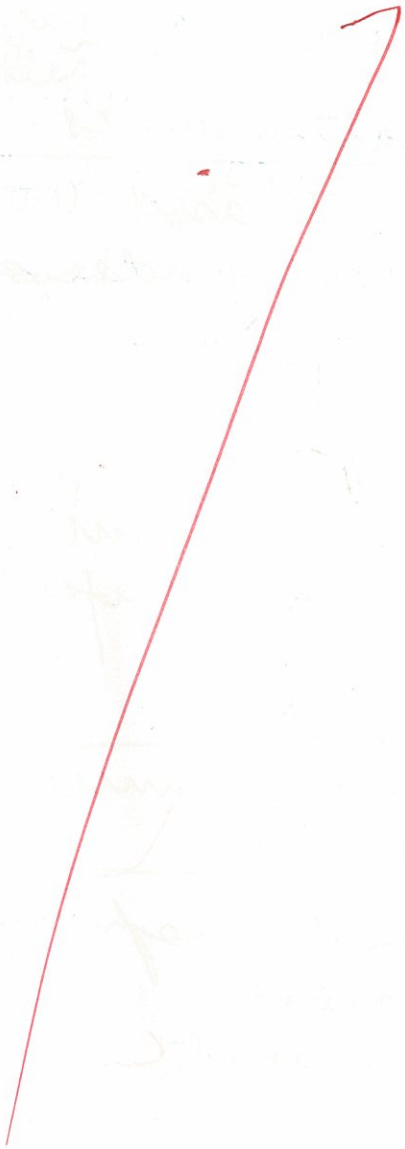
Q1(d) -



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Q1(e)

Demonetisation

was an exercise conducted on 9th November 2016 which the high denomination notes ~~specially~~ 500₹ and 1000₹ lost the legal tender status.

3 main objectives

- curb black money
- reduce terror financing
- eliminate counterfeit currency.

Impact on financial market

can be considered through impact on
- money market
- capital market

Impact on capital market

- Due to soaking of liquidity, the ~~to~~ inflows/investment

in capital market declined.

Share prices of cash intensive sectors just as construction sector declined.

Impact on money market

. as the cash deposits of banks multiplied, huge activity to manage surplus deficit in the money market.

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Q5 (a)

EPS accretion or dilution.

EPS refers to earning per share given by earnings available to equity holders

÷

No. of outstanding shares

EPS accretion refers to the increase in EPS which can occur due to multiple reasons

① Increase in leverage/debt financing, provided favourable return on investment > cost of debt

② buyback of shares

③ increase in earnings of the firm.

EPS dilution refers to the decrease in EPS which can occur due to ~~decline~~ increase in leverage

when unfavourable return on investment < cost of debt.

Favourable leverage

when ROI > kd (cost of debt).

Increasing use of leverage will maximise EPS because interest payment is a ~~cash~~ tax deductible expenses and this leads to decline of cash outflows as tax and maximises earning per share.

5m

Illustration: → 2 firms with capital = 5,00,000 and A is leveraged and B unleveraged

(A)	(B)
kd = 5%.	Total equity = 5,00,000 (50,000 shares @ 10 per share)
total debt = 2,00,000	
EBIT = 1,00,000	
tax = 30%.	
equity = 3,00,000 @ 10 per share	
EBIT : 1,00,000	EBIT : 1,00,000
Less: interest 10,000	Less: interest -
EBT 90,000	EBT 1,00,000
Less tax 30% 27,000	Less tax 30% 30,000

EAT: 63,000	70,000
÷ 30,000 shares	÷ 50,000 shares
EPS = 2.1 per share	1.4 per share.

Therefore EPS of firm A (levered firm) is greater than firm B due to use of debt in its capital structure. Therefore it is called TRADING ON EQUITY.

EPS dilution

However if return on investment is less than the cost of debt, use of increasing financial leverage would lead to decline in level of EPS.

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Q5(b)

Insolvency Resolution Plan

Insolvency refers to the firm's inability to pay its debt obligations.

Insolvency Resolution plan refers to letting the firm recoup through internal and external mechanisms or liquidation as the last resort as per the new Insolvency and bankruptcy code..

1. Mechanism will be set up consisting empowered group / standing cell and the forum.
2. First mechanism to revive the firm would be considered for eg: Corporate debt restructuring where the debts of the company could be restructured if viable outside the

purview of BIFR.

(b) If no plans to revive the firm work, then comparison between firm's liabilities (consisting of both operational and financial creditors) and the assets done.

(c) Banks have been given wide powers to get their due amount back which includes

- control over management
- appointment of receiver
- sale of assets

(d) Insolvency professionals will be appointed to create an insolvency plan

(e) appellate mechanism as per the new code.

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Debt recovery tribunals

↓

for individuals and unlimited liability partnership

National company law tribunal

↓

for companies and limited liability partnership

- time limit of 180 days has been set up to complete the insolvency proceedings, which can further be extended by 90 days.

3

Significance:

that faster resolution of insolvency cases will lead to freeing up of the locked capital, decline in NPAs, and faster exit of business

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leading to the ease of doing business.

(c) Negative Trading on equity

refers to the case when

cost of debt (kd) > ROI (rate of investment).

This leads to situation where increasing use of debt financing in the capital structure would lead to decline in the EPS – earning per share of the firm.

Illustration:

2 firms with capital = 10,00,000

Firm A → 2,00,000 debt and 8,00,000 equity

Firm B – 10,00,000 equity

with EBIT = 5% of capital

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Leveraged form		Unleveraged form
EBIT →	50,000	50,000
(Interest)	20,000	—
EBT	30,000	50,000
Tax:	9,000	15,000
EAT	21,000	35,000
÷ outstanding shares	80,000 shares	1,00,000 shares
EPS:	0.2625	0.35

Therefore we saw that in present case, ROI ie 5% was less than cost of debt ie 10%. debt in leveraged form A, the EPS of the leveraged form is less than the unleveraged form.

3

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Therefore such firms should avoid the use of debt in capital structure as it would lead to fall in EPS, hence negative trading on equity.

Q5 (b)

Securities Exchange Board of India (SEBI)

is a statutory regulator of CAPITAL MARKETS in India and derives its powers from the Sebi Act, 1992.

Its powers broadly includes regulation and development of capital markets and protection

of investor interest.

Powers of Sebi

1. registration and licensing of intermediaries such as share brokers, share agents. grant, withdrawal of license
2. registration and licencing of depositories such as CDSL, NDSL
3. registration and regulation of collective investment schemes, mutual funds, venture capital funds.
4. regulations for listing and issue of securities in capital market such as clause 49 after recommendations of KM Birla committee.
5. controlling fraudulent practices and unfair trading practices

such as insider trading, suspension of trading by shareholders

(8) Action against fraudulent stock scams eg: Satyam, illegal CIS eg: Saradha and regulations for corporate governance.

Significance

due to the actions of Sebi, many new reforms such as demutualisation, corporatisation, introduction of rolling settlement, derivatives trading brought in which has enhanced investor confidence and integrated with globally best practices

5

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Ques 5

(e) Determinants of working capital →

(1) Nature of business

for eg: wether trading / manufacturing / service

for eg. restaurant would have less working capital needs due to simultaneous realisation of cash.

(2) ~~Seasonal~~ demand

If higher demand, the ~~more~~ the working capital needs would decrease.

Similarly if the seasonal demand eg: sweaters, their working capital would vary across season, increase in winters.

(3) OPERATIONAL efficiency of firm

If operational efficiency is higher ie high stock turnover ratio debtor turnover ratio would lead to decline in working capital needs

(4) Credit policy to Customers

If relaxed credit terms eg: higher credit period granted to debtors, working capital need would increase due to increase in investment of average debtor.

Depend on competitors policy, debtor requirements, effect on sales, etc.

(5) Credit granted by creditors

(6) Inventory policy of firm

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for eg: use of techniques like just in time, economic order quality would lead to decline in the inventory needs of the firm

Significance:

Determination of the optimum working capital needs is crucial as it affects the liquidity, ability of the firm to meet its commitments, profitability and goodwill of the firm.

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Q2
(a).

Production → 60,000

Cost to sales

60% RM | 10% DL | 20% O/H.

2 MONTH

creditor turnover ratio = Net credit pur / Avege debtor creditor = 6.

WIP → 1 month

Stock turnover = COGS / Avg inventory = 4 times

DTO = 4 times = Net sales / avge debtor

SP = 5

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Estimation of Working Capital

CURRENT ASSETS		
Raw Materials		
$\frac{60,000 \times 3}{12 \text{ months}} \times 2$ months		30,000
Work in progress		
$\frac{60,000 \times 3}{12 \text{ month}} \times 1$ month +		
$\frac{60,000 \times 1.5 \times 1 \text{ month}}{12 \text{ month}}$ x 50% (WN5)		18750
15000 + 3750		
Average inventory WN 3		67,500
Average debtors WN 4		75,000
Total current assets		191250
current liabilities		
Average creditors WN 2		(30,000)
TOTAL WORKING CAPITAL needed		161250

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Working notes and assumptions

WN1 It has been assumed that all purchases and sales are credit.

WN2

Creditor Turn Rato = 6

credit purchases = $\frac{60,000 \times 3}{\text{average creditors}}$ = 6.

$\frac{60,000 \times 3}{6}$ = average credit

= 30,000 ₹

Average creditors = ₹30,000

WN3

Stock turnover =

$\frac{\text{COGS}}{\text{Av Inventory}} = \frac{60,000 \times 4.5}{\text{av inventory}} = 4$

av inventory = $\frac{60,000 \times 4.5}{4}$

Average inventory = 67,500 ₹

here take debtors as cost. because the purpose is to find the amount blocked in Debtors and not the amount receivable from the debtors

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WN4

$$\text{DTO} = \frac{\text{Net Credit sales}}{\text{Average debtor}}$$

$$4 = \frac{60,000 \times 5}{\text{Average debtor}}$$

Average debtor = ₹ 75,000

WN5 It has been assumed that Work in progress is only 50% complete for labour and overhead

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Ques 2

(a).

	Budgets	Budgetary Control
Definition	Budgets as per CIMA, refers to a plan of action in quantitative/ monetary terms for future period of time.	Budgetary control is the method of COST CONTROL through the use of budgets
Time of happening	Budgets are created first	Budgetary control happens after creation of budgets.
	determination of budget centre → estimation of material, labour cost requirements → communication with manager → Review and Revision	• Creation of Budget → • Performance to ensure actual figures remain as per budgeted figures → • Calculation of variance i.e difference between actual and standard figure

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		Remedial action taken
Objectives	• Cost control • Fixation of selling price, price protection • Cost consciousness • Motivation	Cost control — creating pressure to ensure that actual figures stay within budgeted figures
Review action	No action taken if actual figures within budgeted figures	Variances are analyses, causes determined and remedial action taken.
Scope	Preventive action	Corrective action

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Flexible budgeting

refers to the process of making budgets for different activity levels ie 40%, 50%, 60%.

Eg:

Sales at 40%	50%	60%
40,000 units	50,000	60,000 units

accordingly the direct material, labour, overhead, production, cash budgets created.

Rationale

(1) Due to market uncertainty and changing business conditions because of which sales may differ from expected.

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(2) More realistic and effective method of cost control as gives budgeted figures for different levels as compared to fixed budgeting where if actual sales differ from the expected, variances would occur.

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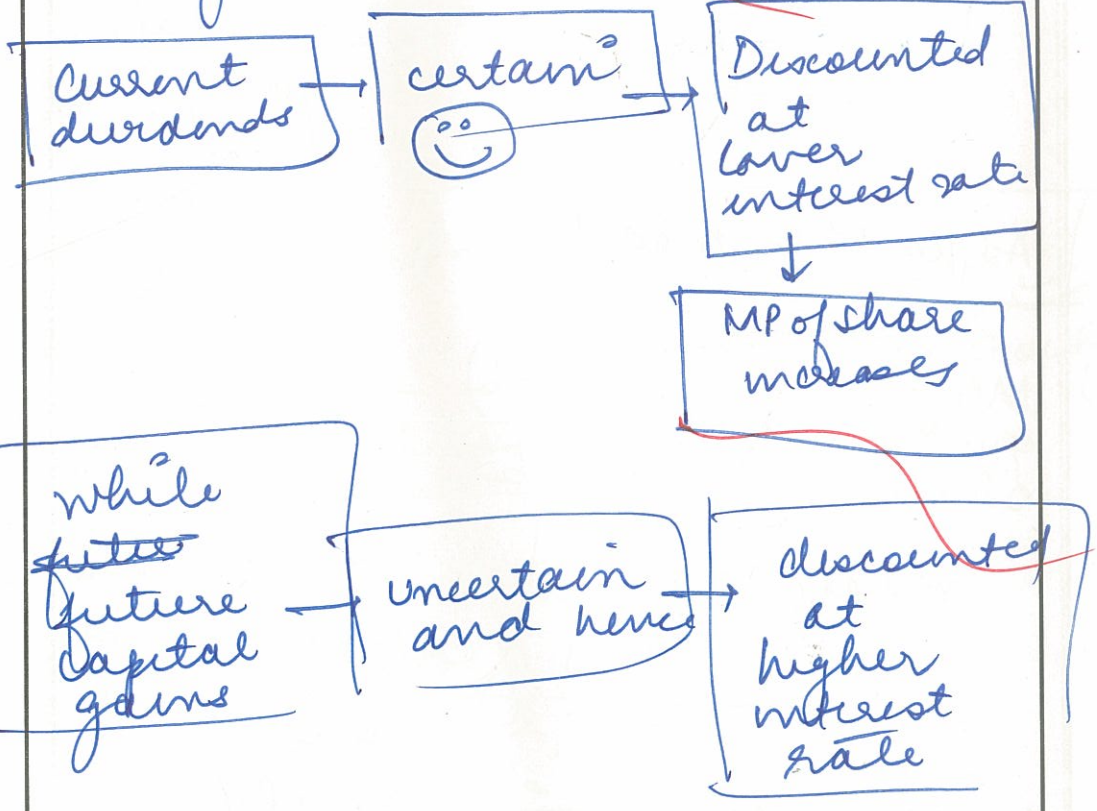
Q2 (c) Gordon's model of share valuation states that dividend policy has effect on the market price and value of the firm because investors prefer current dividends as they are uncertain and hence



assumptions of model

> only retained earnings available for financing

> no taxes

> r → rate of return of firm
b → retention ratio

and ALWAYS

$k_e > br$

where k_e = cost of equity

As per the model

$$\text{MP of equity share} = \frac{E(1-b)}{k_e - br}$$

where E refers to the EPS of share

Therefore the firm should avoid paying dividend when

5

good/viable project exists where $r > k_e$.

Q 7 (b)

Initial cash outflows

Purchase price	(10,00,000)
Installatn cost	(2,00,000)
Increase in WC	(2,50,000)
Scrap value	5,00,000
Tax on capital gains of 1,00,000	(40,000)
	(9,90,000) = cash outflow

Terminal cash ~~outflow~~ inflow

Scrap value	3,50,000
BV = 96,000	
Tax on capital gains	(101600)
WC released	2,50,000
	4,98,400

Revenue from new asset : 21,50,000

Less: cash expenses (new) 9,50,000

12,00,000

Less: old assets revenue - expenses 8,00,000

Incremental revenue 4,00,000

Calculation of incremental depreciation.

Depreciable value:

92% of 12,00,000 = 11,04,000

÷23

48000

2,40,000 3,84,000 2,88,000 1,92,000

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old asset — 1,00,000

	Year 1	Year 2	Year 3	Year 4
Incremental revenue	4,00,000	4,00,000	4,00,000	4,00,000
Less: New depreciation - old depreciation	(1,40,000)	(2,84,000)	(1,88,000)	(92,000)
	2,60,000	1,16,000	212000	3,08,000
~~Less Tax~~ EAT @ 40% tax.	156000	69,600	127200	184800
+ depreciation	1,40,000	2,84,000	1,88,000	92,000
Cash flows	2,96,000	3,53,600	315200	276800

12

Total cash flows of Year 1-4 — 12,41,600

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Therefore

Initial cash outflow	(9,90,000)
Terminal cash inflow	4,98,400
Year 1-4	12,41,680
	7,50,000

Net Cash inflow.

Hence since net cash inflow of 7,50,000, investment should be made

(Question No.)

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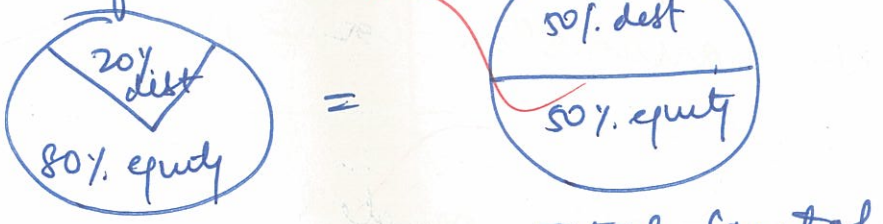
Q7
(a)

The MILLER MODIGLIANI model which gives behavioral justification of the Net operating income approach states:
that capital structure has no effect on the the total value of the firm
therefore



Total capital Total Capital

He explains it through the ARBITRAGE MECHANISM (riskless transaction for a gain)

B

(Question No.)

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Assumptions of model

1. Capital markets are perfect
2. Investors are fully rational
3. No corporate/personal tax
4. Personal leverage is fully substitutable by corporate leverge
5. securities are infinetly dersible
6. No transaction cost

EXPLANATION of model

Suppose 2 firms with same total capital

Ebit : 10,00,000

Total capital - 2 crore in 2 firms leveraged and unlevered

(Question No.)

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	Capital structure LEVERAGED firm Debt 5% = 1 crore equity = 1 crore k_e = 10%	Capital structure of Unleveraged firm Total equity = 2 crore. k_e = 10%
	Lev Ltd	Unlev. Ltd
EBIT	~~100~~ 10,00,000	10,00,000
Interest	5,00,000	—
Earnings available to shareholder	5,00,000	10,00,000
	$\div k_e$ 0·1	0·1
E	50,00,000	1,00,00,000
+ debt	1,00,00,000	—
	1,50,00,000	1,00,00,000

As per MM approach, soon there would be selling pressure on shares of Lev ~~price~~ Ltd and

Question No.)

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buying pressure on Unlev firm and investor will substitute corporate leverage with personal leverage -

assume has shares of 1% in Lev firm = total holding = 50,000

and wants to now sell it to get 1% share in Unlev firm = ~~for 50,000~~ 1,00,000.

so he would take a loan of 1,00,000 at 5%.

this will lead to his net income being 10,000

Less: interest (5,000)

5,000

and additional surplus funds of 50,000 ₹ (unutilised amt.)

on which he would also earn return.

Therefore due to the buying pressure of shares of ULEV Ltd (undervalued) the price of shares will rise and value will soon be equal

$$k_e = k_o + \frac{D}{E}(k_o - k_d)$$

Critical appraisal of model

The model is unrealistic as shareholders expect some level of debt financing due to INTEREST TAX SHIELD BENEFIT as debt is tax deductible expense.

Also the assumptions are unrealistic as capital markets are not perfect, herding behaviour of

investors, personal and corporate leverage are not substitutes.

Therefore the model suffers from limitations

Q1(c) Retained earnings are cost free sources of finance.

The statement is wrong as retained earnings do have an implict cost.

Generally, the sources of capital have 2 kinds of cost

Explicit Cost

requires cash outflow

eg: interest, dividend

Implicit Cost

No cash outflow

eg: retained earnings

However,
the cost of retained earnings should be considered as IMPLICIT
- as if the dividend would have been distributed, the shareholders would have invested those and earned a rate of return.
This OPPORTUNITY COST FORGONE should be considered as the implicit cost
- Therefore the cost of retained earnings should be considered equal to cost of equity financing = ke
even if there is no evident cash outflow for investment decisions!

(Question No.)

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Accordingly,

$$\text{Cost of retained earnings} = \frac{k_e(1-B)(1-P)}{}$$

where

B = brokerage and

P = personal tax.

Therefore, cost of retained earnings should be considered equal to the cost of equity as shareholders are the OWNERS of these funds

Q8 (b)

MP equity = ~~₹100~~ Rs 15

D_0 = ₹2.

g = 5% p.a

$$k_e = \frac{2(1.05)}{15} + 0.05$$

$$= \frac{2.1}{15} + 0.05$$

k_e = 0.19 = 19%.

MP preference shares → 90%.

MP debentures → 80%.

Tax → 40%.

$$k_p = \frac{12}{90} = 13.33\%$$

$$k_d = \frac{8\{1-0.4\}}{80}$$

$\frac{I(1-t)}{NP}$

$$= 0.06 = 6\%$$

(Question No.)

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BOOK VALUE WEIGHTS

		Weight	Cost of capital
Equity	5,00,000	0.33	19%
Pref shares	4,00,000	0.267	13.33%
Debentures	6,00,000	0.4	6%
	15,00,000		

$$\text{So } k_0 = w_1k_1 + w_2k_2 + w_3k_3$$

$$0.33 \times 19 + 0.267 \times 13.33 + 0.4 \times 6\%$$

$$= 6.27 + 3.56 + 2.4$$

$$= \boxed{12.23\%}$$

So through Book Value Weight

WACC = 12.23%.

(Question No.)

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Market Value Wyght

Book Value	Market Value	Market Value Wyght	cost of Capital
5,00,000	7,50,000	0.47	19%.
4,00,000	3,60,000	0.226	13.33%.
6,00,000	4,80,000	0.30	6%.
	15,90,000		

$= 0.47 \times 19 + 0.226 \times 13.33 + 0.3 \times 6$

$= 8.93 + 3.012 + 1.8$

$= 13.742\%$.

Therefore through market value weight

WACC = 13.742%.

(Don't write anything in this part)

Question No.)

Q 8(a)

The irrelevance model of dividend (given by 'Residual method and MILLER MODGILANI) states that the:

investor is indifferent between present value and (the dividend distributed) and the terminal value (capital gains expected) through the ARBITRAGE MECHANISM.

Hence,

dividend distributed = retained earnings (future capital gains)

Assumptions of model:

1. capital markets perfect
2. investor is fully rational
3. No corporate/personal tax
4. No transaction cost.

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~~As per the~~

EXPLANATION of model:

That if the company distributes durdend, the market price of the firm would increase only in short term. As due to ADDITIONAL equity financing for need of funds, the terminal value of the shares would again decline.

Critical appraisal of model

It has UNREALISTIC assumptions eg: capital market ~~less~~ are not perfect, there is tax ie DDT on dividends distributed and presence of capital gains tax,

presence of transaction cost eg: brokerage.

In end, the dividend decision and effect on value of firm/ market price would depend on multiple factors eg: expectation of shareholders (risk averse or risk friendly investors), control, growth prospects of firm, liquidity, etc

15

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(Question No.)

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Q 8 (c)

	MARGINAL COSTING	ABSORBTION COSTING
Treatment of Fixed Cost.	Variable cost is considered as product cost and charged to units while fixed cost is considered as period cost and deducted from contribution	Both Variable and ~~product~~ Fixed cost are charged to the cost units, ie ~~to~~ WIP, ~~cost~~ finished goods.
Valuation of Work in progress and Finished goods	only show the Variable cost	Both fixed cost and Variable cost charged
Cost per unit	Remains same	Declines with increase in production as fixed cost declines per unit.

Question No.)

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~~Diagram~~

Diagramatically

Marginal costing

Variable cost ⟶ charged to cost units

Fixed cost ⟶ period cost, deducted from contribution

Example:

Sales (~~20,000~~ 8000 × 10 SP)		~~2,00,000~~ 80,000
Direct Material	(10,000 × 2)	20,000
Direct Labour	(10,000 × 3)	30,000
Variable overhead	(10,000 × 1)	10,000
TOTAL		60,000
~~Contribution~~		~~1,40,000~~
Less: Fixed overhead		20,000
Net profit		

(Question No.)

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Contribution :

Less:
Closing stock :

$\frac{2000 \text{ units}}{10000 \text{ units}} \times 60,000 = 18,000$

Variable cost of goods sold 42,000

Contribution : 38,000

Less: Fixed cost 10,000

28,000

Marginal costing

USES	Limitations
• Aids in decision making eg: product mix, make or buy, shut down,	• Doesn't reflect total profit as Price should cover total variable and fixed cost
• CONVIINIENT as no problem of apportionment of fixed costs	• Not all costs can be segregated into fixed and variable

(Question No.)

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Absorption costing

Sales	80,000
Direct material (10000 units)	20,000
Direct labour	30,000
Variable overhead	10,000
Fixed	10,000
Cost of goods produced	70,000
Less: Closing stock $\frac{2,000}{10,000 \text{ units}} \times 70,000$	14,000
Cost of sales	56,000
profit	34,000

Absorption costing

Uses

- Total cost approach shows total profit and loss
- No problem of segregation of fixed and variable costs

Limitations

- Limited use for decision making purpose as fixed cost is irrelevant cost.

3