

Exam	M12	N12	M14	M15	N16	M17	N17	M18	M19	N19
Marks	4	4	4	4	4	4	4	4	2	3

**Q1. Explain two Basic aspects/ functions of Financial Management. [Nov 09, 19]**

- 1. Procurement of fund**  
(Least cost, Risk and Control)
- 2. Effective utilisation of fund**  
(invest properly and profitably, no fund to be kept idle, return must be greater than cost)

**Q2. What are the three Phases of Evolution of Financial Management? [Nov 02, 09]**

- 1. Traditional Phase**  
*Merger, acquisition, takeovers, liquidations*
- 2. Transitional Phase**  
*day-to-day problems*
- 3. Modern Phase**  
*efficient market, capital budgeting, option pricing, valuation models*

**Q3. What is the interrelation between Financing, Investment and Dividend decision? [Nov 2017]**

- 1. Financing decision**
- 2. Investment decision**
- 3. Dividend decision**

**Q4. The two objectives of Financial Management**

- Profit Maximisation ( Short term)
- Wealth maximisation (Long term)

**Q5. Profit Maximisation - Advantages**

- Primary objective
- Implied objective
- Growth and development
- Impact on society
- Only profit making firms

**Q6. Profit Maximisation - Dis-advantages**

- Not an operationally feasible
- Term profit is 'Vague'
- Ignores the risk factor.

- Ignores time pattern of return
- Too narrow

**Q7. What is Wealth Maximization?**

The value/wealth of a firm is defined as the market price of the firm's stock.

**Q8. Wealth Maximization Advantages**

- Considers all future cash flows, dividends, earning per share, risk of a decision etc.
- Pay regular dividends
- Considers risk and recognizes the importance of distribution of returns.

**Q9. Wealth Maximization Disadvantages**

- No clear relationship
- anxiety and frustration

Q10. . Distinguish between Financial management and financial accounting [Nov 09]

FM	FA
Cash flow	Accrual system
Future oriented	Past oriented
a. Procurement of fund	a. Measurement,
b. Effective utilisation	b. Recognition
	c. Disclosure

Q11. Functions of Finance Manager or CFO [ May 10, Nov 11]  
[Hint- our index of FM syllabus]

1. Estimating requirement of the fund
2. Financial negotiation
3. Performance evaluation
4. Capital structure decision
5. Investment decision
6. Risk management
7. Dividend decision
8. Cash Management
9. Market impact analysis

Q12. Explain the role of Finance Manager in the changing scenario of financial management in India

- ✓ Occupies key position,
- ✓ responsible for shaping fortune of an organisation,
- ✓ earlier role and new roles,
- ✓ New era brings new challenges,
- ✓ role is bigger due to liberalization, deregulation and globalization

Q13. Emerging issues affecting the role of CFO [ May 2014, Nov 2016]  
MT- RT RT RT GSS

1. Regulation-
2. Technology
3. Risk-
4. Transformation
5. Reporting-
6. Talent and capabilities-
7. Globalisation-
8. Stakeholder management-
9. Strategy-

Q14. What do you understand by Finance Function

- raising of fund----->deciding the cheapest source of finance-----  
->utilisation of fund-----

- >provision for refund when money is not required in the business-----  
->deciding most profitable investment in the business----->managing the fund raised----->paying the returns to the provider of the fund

Q15. Financial distress

1. There are various factors like -
  - a. price of the product/service, demand, price
  - b. Proportion of debt
  - c. short term and long term creditors
2. If all the above factors are not managed by the firm, it can create situation like distress,
3. Financial distress is a position where the **cash inflows of a firm are inadequate to meet all its current obligations.**

Q16. Insolvency-

1. Now if the distress continues for the long time,
2. Revenue is inadequate to revive the situation firm
3. Inability of a firm to repay various debts

**Q17. Agency problem**

1. *Separation between owner/shareholders and managers*
2. Managers may try to maximise their individual goals like salary, perks etc.

Self-Notes :-

**Q18. Agency cost**

1. *Agency cost is the addition cost borne by the shareholders to monitor the manager and control their behaviour*
  - a. **Monitoring**
  - b. **Bonding**
  - c. **Opportunity**
  - d. **Structuring**

[cma.techyribu.xyz](http://cma.techyribu.xyz) (Online Study)**Q19. Solution to agency problem**

1. Compensation is linked to profit
2. Aligning with objective of shareholders

**Q1. Features of equity shares**

1. **Permanent capital**
2. **No liability for cash outflows**
3. **Right to elect board of directors**
4. **Redeemed only in case of liquidation**
5. **Provides a security** to other suppliers
6. **Costliest** but **least risky**
7. **Not obliged legally to pay dividends**
8. **Cost** of ordinary shares **is higher**
9. **Increases** company's **financial base**

**Q2. Features of preference share capital**

1. Hybrid security because it has **features of both ordinary share capital and bonds.**
2. **No dilution in EPS**
3. There is **leveraging advantage**
4. The preference dividends are **fixed and pre-decided**
5. There are **no voting rights**

**Q3. Retained earnings/ explain the term 'Ploughing back of Profits'. What do you understand by internal cash accruals**

1. Long-term funds may also be provided by **accumulating the profits**
2. **Increase the net worth**
3. Increases the **debt borrowing capacity**
4. This is a form of **internal cash accrual.**
5. A public limited company must plough back a reasonable keeping in view **the legal requirements**

**Q4. Salient features of term loan**

1. Issued for Long term
2. Low cost
3. Tax deductible
4. Low admin cost
5. Interest depend on credit rating
6. Can put nominee director

**Q5. What are the features of Debentures? Or, Financing a business through borrowing is cheaper than using equity**

1. Low cost
2. Tax deductible
3. No control dilution
4. Finance leverage

5. Low admin cost

**Q6. What do you understand by Bonds? What are the different types of Bond**

**Bond is fixed income security** created to raise fund.

**Types of Bond-**

1. **Callable bonds:** A callable bond has a call option which gives the issuer the right to redeem the bond before maturity at a predetermined price known as the call price
2. **Puttable bonds:** Puttable bonds give the investor a put option (i.e. the right to sell the bond) back to the company before maturity

**Q7. Masala Bond**

1. It is an Indian name used for Rupee denominated bond that **Indian corporate borrowers** can sell to investors in overseas markets
2. Issued outside India but **denominated in Indian Rupees**
3. First issued by **NTPC for 2000 crore.**

**Q8. Municipal Bonds**

used to finance urban infrastructure are increasingly evident in India

Equity or Debt securities of **highly risky ventures with a potential of success.**

7. Exist routes

8. place on the Board of Director

**Q9. Government bond or treasury bond**

These bonds issued by Government of India, Reserve Bank of India, any state potential of success  
Government or any other Government department

**Q12. Method of venture capital financing**

1. **Equity Financing** (does not exceed 49%)
2. **Conditional loan** (No interest, only 2 and 15 per cent Royalty)
3. **Income note:** (features of both conventional loan and conditional loan.)
4. **Participating debenture**
  - a. In the start up phase no interest is charged
  - b. Next stage a low rate of interest
  - c. After that, a high rate of interest

**Q14. What is debt securitization?**

Explain the basics of debt securitisation process ?

1. **Debt securitization is a process of transformation of illiquid assets into security, which may be traded later in open market**
2. It is a method of recycling of funds
3. Assets generating steady cash flows are packaged together and against this asset pool, market securities can be issued, e.g. housing finance, auto loans, and credit card receivables. e.g. housing finance, auto loans, and credit card receivables

**Q10. Explain Bridge Finance**

1. Short term financing, because of pending disbursement,
2. Hypotication against movable assets
3. High interest cost
4. Repaid out once proceed is received

**Q11. What do you understand by Venture capital financing? What are the methods of venture capital financing? [Nov 2002, 08, May 2005, 13]**

1. The venture capital financing refers to financing of new **high risky venture** promoted by **qualified entrepreneurs** who **lack experience and Fund.**
2. VC make investment to purchase

**Q13. Discuss the factors that a venture capitalist should consider before financing any risky project.**

1. Quality of the management team
2. Technical ability of the team
3. Technical feasibility of the new product.
4. Risk involved
5. Market for the new product.
6. Capacity to bear risk or loss

**Q15. Process of securitization**

1. **The origination function** - A borrower seeks a loan from a finance company
2. **The pooling function** - Similar loans on receivables are clubbed together to create an underlying pool of assets
3. **The securitization function** - SPV will structure and issue securities on the basis of asset pool

**Q16. Advantages of Debt Securitization**

1. Method of recycling of funds
2. The asset is shifted off the Balance Sheet
3. Converts illiquid assets to liquid portfolio
4. Better balance sheet management
5. Credit rating enhances

## Short term sources of finance

**Q17. Name few instruments of Short term finance**

1. Trade Credit
2. Advances from Customers
3. Bank Advances:
4. Accrued Expenses and Deferred Income

**Q18. What is Commercial Paper? What are its features? Explain the eligibility criteria for issue of commercial paper**

1. It is an Unsecured money market instrument
2. Vaghul working group 1990 made recommendation for criteria of issue

3. Maturity may range from 7 days- 1 year.
4. Issued in multiple of 5 lakh
5. Only high rated corporate borrowers can issue Commercial paper

**Q19. Conditions are eligible to issue commercial paper.**

1. **tangible net worth** of the company is **Rs. 5 crores** or more
2. **Working capital** limit is not less than **Rs. 5 crores**
3. Necessary **credit rating**
4. Minimum **current ratio** of **1.33:1**
5. Listed on one or more stock **exchanges**
6. All issue **expenses** shall be borne by the company

## Finance related to Export-Pre-Shipment Finance

**Q20. What do you understand by packing credits**

1. Advance for buying goods and capital equipment to the exporter
2. Advance given against **Export order**

- or **Irrevocable Letter of Credit**
3. **liquidated within 180 days** from the date of its commencement by negotiation of export bills or receipt of export

**Q21. What are the different types of packing credits**

- a. **Clean packing credit** - advance made available to firm export order or a letter of credit without exercising any charge
- b. **Packing credit against hypothecation of goods** - pledgeable interest and the goods are hypothecated to the bank as security
- c. **Packing credit against pledge of goods**
- d. **E.C.G.C. guarantee**
- e. **Forward exchange contract** -
- f. exporter should enter into a forward exchange contact with the bank,

**Q22. Post shipment packing credits**

Banks provide finance to exporters by **purchasing export bills** drawn payable at sight or by discounting usance export bill covering **confirmed sales** and backed by documents including

documents of title of goods such as bill of lading, post parcel receipt, or air consignment notes.

### Q23. Certificate of Deposit (CD)

1. Document of title similar to a time deposit receipt
2. No prescribed interest rate on such funds
3. Banker is not required to encash the deposit before maturity
4. He can sell the CD in secondary market.

### Q24. Public Deposits

1. Deposit from public
2. Max 35% of paid up share capital & reserves
3. Acceptor for 6M to 3 Years
4. Raised mainly for working capital

### Q25. Seed capital assistance'

1. Scheme of IDBI
2. Professionally qualified entrepreneurs
3. Max 2cr project cost
4. Max loan is 50% of owner's contribution or 15 Lakh which is low
5. Initially no interest but service charge of 1%, moratorium period 5 Years.

### Q26. Secured Premium Notes

1. Secured Premium Notes is issued along with a detachable warrant
2. Redeemable after a notified period of say 4 to 7 years.
3. Tradable instrument whereby investor gets right to apply for equity share

### Q27. Deep discount bonds (DDB)

1. It is issued by IDBI
2. Deeply discounted
3. No interest is paid during lock-in period
4. IDBI was first to issue DDB in January 1992 with maturity period of 25 years. The bond was issued for 2,700 with face value of 1,00,000.

### Q28. Zero Coupon Bonds

1. No interest is paid till maturity.
2. It is deeply discounted
3. Difference between issue price and redemption value represents interest
4. Indexation and concessional tax rate
5. Lesser lock-in compared to DDB

### Q29. International Financing

1. External commercial Borrowings (ECB)
2. Euro Bonds:
3. Foreign Bonds:
4. Medium Term Notes
5. Euro Convertible bond
6. Fully Hedged Bonds
7. Euro Commercial paper
8. Foreign currency Options:
9. Foreign Currency Futures
10. Floating Rate Notes (FRN):

### Q30. American Depository Receipts (ADR)

1. These are securities offered by non-US companies who want to list on any of the US exchange
2. ADR represents a certain number of a non US company's regular shares
3. ADRs are issued by an approved New York bank or trust company.
4. ADRs goes through US brokers, Helsinki Exchanges and DTC as well as Deutsche Bank
5. The most onerous aspect of a US listing for the companies is to provide full, half yearly & quarterly accounts to Security Exchange Commission USA.

**Q31. Global Depository Receipts (GDR)**

1. Represents the share of Non- US based company
2. GRDs are created when local currency share of Indian company are delivered to the depository's local custodian bank, against which depository receipts are created in US\$.
3. GDRs may be freely traded like any other dollar denominated security
4. Advantage over debt as there is no repayment of principal
5. Indian companies have preferred the GDRs to ADRs

**Q32. Indian Depository Receipts (IDR)**

1. The concept of the depository receipt mechanism which is used to raise funds in foreign currency has been applied in the Indian Capital Market through the issue of Indian Depository Receipts (IDRs).
2. IDRs are similar to ADRs/GDRs
3. The IDRs are listed and traded in India in the same way as other Indian securities are traded.

**Q33. What is factoring**

Factoring involves provision of specialized services relating to credit investigation, sales ledger management purchase and collection of debts, credit protection as well as provision of finance against receivables and risk bearing.

**Q34. Advantages and Limitations of factoring****Advantages:**

1. Firm can convert accounts receivables into cash
2. Steady pattern of cash inflows.
3. Virtually eliminates the need for the credit department
4. Relieving the borrowing firm of substantially credit and collection costs.

**Limitations:** Cost of factoring is generally higher

**Q35. What are the types of Factoring**

1. **With recourse-** Bad debt borne by the client
2. **Non-recourse/ full factoring-** Bad debt borne by Factor
3. **Maturity factoring-** factor pays to the client on guaranteed date
4. **Advance factoring-** 80% per-

payment

5. **Notified factoring-** Debtor is informed about arrangement
6. **Non-Notified factoring-** Debtor is not informed about arrangement



## LEASE FINANCING

### MOST IMPORTANT

#### Q1. What is lease

Leasing is a general contract between the owner and user of the asset over a specified period of time.

#### Q2. Significant Features of Operating Lease

1. Does not secure for the lessor the recovery of capital outlay plus a return on the funds
2. Cancellable with proper notice
3. Shorter than the asset's economic life
4. Lessee is obliged to make payment until the lease expiration

#### Q3. Finance Lease (Capital Lease) Meaning and Significance

1. A financial lease is longer term
2. It is generally non-cancellable or cancellable at high penalty
3. Equipment is leased for the major part of its useful life.
4. Lessee has the right to use the equipment while the lessor retains legal title

5. It is nothing but a loan in disguise

#### Q4. DIFFERENCE BETWEEN FINANCIAL LEASE AND OPERATING LEASE

##### Ownership-

**Financial Lease-** The risk and reward incident to ownership are passed on to the lessee

**Operating Lease-** Risk incident to ownership belong wholly to the lessor.

##### Risk of Obsolescence-

**Financial Lease-** Lessee bears the risk

**Operating Lease-** lessor bears the risk

##### Cancellable-

**Financial Lease-** non-cancellable by either party

**Operating Lease-** the lease is kept cancellable by the lessor

##### Repairs and Maintenance-

**Financial Lease-** Lessee bear the cost of repairs maintenance or operations.

**Operating Lease-** lessor bears cost of repairs, maintenance or operations.

##### Covering cost of asset-

**Financial Lease-** Covers cost + Return

**Operating Lease-** Does not cover full cost

#### Q5. Sale Aid Lease

1. Lessor enters into a tie up with a manufacturer for marketing the latter's product through his own leasing operations, it is called a sales-aid lease
2. The manufacturers may grant either credit or a commission to the lessor
3. Lessor earns from both sources

#### Q6. Leveraged Lease

1. Under this lease, a third party is involved beside lessor and lessee.
2. The lessor borrows a part of the purchase cost (say 80%) of the asset from the third party.
3. The lender is paid off from the lease rentals directly by the lessee and the surplus after meeting the claims of the lender goes to the lessor.
4. The lessor is entitled to claim depreciation allowance.

#### Q7. Sale and Lease back

1. The owner of an asset sells the asset to a party (the buyer), who in turn leases back the same asset to the owner in consideration of a lease rentals.

2. The asset is not physically exchanged but it all happen in records only.
3. Also, Lessee can satisfy himself completely regarding the quality of an asset.
4. Under this transaction, the seller assumes the role of lessee and the buyer assumes the role of a lessor.

- (5) Obsolescence and Disposal:
- (6) Restrictive Conditions for Debt Financing:

#### Q10. Limitations of Leasing

1. The lease rentals become payable immediately and no moratorium period is permissible
2. Default in payment by the lessor leads in seizure of assets by banks causing loss to the lessee.
3. Lease financing has a very high cost

#### Q8. Close-ended and Open-ended Leases

**In the close-ended lease**, the assets get transferred to the lessor at the end of lease, the risk of obsolescence, residual value etc., remain with the lessor being the legal owner of the asset.

**In the open-ended lease**, the lessee has the option of purchasing the asset at the end of the lease period.

#### Q9. Advantages of Leasing- Exam November 2018

- (1) Lease may be low cost alternative:
- (2) Tax benefit:
- (3) Working capital conservation:
- (4) Preservation of Debt Capacity:

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## Cash Management- Theory from Chapter 10 (WCM)

### Q1. What is the meaning of Treasury management and key Goals

Treasury management is defined as 'the corporate handling of all financial matters'

#### key goals of treasury management are:-

- Maximize the return on the available cash;
- Minimize interest cost on borrowings;
- Mobilise cash for corporate ventures
- Reduce the risk of currency fluctuation

### Q2. Functions of Treasury Department

- Cash Management:
- Currency Management:
- Fund Management
- Banking:
- Corporate Finance

### Q3. Various purposes of cash budgets

- Plan for and control cash receipts and payments.
- Identifies the period(s) of shortage of cash or an abnormally large cash
- To take advantage like cash discounts
- Plan/arrange adequately needed funds

### Q4. Different Kinds of Float with Reference to Management of Cash

- Billing Float-** The time between the sale and the mailing of the invoice
- Mail Float-** time when a cheque is being processed by post office
- Cheque processing float-** time required for the seller to sort, record and deposit the cheque
- Bank processing float-** time from the deposit of cheque to crediting of funds in the seller's account

### Q15. What is Concentration Banking?

- Establishes a number of strategic collection centres in different regions instead of a single collection
- Reduces the period between the time a customer mails in his remittances
- Payments received by the different

collection centres are deposited with their respective local banks , which in turn transfer to head office.

### Q16. Lock Box System

- A lock box arrangement usually is on regional basis which a company chooses according to its billing patterns.
- Eliminate the time between the receipts of remittances by the company and deposited in the bank.

### Q17. Virtual Banking & its advantages

Virtual banking refers to the provision of banking and related services through the use of information technology

#### Advantages:

- Lower cost of handling a transaction.
- Increased speed
- Lower cost of operating branch
- Improved and a range of services
- Rapid, accurate and convenient.

### Q18. Three principles relating to selection of marketable securities

- Safety:
- Maturity:
- Marketability:

### Q19. Advantages of Electronic Cash Management System

- Significant saving in time.
- Decrease in interest costs.
- Less paper work.
- Greater accounting accuracy.
- Supports electronic payments.
- Faster transfer of funds from one location to another, where required.
- Speedy conversion of various instruments into cash.
- Produces faster electronic reconciliation.

### Q20. Baumol's Model of Cash Management and also write its assumptions

- Developed a model for optimum cash balance which is used in inventory management
- Trade-off between cost of holding cash
- The two opposing costs are equal and where the total cost is minimum.

#### The model is based on the following assumptions:

- Cash needs of the firm are known with certainty.
- Cash is used uniformly and it is also known with certainty.

- Holding cost is known and it is constant.
- Transaction cost also remains constant.

$$C = (2AT/H)^{1/2}$$

### Q21. Miller - Orr Cash Management Model

- According to this model the net cash flow is completely stochastic.
- When changes in cash balance occur randomly, the application of control theory serves a useful purpose.
- When the cash balance reaches the upper limit, the transfer of cash equal to 'h - z' is invested in marketable securities account
- When it touches the lower limit, a transfer from marketable securities account to cash account is made. During the period when cash balance stays between (h, z) and (z, 0)
- These limits satisfy the demands for cash at the lowest possible total costs.

$$\text{Spread} = 3 \left( \frac{3/4 \times \text{Transaction Cost} \times \text{Variance of Cashflows}}{\text{Interest rate}} \right)^{1/3}$$

### Q22. MAXIMUM PERMISSIBLE BANK FINANCE (MPBF)- TANDON COMMITTEE

The Tandon Committee set by RBI suggested three lending norms which are as follows:

#### Lending Norms

- MPBF = 75% of [Current Assets Less Current Liabilities] i.e. 75% of Net Working Capital
- MPBF = [75% of Current Assets] Less Current Liabilities
- MPBF = [75% of Soft Core Current Assets] Less Current Liabilities

#### The salient features of new credit system were:

- For borrowers with requirements of upto Rs. 25 lakhs -without going into detailed evaluation.
- For borrowers with requirements above Rs. 25 lakhs, but upto Rs. 5 crore- 20% of the projected gross sales of the borrower.
- For borrowers not falling in the above categories, the cash budget systems may be used to identify the working capital needs.

1	a. Current ratio b. Working capital ratio c. Solvency ratio	$\frac{\text{Current Assets}}{\text{Current liabilities}}$	11	DEBT TO TOTAL ASSETS RATIO	$\frac{\text{Total long Term debt}}{\text{Total Assets}}$
2	a. Quick ratio b. Acid ratio c. Liquid ratio	$\frac{\text{Quick Assets}}{\text{Current Liabilities}}$	12	CAPITAL GEARING RATIO	$\frac{\text{Preference share capital+ Debentures+ other borrowed funds}}{\text{Equity share capital+ R\&S - Losses}}$
3	Net Working Capital ratio	Current assets- Current liabilities	13	PROPRIETARY RATIO	$\frac{\text{Proprietary Assets}}{\text{Total Assets}}$
4	a. Absolute cash Ratio b. Absolute Liquidity ratio	$\frac{\text{Cash and Bank Balance + Marketable securities}}{\text{Current liabilities}}$	1) Shareholder's equity = Equity share capital + preference share capital+ Reserves and surplus- Fictitious assets 2) Shareholder's equity is also known as NET WORTH or NET Assets 3) Proprietary assets = Eq. share capital+ pref. share cap+ R&S- losses- Fictitious assets 4) Total Long term fund = Total Assets- Current liability 5) Net Worth= Total Assets- Current liability- Long Term Liability		
5	a. Basic defense b. Interval measure	$\frac{\text{Cash and Bank Balance + Marketable securities}}{\text{Operating expense/ Number of days}}$	14	Total Assets turnover ratio	$\frac{\text{Sales}}{\text{Total assets}}$
<b>Current Assets-</b> Inventories + Sundry Debtors + Cash and Bank Balances + Receivables/ Accruals + Loans and Advances + <b>Disposable Investments</b> + Any other current assets.			15	Fixed asset Turnover ratio	$\frac{\text{Sales}}{\text{Fixed assets}}$
<b>Current Liabilities-</b> Creditors for goods and services + Short-term Loans +Bank Overdraft + Cash Credit + Outstanding Expenses + <b>Provision for Taxation + Proposed Dividend + Unclaimed Dividend</b> + Any other current liabilities			16	Capital T/O ratio	$\frac{\text{Sales}}{\text{Net assets}}$
<b>Quick Assets</b> -Current Assets - Inventories - Prepaid expenses			17	Current Asset T/O ratio	$\frac{\text{Sales}}{\text{Current assets}}$
6	Interest coverage ratio	$\frac{\text{EBIT}}{\text{Interest}}$	18	Working capital turnover ratio	$\frac{\text{Sales}}{\text{Working capital}}$
7	Preference dividend coverage ratio	$\frac{\text{Earnings after tax or Net profit}}{\text{Preference dividend liability}}$	19	Inventory T/O ratio	$\frac{\text{COGS}}{\text{Average Inventory}}$ <b>Average inventory =</b> <b>(Op. stock + Cl. Stock)/2</b> Or $\frac{\text{Sales}}{\text{Average Inventory}}$
8	EQUITY RATIO	$\frac{\text{Shareholder's equity}}{\text{Capital employed}}$			
9	DEBT RATIO	$\frac{\text{Total long term liability}}{\text{Total Capital}}$			
10	DEBT TO EQUITY RATIO	$\frac{\text{Total long term liability}}{\text{Share Holder's Equity}}$			

20	Debtor T/O ratio	$\frac{\text{Credit sales}}{\text{Average Account receivable}}$	32	Return on assets (ROA)	$\frac{\text{EBIT (1- tax)}}{\text{Average Total assets}}$
21	Debtor velocity ratio	$\frac{\text{Average account receivables}}{\text{Average daily credit sales}}$ or $\frac{360\text{days}/52 \text{ weeks}/ 12 \text{ months}}{\text{Debtor turnover ratio}}$	33	Return on capital employed (ROCE) - pre tax	$\frac{\text{EBIT}}{\text{Capital employed}}$
22	Payable T/O ratio	$\frac{\text{Annual Credit purchase}}{\text{Average Account payable}}$	34	Return on capital employed (ROCE) - post tax	$\frac{\text{EBIT (1-tax)}}{\text{Capital employed}}$
23	Creditor/ payable velocity ratio	$\frac{\text{Average account payable}}{\text{Average daily credit purchase}}$ or $\frac{360\text{days}/52 \text{ weeks}/ 12 \text{ months}}{\text{Creditor turnover ratio}}$	35	Return on Equity	$\frac{\text{EAT- Preference dividend}}{\text{Net worth/ Equity shareholder's fund}}$
24	Gross Profit ratio	$\frac{\text{Gross Profit}}{\text{Sales}}$	36	Earnings Per share	$\frac{\text{Net profit available to equity shareholders}}{\text{Number of equity shares outstanding}}$
25	Net Profit ratio	$\frac{\text{Net Profit}}{\text{Sales}}$	37	Dividend per share	$\frac{\text{Dividend paid to equity shareholders}}{\text{Number of equity shares outstanding}}$
26	Operating profit ratio	$\text{Operating Profit} / \text{Sales}$	38	Dividend payout ratio	$\frac{\text{Dividend per share}}{\text{Earnings per share}}$
27	Expense ratio- <i>Cost of goods sold ratio</i>	$\frac{\text{Cost of goods sold}}{\text{Sales}}$	39	Price Earnings Ratio P/E ratio	= $\frac{\text{Market Price per Share(MPS)}}{\text{Earnings per Share(EPS)}}$
28	Expense ratio- <i>Operating EXPENSE ratio</i>	$\frac{\text{admin + Selling and distribution OHDS}}{\text{Sales}}$	40	Dividend Yield	$\frac{\text{Dividend}}{\text{Market price per share}}$
29	Expense ratio- <i>Operating ratio</i>	$\frac{\text{COGS+ Operating. Expense}}{\text{Sales}}$	41	Earnings Yield	$\frac{\text{Earnings per share (EPS)}}{\text{Market price per share (MPS)}}$
30	Expense ratio- <i>Financial expense ratio</i>	$\frac{\text{Financial expense}}{\text{Sales}}$	<b>RETURN ON EQUITY USING DU- PONT MODEL</b>		
31	Return on investment (ROI)	$\frac{\text{Return/ Profit/ Earnings}}{\text{Investment}}$	= <b>NET PROFIT MARGIN</b> × <b>ASSET TURNOVER RATIO</b> × <b>EQUITY MULTIPLIER</b>		
			$\frac{\text{Net Profit}}{\text{Revenue}} \times \frac{\text{Revenue}}{\text{Total assets}} \times \frac{\text{Total Assets}}{\text{Net worth}}$		
			Equity multiplier adds the leverage effects.		

Particular	Formula
<b>Debt and term loan</b>	
Cost of <b>redeemable</b> debt	$\frac{\text{Interest (1-tax)} + (\text{RV} - \text{NP})/n}{(\text{RV} + \text{NP})/2}$
Cost of <b>Irredeemable</b> debt	$\frac{\text{Interest (1-tax)}}{\text{Net proceed of the issue}}$
Cost Of Term Loan	Interest (1-t)
Cost of redeemable debt With Capital Gain tax - Special case	$\frac{\text{Interest (1-tax)} + (\text{RV} - \text{NP})/n (1-t)}{(\text{RV} + \text{NP})/2}$
CMP is to be used when question mentions the word <b>current Market price</b> <a href="http://cma.techyribu.xyz">cma.techyribu.xyz</a>	

<b>Preference Share</b>	
Cost of <b>redeemable</b> Preference Share	$\frac{\text{Preference Dividend} + (\text{RV} - \text{NP})/n}{(\text{RV} + \text{NP})/2}$
Cost of <b>Irredeemable</b> Preference Share	$\frac{\text{Preference dividend}}{\text{Net proceed of the issue}}$
CMP is to be used when question mentions the word <b>current Market price</b>	

**Special Note:-** In the above formulas, it is the amount of interest and not the percentage of interest

<b>Equity Share capital</b>	
As per Dividend Price Approach- with Zero Growth	$K_e = \frac{D}{P_0}$
As per Dividend Price Approach- with Growth	$K_e = \frac{D_1}{P_0} + g$
As per Dividend Price Approach- with Growth and Flotation cost	$K_e = \frac{D_1}{P-F} + g$
As per Dividend Price Approach- with Growth and Flotation cost in %	$K_e = \frac{D_1}{P_0 (1-f)} + g$
As per Earning Price Approach- with NO Growth	$K_e = \frac{E}{P_0}$
As per Earning Price Approach- with Growth	$K_e = \frac{E_1}{P_0} + g$
CAPM	$K_e = R_f + (R_m - R_f) \beta$ <p>Where, <math>R_f</math> = Risk Free rate  <math>R_m</math> = Market risk  <math>(R_m - R_f)</math> = risk premium</p>

<b>Retained Earnings</b>	
Cost of Retained earnings	$K_s = K_e$

Cost of Retained earnings- under personal tax	$K_s = K_e - t_p$ Or $K_e \times (1-t) \times (1-t_p)$
---	--

Growth formula	Steps to be followed: 1. Take the number on your calculator 2. Press the root button 12 times 3. Subtract 1 from it 4. Divide by the root you wanted. If suppose u wanted 5th root divide it by 5 5. Add 1 6. Press 'x' '=' 12 times 7. Subtract 1 and press 100
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Growth formula- Only for Gordon	$Growth (g) = b \times r$ $r = \text{rate of return on the fund}$ $b = \text{earnings retention ratio/ rate}$
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### Weighted Average Cost of capital

Book Value Weight	Market Value Weight
1. Derived From Book value	1. Derived From values in the market.
2. Retained earnings are Available at Book value	2. Can be calculated by multiplying <b>number of securities x price per security</b>
3. Data is Available from Balance sheet	3. Retained earnings are not available directly. Rather they are hidden in the

value of equity share capital.

4. Thus we need to divide the value of Equity in two parts- Share capital and reserve and surplus using book value as weight

5. No of share x price

Equity (Ke) ← Retained earnings (ks/Kr) →  
 Using Book value as weight

### Calculation of WACC using Book value or Market Value as weight

Particular	Cost	Capital	Weight	WACC
Equity	$K_e$	Xx	W1	$K_e \times W1$
Pref. sh.	$K_p$	Xx	W2	$K_p \times W2$
Ret. Eng.	$K_r$ or $K_s$	Xx	W3	$K_s \times W3$
Debt	$K_d$	xx	W4	$K_d \times W4$
				$K_o = WACC$

Note:

1. capital May be book value or Market value but will be specified in question
2. Also, Note that a single table with 3 additional column can be used to solve question with both Book value and Market Value as weight



### Very Important Formulas

<b>Formula for Value of Debt</b>	<ul style="list-style-type: none"> <li>Value of debt x Cost of debt = Coupon (interest)</li> </ul> <p style="text-align: center;">Or</p> <ul style="list-style-type: none"> <li>Value of debt = Interest / cost of debt</li> </ul>
<b>Value of equity</b>	<ul style="list-style-type: none"> <li>Value of Equity x cost of equity = EBT (since under this assumption there is no tax rate).</li> </ul> <p style="text-align: center;">Or</p> <ul style="list-style-type: none"> <li>Value of equity = EBT/ cost of equity</li> </ul>
<b>Value of Firm</b>	<ul style="list-style-type: none"> <li>Value of the firm = Value of debt + Value of equity</li> </ul> <p style="text-align: center;">Or</p> <ul style="list-style-type: none"> <li>Value of the firm = EBIT/WACC</li> </ul>
	<p>These Formulas are used to find value of the firm. All these 4 Formulas are to be used simultaneously</p>
<b>EBIT Indifference</b>	$\frac{\text{EBIT} - I_1(1-t) - \text{PD}_1}{E1} = \frac{\text{EBIT} - I_2(1-t) - \text{PD}_2}{E2}$ <p>Where I= Interest PD = Preference dividend E1 and E2 are no of equity shares</p>
<b>Financial BEP</b>	$\frac{\text{Interest} + \text{PD}}{(1-t)}$ <p>Or, <math>(x - \text{Int.}) (1-t) - \text{PD}</math></p>
<b>Optimum Capital Structure</b>	Where EPS under given plans is maximum

### Capital Structure Theories

#### 1. Net Income Approach (NI) Approach- (Crux- WACC is affected by cap. Structure. Both Ke and Kd remains constant)

- Kd = cost of debt
- Ke is cost of equity
- Cost of debt Kd is always less than Ke.
- Kd and Ke remains constant at all the levels of debt- equity mix.
- This Theory suggests maximum use of cheaper fund, Debt

#### Traditional Approach

(Crux- WACC is affected by cap. Structure. Both Ke and Kd changes, with steeper rise in Ke, and thus WACC changes)

- Cost of Debt Kd is always less than cost of equity Ke
- Kd and Ke varies with the change in debt equity mix
- Increase in cost of equity is steeper and higher than increase in cost of debt
- Thus the WACC is affected by change in capital structure

#### Indifference Approach

##### Net Operating Income Approach

(Crux- WACC is not affected by cap. Structure. Both Ke and Kd changes but in opp. direction and thus WACC remains constant)

- The market capitalizes the value of the firm as whole.
- Thus the split between debt and equity is not important.
- advantage of low cost debt is set off exactly by increase in equity capitalization rate.
- overall cost of capital (Ko) remains constant

<b>Modigliani- Miller Approach (MM)</b>
(Crux- WACC is not affected by cap. Structure. Both Ke and Kd changes but in opp. direction and thus WACC remains constant)
MM Approach is refinement of Net operating income approach. The theory is same with some additional propositions.

<b>MM approach - 1958 without tax</b>
Propositions were derived by MM approach
1. Value of levered firm (Vg) = Value of unlevered firm (Vu).
2. Value of a firm = Net operating income (NOI)/ Ko
3. $K_e = K_0 + (K_0 - K_d) \times \text{Debt/Equity}$

7 Steps in Calculation of MM Problems under NO TAX approach		7 Steps in Calculation of MM Problems under WITH TAX approach	
<b>Step 1</b>	Calculate/ Find EBIT	<b>Step 1</b>	Calculate/ Find EBIT
<b>Step 2</b>	Find the Value of Equity of Unlevered firm. $V_{eu} = \frac{EAT}{K_e}$ ..... (EBT or EBIT, since no int and tax)	<b>Step 2</b>	Find the Value of Equity of Unlevered firm. $V_{eu} = \frac{EAT}{K_e}$ ..... [ (where EAT= EBIT-int.) -tax]
<b>Step 3</b>	Value of Equity of Unlevered firm = Value of unlevered firm = Value of Levered firm $V_e = V_u$ Since in Ungeared firm there in no debt $V_f = V_e + V_d$ ..... (since no debt)	<b>Step 3</b>	Value of Equity of Unlevered firm = Value of unlevered firm = $V_{eu} = V_{fu}$ Since in Ungeared firm there in no debt $V_f = V_e + V_d$ ..... (since no debt)
<b>Step 4</b>	Find the value of geared firm $V_u = V_g$ ..... As per NOI approach	<b>Step 4</b>	Find the value of geared firm $V_g = V_u + T_b$ ..... As per NOI approach $T_b = \text{tax benefit} = \text{amount of debt} \times \text{rate of tax}$
<b>Step 5</b>	$V_g = V_d + V_{eg}$	<b>Step 5</b>	$V_g = V_d + V_{eg}$
<b>Step 6</b>	$K_{eg} = \frac{EAT \text{ or } EBT}{V_{eg}}$	<b>Step 6</b>	$K_{eg} = \frac{EAT}{V_{eg}}$
<b>Step 7</b>	Calculation of WACC $K_{og} = (K_d \times \text{Weight of debt}) + (K_e \times \text{Weight of equity})$	<b>Step 7</b>	Calculation of WACC $K_{og} = (K_d \times \text{Weight of debt}) + (K_e \times \text{Weight of equity})$
<b>Note</b>	Be careful while calculating WACC under tax approach .You may mistakenly take $K_d = \text{Interest}$ instead of $K_d = \text{Interest} (1 - \text{tax})$		



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## Chapter 6- Leverage

Particular	Operating leverage Or Degree of Operating leverage or DOL	Finance leverage Or Degree of Finance leverage or DFL	Combined leverage Or Degree of Combined leverage or DCL
Advantage of What?	Taking The Advantage of <b>Operational Fixed Cost</b> (Fixed cost)	Taking The Advantage of <b>Fixed Financial Obligation</b> (Interest and Preference dividend)	Taking The Advantage of both <b>Operational Fixed Cost and Fixed Financial Obligation</b>
What does it signifies	Signifies that for every 1% change in sale there will be <b>(1x OL)%</b> change in EBIT	Signifies that for every 1% change in EBIT there will be <b>(1x FL)%</b> change in EPS	Signifies that for every 1% change in sale there will be <b>(1x CL)%</b> change in EPS
Formula No. 1	$DOL = \frac{\text{Contribution}}{\text{EBIT}}$	$DFL = \frac{\text{EBIT}}{\text{EBT} - \frac{\text{PD}}{(1-t)}}$	$DCL = \frac{\text{Contribution}}{\text{EBT} - \frac{\text{PD}}{(1-t)}}$
When to use the formula?	When Data is given for Single years		
Formula No. 2	$DOL = \frac{\% \text{ Change in EBIT}}{\% \text{ Change in Sales}}$	$DFL = \frac{\% \text{ Change in EPS}}{\% \text{ Change in EBIT}}$	$DCL = \frac{\% \text{ Change in EPP}}{\% \text{ Change in Sales}}$
When to use the formula?	When Data of two years is Given		

### 6.3.3 Chart Showing Operating Leverage, Financial Leverage and Combined leverage

Profitability Statement			
Sales	xxx		
Less: Variable Cost	(xxx)		
Contribution	xxx	} Operating } Leverage	} Combined } Leverage
Less: Fixed Cost	(xxx)		
Operating Profit/ EBIT	xxx		
Less: Interest	(xxx)	} Financial } Leverage	
Earnings Before Tax (EBT)	xxx		
Less: Tax	(xxx)		
Profit After Tax (PAT)	xxx		
Less: Pref. Dividend (if any)	(xxx)		
Net Earnings available to equity shareholders/ PAT	xxx		
No. Equity shares (N)			
Earnings per Share (EPS) = (PAT ÷ N)			

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Particulars	Payback period	ARR or Average rate of return or, Accounting rate of return	Reciprocal payback
Whether Discounting or Non Discounting	Non Discounting	Non Discounting	Non Discounting
What does it signifies	It is the time required to recover back the principal amount invested	This method gives rate of return of the project without considering time value of Money. This method use Profit after tax and not cash flow for analysis	The reciprocal of the payback would be a close approximation of the Internal Rate of Return
Formula	$\text{Max year of Insufficient recovery} + \frac{\text{Balance Recovery}}{\text{recovery in next year}}$	$\text{ARR} = \frac{\text{Average PAT}}{\text{Average Investment}} \times 100$ Or, $\text{ARR} = \frac{\text{Average PAT}}{\text{Original Investment}} \times 100$ Where average PAT = $\frac{\text{Total PAT}}{\text{No. of years}}$	Reciprocal payback = $1 / \text{Payback Period}$
Steps	<b>Make table of-</b> 1. Year, Cash Flow, Cumulative cash flow. 2. Select the year till when the investment is not recovered fully. 3. Then apply the formula	Calculate Average PAT Calculate Average investment or original Investment ( as the case may be) Apply the formula	
Criteria of selection	Project with lower payback is beneficial	Higher ARR is Preferable	Higher Reciprocal Payback gives Higher approximate Payback.
Precaution	None	ARR is to be calculated on PAT and not cash flow	None
Reference with table below	Refer Column - A,B and E	Refer Cash Flow Format	

Particulars	Discounted Payback	NPV	Profitability Index
Whether Discounting or Non Discounting	Discounting	Discounting	Discounting
What does it signifies	It is the time required to recover back the principal amount invested considering the impact of Discounting	Signifies that how much is the gain or loss on the project after considering TVM	Signifies how much is earned for every rupee invested
Formula	$\frac{\text{Max year of Insufficient recovery} + \text{Balance Recovery}}{\text{Discounted recovery in next year}}$	PV of Inflow - PV of outflow	$= \frac{\text{PV of Inflow}}{\text{PV of Outflow}}$
Steps	<b>Make table of-</b> 1. Year, Cash Flow, PV factor, DCF, CDCF Cumulative discounted cash flow. 2. Select the year till when the investment is not recovered fully. 3. Then apply the formula	<b>Make Table-</b> 1. Year, Cashflow, PV factor, DCF 2. Make sum total of PV of Inflows 3. Then apply the formula	<b>Make Table-</b> 1. Year, Cashflow, PV factor, DCF 2. Make sum total of PV of Inflows 3. Take PV of Outflow 4. Then apply the formula
Criteria of selection	Project with lower Discounted payback is beneficial	Higher or Zero NPV will lead to project selection	Higher PI is selected
Precaution	While applying the formula, consider <b>discounted cashflow</b> column and not cashflow column	None	None
Reference with table below	Refer Column - A, B, C, D and F	Refer Column - A, B, C, and D	Refer Column - A, B, C, and D
What about project with unequal life		Equated annual Value $\text{NPV} \div \text{PVAF ( of two projects)}$	

Particulars	Internal Rate of Return (IRR) or Internal rate of return (ERR)
Whether Discounting or Non Discounting	Discounting
What does it signifies	Signifies that how much the <b>PROJECT IS ACTUALLY EARNING</b>
What happens at IRR	<ol style="list-style-type: none"> <li>1. NPV= 0</li> <li>2. Therefore, at IRR PV of Inflow = PV of Outflow</li> <li>3. At IRR, Profitability Index (PI) = 1</li> </ol>
Formula	$\frac{\text{Lower rate} + \text{NPV of lower rate} \times (\text{difference in rate})}{\text{Difference in NPV}}$
Steps	<p>Make table of-</p> <ol style="list-style-type: none"> <li>1. Year, Cash Flow, <u>PV factor at 1<sup>st</sup> rate</u>, <u>DCF at 1<sup>st</sup> rate</u> and then <u>PV factor at 2<sup>nd</sup> rate</u> DCF using 2nd rate.</li> <li>2. Then apply the formula</li> </ol>
Criteria of selection	Higher IRR
Precaution	None
Reference with table below	A, B, C, D and H

When the project is discounted using  $K_0$ , it gives PV of inflow.

When the project is discounted using IRR rate it gives PV of Outflow.

PV of outflow is also known as cost the project

Table 1- calculation of Payback, Discounted Payback, NPV, IRR

Year	Cash flow	PV factor @10 %	DCF	CCF	CDCF	PV factor @ y rate	DCF @ y%
A	B	C	D	E	F	G	H
0	(xxxxx)	1	B x C			1	B x E
1	xxxxx	0.909	B x C	Sum B	Sum D	0.869	B x E
2	xxxxx	0.826	B x C	Sum B	Sum D	0.756	B x E
3	xxxxx	0.751	B x C	Sum B	Sum D	0.657	B x E
4	xxxxx	0.683	B x C	Sum B	Sum D	0.571	B x E
		NPV	XXXXXX			NPV	XXXXXX

The Chapter is based on the concept that projects are prone to risks and thus the project may fail if adverse business circumstances occur. Thus in this chapter we will study various techniques to evaluate the project under adverse situations and if the project still gets selected it will be Taken

Probability based risk analysis	Risk Adjusted Discounted rate	Certainty Equivalent
<p><b>Calculate Expected value</b> by Multiplying each cash flow with assigned probability. You will get expected value</p>	<p>It is the rate where the <b>risk free rate is coupled with Risk premium</b> to adjust the uncertainties.</p> <p><a href="http://cma.techyribu.xyz">cma.techyribu.xyz</a> (Online Study)</p>	<p><b>Expected cash flows are multiplied with certainty equivalent <math>a^+</math> to make them certain.</b></p>
<p><b>Calculate Variance</b> by taking sum of (Expected value- each possible event)<sup>2</sup> x Probability</p>		<p>Now this uncertain cash flows are converted into certain cashflow and now you need to discount them with risk free rate</p>
<p><b>Calculate Standard deviation</b> by by taking Square root of the value derived</p> <p>Standard deviation means expected deviation from mean value. Higher the Standard deviation, higher is the risk.</p>		<p>Note: While discounting take risk free rate of return and not the risk associated rate of return</p>
<p><b>Calculate Coefficient of variation</b> by Standard deviation/ Expected Value</p>		
<p><b>Higher The coefficient of Variation denotes higher risk.</b> If there are two projects one with lower coefficient of Variation and Other with Higher coefficient of Variation. Select project with lower coefficient of Variation as it denotes lower risk</p>		



Sensitivity Analysis			Scenario Analysis
Project is affected by various factors such as Cost of Capital, Initial Cash outflow, Annual cash inflows, Life of the project, etc			All input variables change simultaneously
In Sensitivity analysis we take into consideration the impact of change in each Factor, and calculate Revised NPV			Here the project will be given and we need to evaluate project as per their instruction
The NPV which is derived from above calculation is then compared and the Factor which leads to least NPV is the most sensitive factor.			Generally, In the question we are given three outcomes, Best Outcome
The Identified sensitive factor is generally then considered most critical by management and thus taken care			Most Likely Worst Outcome
Note: In sensitive analysis we consider changing ONE VARIABLE at a time and not all the variables at the time. xyz (Online Study)			
Factors and When they become adverse or favorable			Also some times we are asked to calculate the answer with different out comes in different years
Particulars	Adverse	Favorable	
Sale price	When it decrease	When it increase	
No. of Units	When it decrease	When it increase	
Cost of production	When it increase	When it decrease	
Fixed cost	When it increase	When it decrease	
Initial proj. cost	When it increase	When it decrease	
Annual Cash inflow	When it decrease	When it increase	
Life of project	When it decrease	When it increase	
Discount rate	When it increase	When it decrease	

Particular	Formula
<b>Basic Formulas</b>	
Earnings per share	$\frac{\text{Net income (EATESH)}}{\text{No. of Shares}}$
Payout Ratio	$\frac{\text{Dividend per share}}{\text{Earning per share}}$
Retention ratio	Or $\frac{1 - \text{Payout ratio}}{\text{Retained earnings}} \times \text{Total Earnings}$
Dividend per share	$\frac{\text{Total equity Dividend}}{\text{No. of Share}}$
Dividend rate	$\frac{\text{Dividend per share}}{\text{Face Value per share}}$
Dividend Yield	$\frac{\text{Dividend per share}}{\text{Market Value per share}}$
Growth (g)	$b \times r$ Where b = retention ratio and r = rate of return on investment
*****	1/ PE ratio = Ke

### MM Model - Most Important

Approach says that the value of the firm is independent of Dividend payout ratio.  
Thus if the company pays 100% dividend or 0%, value of the firm remains constant

<b>Step 1</b>	calculate the share price, assuming no dividend is paid $P_0 = \frac{(P_1 + D_1)}{(1 + K_e)}$
<b>Step 2-</b>	Calculate the number of shares required $= \frac{I - (E - D)n}{(1 + K_e)}$
<b>Step 3-</b>	Calculate the value of the firm $V_f = \frac{(\Delta n + n) P_1 - I + E}{(1 + K_e)}$
<ol style="list-style-type: none"> <li>1. <math>P_0</math> = Current market price</li> <li>2. <math>P_1</math> = Expected market Price</li> <li>3. <math>D_1</math> = Expected dividend</li> <li>4. <math>K_e</math> = Cost of equity</li> <li>5. <math>E</math> = Earnings</li> <li>6. <math>N</math> = original number of shares</li> <li>7. <math>\Delta</math> = additional ni. Of shares</li> <li>8. <math>I</math> = Fixed investment</li> </ol>	
Repeat the same procedure when dividend is paid	

Equity Share capital	
<b>Walter Model</b>	$\frac{D_1 + (E-D) \frac{r}{k_e}}{k_e}$ <p>Where</p> <ol style="list-style-type: none"> <li>1. D<sub>1</sub>= Dividend</li> <li>2. E= earnings</li> <li>3. K<sub>e</sub>= cost of equity</li> <li>4. R= rate of return</li> </ol>
<b>Gordon Model</b>	$\frac{D_0 (1+g)}{(K_e-g)}$ <p><a href="http://cma.techyribu.xyz">cma.techyribu.xyz</a></p>
<ol style="list-style-type: none"> <li>1. IRR &gt; K, Payout should be low or Zero.</li> <li>2. IRR &lt; K, maximum or 100% payout</li> <li>3. IRR = K, Any payout is optimum</li> </ol> <p>Conclusion is valid for both - Gordon and Walter</p>	

<b>GRAHM AND DODD</b>	$P = m (D+E/3)$ <p>Where,</p> <ol style="list-style-type: none"> <li>1. P = Market price per share</li> <li>2. D = Dividend per share</li> <li>3. E = Earnings per share</li> <li>4. m = a multiplier</li> </ol>
<b>LINTNER'S</b>	$D_1 = D_0 + [(EPS \times \text{target ratio}) - D_0] \times AF$

MODEL	Where,
	<ol style="list-style-type: none"> <li>1. D<sub>1</sub> = Dividend in year 1</li> <li>2. D<sub>0</sub> = Dividend in year 0 (last year dividend)</li> <li>3. EPS = Earnings per share</li> <li>4. Af = Adjustment factor/ speed of adjustment</li> </ol>

(Online Study)

Working Capital (WC)		Formula for Calculation of Holding period	
Gross Working Capital	Current asset	Raw material storage period	<u>Average cost of stock of raw material</u> Average cost of raw material per day
Net Working capital	Current Assets- Current Liabilities		365/ raw material turnover ratio
<b>Part A</b> <b>Management of Working capital</b> <b>Method 1- Operating Cycle Method</b>		WIP holding period	<u>Average cost of stock of Work in progress</u> Average cost production per day
What it signifies?	1. It signifies the time required for conversion of RM into WIP into FG into Debtor and then back into cash 2. It gives the time required for completion of one cycle and thus the fund required for Working capital		365/ WIP turnover ratio
Formula	RM storage Period + WIP Holding period+ FG storage period+ Debtors collection period - Creditors credit period allowed	FG holding period	<u>Average cost of stock of Finished goods</u> Average cost of goods sold per day
	R+W+F+D -C		365/ FG turnover ratio
How to Calculate WC requirement	1. Calculate Operating cycle 2. Calculate no. of cycle in one year 3. <u>Divide annual operating expenditure</u> . No of operating cycles	Debtors Holding period	<u>Average accounts receivable</u> Average credit sales per day
			365/ Debtor turnover ratio
		Creditors payment period	<u>Average accounts payable</u> Average credit purchase per day
			365/ Creditors turnover ratio

**COST SHEET****For calculation of various wc requirement**

Opening stock of Raw material	
Add: purchase	
Less Closing Stock	
<b>Raw Material consumed</b>	(Used for calculation of RM requirement)
Add opening WIP	
Direct manufacturing expense	
Direct wages	
Less closing WIP	
<b>Cost of production</b>	(Used for Calculation of WIP requirement)
Add opening Stock of FG	
Less Closing stock of FG	
<b>COGS</b>	(used for calculation of FG)
Add Admin expense	
Add S&D expense	
<b>Cost of sales</b>	

**Steps in this type of Questions**

Step 1	Determine the elements of current assets and current liabilities
Step 2	Determine the holding period and the units
Step 3	Determine the rate at which it should be value - Refer table below
Step 4	Find out the amount of each item
Step 5	Ascertain the net working capital considering cash balance, loans and advances etc.

**Statement of WC requirement**

Current Assets	Lead/lag	Amount	Total
<b>Inventory</b>			
- Raw Material			
- Work in progress			
- Finished goods			
<b>Receivable</b>			
- Trade debtors			
- Bills			
<b>Minimum Cash balance</b>			
<b>Gross Working capital</b>			
<b>Current Liabilities:</b>			
- Trade Payables/ bills payable			
- Wages Payables			
- Payables for overheads			
<b>Excess of Current Assets over Current Liabilities</b>			
<b>Add: Safety Margin</b>			
<b>Net Working Capital [III + IV]</b>			

**Method 2****Estimating WC requirement through estimation of each individual element**

<b>What does it signifies</b>	Requirement of WCM for each individual element
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<b>Raw Materials Inventory:</b> USE RM CONSUMED	$\text{Estimated production in units} \times \text{Estimated cost of RM per unit} \times \frac{\text{RM holding period}}{12 \text{ months or } 365 \text{ days}}$
<b>Work-in-Progress Inventory:</b> USE COST OF PRODUCTION	$\text{Estimated production in units} \times \text{Estimated WIP cost per unit} \times \frac{\text{WIP holding period}}{12 \text{ months or } 365 \text{ days}}$
<b>Finished Goods:</b> USE COST OF GOODS SOLD	$\text{Estimated production in units} \times \text{Estimated COGS} \times \frac{\text{FG Holding period}}{12 \text{ months or } 365 \text{ days}}$ (ex. Depreciation/ unit)
<b>Receivables (Debtors):</b> USE COST OF SALES	$\text{Estimated credit sales in units} \times \text{cost of sales} \times \frac{\text{Average debtor collection period}}{12 \text{ months or } 365 \text{ days}}$ (ex. depreciation per unit)
<b>Trade Payables:</b> RM PURCHASED	$\text{Estimated production in units} \times \text{RM purchased per unit} \times \frac{\text{Avg. creditor payment period}}{12 \text{ months or } 365 \text{ days}}$
<b>Direct Wages payable:</b> ANNUAL WAGES PAYABLE	$\text{Estimated production in units} \times \text{Direct labour cost/ unit} \times \frac{\text{Average time lag in payment}}{12 \text{ months or } 365 \text{ days of wages}}$
<b>Overheads:</b> ANNUAL OHDS. PAYABLE	$\text{Estimated production in units} \times \text{Ohds per unit} \times \frac{\text{Average time lag in payment of ohds.}}{12 \text{ months or } 365 \text{ days}}$
	360 days may be taken in many cases instead of 365 days in absence of information. However assumption shall be written

#### RATE OF VALUATION UNDER DIFFERENT APPROACHES

Component	Total Approach	Cash cost approach
Raw Material	Purchase price net of discount	Purchase price net of discount
Work in Progress	Raw material + 50%[ direct labour + direct expenses+ all production overheads]	Raw material + 50%[ direct labour + direct expenses+ all production overheads excluding depreciation]
Finished goods	Cost of production	Cost of production- depreciation
Debtors	Selling price	SP- profit margin- depreciation
Sundry creditors	Purchase price net of discount	Purchase price net of discount

## Cash Management Format

Receipts:	M1	M2	M3	M4	Mn
1. Opening balance					
2. Collection from debtors					
3. Cash sales					
4. Loans from banks					
5. Share capital					
6. Miscellaneous receipts					
7. Other items					
Total					
Payments:					
1. Payments to creditors					
2. Wages					
3. Overheads					
4. Interest					
5. Dividend					
6. Corporate tax					
7. Capital expenditure					
8. Other items					
Total					
Closing balance					
[Surplus (+)/Shortfall (-)]					

These Variety of Questions  
are not generally asked in  
exam

## Boumol Model

<b>Boumol Model</b>	$(2AT/H)^{1/2}$ A = Annual Cash requirement T= Transaction cost per transaction H= holding cost in %
<b>Calculation of Interest forgone</b>	$\frac{\text{Op bal} + \text{Cl. Bal}}{2} \times \text{Interest rate}$
<b>Calculation of Conversion cost</b>	No. of Transaction x cost per transaction
<b>Total cost</b>	Transaction cost + interest cost

