10. RATIO ANALYSIS

NO. OF PROBLEMS IN 41E OF CA INTER: CLASSROOM - 15, ASSIGNMENT - 16

NO. OF PROBLEMS IN 42E OF CA INTER: CLASSROOM - 14, ASSIGNMENT - 15

NO. OF PROBLEMS IN 43E OF CA INTER: CLASSROOM - 16, ASSIGNMENT - 16

MODEL WISE ANALYSIS OF PREVIOUS EXAMINATIONS OF IPCC AND CA INTER

No.	MODEL NAME	M-07 TO M-09	N-09	M-10	N-10	M-11	N-11	M-12	N-12	M-13	N-13	M-14	N-14 TO N-17	M-18 (O)	M-18 (N)	N-18 (N&O)	M-19 (N)	N-19 (O)	N-19 (N)
1.	PREPARATION OF BALANCE SHEET	-	-	15	-	-	-	-	8	-	8	5	8	-	-	-	-	8	-
2.	CALCULATION OF RATIOS	-	2	-	5	-	8	-	-	5	-	-	-	-	5	5	5		5

SIGNIFICANCE OF EACH PROBLEM COVERED IN THIS CHAPTER

Problem No. in this material	Problem No. in NEW SM	Problem No. in OLD SM	Problem No. in OLD PM	RTP	MTP	Previous Exams	Remarks
CR 1	-	-	-	-	-	N18 (N) - 5M	
CR 2	-	-	6	-	-	-	
CR 3	-	-	-	-	-	M18 (O) - 5M	
CR 4	PQ-1	ILL-4	-	-	-	-	
CR 5	-	-	-	-	-	-	
CR 6	-	-	-	-	-	N16, M19 (N)	
CR 7	-	-	-	-	-	-	
CR 8	PQ-5	ILL-9	-	-	-	-	
CR 9	PQ-2	ILL-5	-	-	-	-	
CR 10	-	-	-	-	MTP2 M19(N)	N05 - 10M	
CR 11	ILL-3	ILL-3	-	-	-	-	
CR 12	PQ-3	ILL-6	-	-	-	-	
CR 13	-	-	-	-	-	N19 (N) - 5M	
CR 14	ILL-1	ILL-1	-	-	-	-	
CR 15	-	-	-	N17, M19 (N&O)	-	-	
CR 16	-	-	-	-	-	N18 (O) - 5M	
ASG 1	-	-	-	-	MTP2 N18	M17 - 8M	
ASG 2	-	-	-	-	-	-	
ASG 3	-	-	-	-	-	-	
ASG 4	-	-	-	-	-	-	
ASG 5	-	-	1	M17	N18 (N&O)	N17 - 8M	
ASG 6	-	-	4	-	-	-	
ASG 7							
ASG 8	ILL-2	ILL-2	-	-	-	M18 (N) - 5M	
ASG 9	ILL-4	-	-	-	-	-	
ASG 10	-	-	-	-	-	M19 (O) - 8M	
ASG 11	-	-	-	-	-	-	
ASG 12	-	-	7	-	-	N10	
ASG 13	-	-	-	-	-	M16 - 8M	
ASG 14	ILL-5	-	-	-	-	-	
ASG 15	Example 2	-	-	-	-	-	
ASG 16	Example	-	-	-	-	-	

AQB 1	-	-	-	-	-	-	
AQB 2	-	-	-	-	-	-	
AQB 3	-	-	-	N16, N18 (N&O)			

Theory

Introduction: Financial statements- P&L A/c and Balance Sheet do not disclose all of the necessary and relevant information for better Planning and Decision Making. They provide only financial data to analyze the financial position which is not only necessary for proprietors alone but also to the parties demanding financial information i.e., Government, Nationalized Banks, Investors and Customers. There are various tools available for financial analysis.

They are:

a) Comparative Statements

b) Common size statements

c) Trend Ratios

d) Ratio Analysis

e) Cash Flow Statements

f) Fund Flow Statements

The most important tool for Financial Analysis is Ratio Analysis. It is useful in understanding the Financial Statements and drawing conclusions about the financial position of the firm.

Ratio Analysis:

a) The Ratio Analysis has emerged as the principal technique of the Annual financial statements.

b) A ratio is a relationship expressed in mathematical terms between two individual figures or group of figures connected with each other in some logical manner.

c) A financial ratio helps to summarize a large mass of financial data into a concise form and to make meaningful interpretations and conclusions about the performance and positions of a firm.

d) For example, a firm having Net Sales of Rs.5,00,000 is making a gross profit of Rs.1,00,000. It means that the ratio of the Gross Profit to Net Sales is 20% i.e. (Rs.1,00,000 ÷ Rs.5,00,000) x 100.

Steps in Ratio Analysis: The Ratio Analysis requires two steps as follows:

a) Calculation of a ratio (as discussed later), and

b) Comparing the ratio with some predetermined standard. The standard ratio may be the past ratio of the same firm or industry average ratio or a projected ratio or the ratio of the most successful firm in the industry.

Forms of Ratios: Since a ratio is a mathematical relationship between two or more variables or accounting figures, such relationship can be expressed in different ways as follows:

a) As a pure ratio: For example, the equity share capital of a company is Rs.20,00,000 and the preference share capital is Rs.5,00,000, the ratio of equity share capital to preference share capital is 20,00,000: 5,00,000 or simply 4:1.

b) As a rate of times: In the above case the equity share capital may also be described as 4 times that of preference share capital. Similarly, the cash sales of a firm are Rs.12,00,000 and the credit sales are Rs.30,00,000. So, the ratio of credit sales to cash sales can be described as 2.5 (30, 00,000 ÷ 12, 00,000) or simply by saying that the credit sale are 2.5 times that of cash sales.

c) As a percentage: In such a case, one item may be expressed as a percentage of some other item. For example, net sales of the firm are Rs.50,00,000 and the amount of the gross profit is Rs.10,00,000, then the gross profit may be described as 20% of sales i.e. (Rs.10,00,000 ÷ Rs.50,00,000) x 100 or simply 20%.

Types of Ratios

- Liquidity ratios
  1. Current Ratio
  2. Quick Ratio
  3. Cash Ratio / Absolute liquidity Ratio
  4. Net Working Capital Ratio
  5. Basic Defense Interval Measure
- Capital structure /leverage ratios
  - Capital Structure Ratio's
    1. Equity Ratio
    2. Debt Ratio
    3. Debt to Equity Ratio
    4. Debt to Total Assets Ratio
    5. Capital Gearing Ratio
  - Coverage Ratio's
    1. Debt Service Coverage Ratio/ overall coverage ratio
    2. Interest coverage Ratio
    3. Preference dividend coverage Ratio
- Activity Ratios
  1. Capital Turnover Ratio
  2. Fixed Assets Turnover Ratio
  3. Total Assets Turnover Ratio
  4. Working Capital Turnovers
  5. Inventory Turnover Ratio
  6. Debtors Turnover Ratio
  7. Creditors Turnover Ratio
- Profitability ratios
  - From owners point of view
    1. Return on equity
    2. E.P.S
    3. D.P.S
    4. Price earnings Ratio Price earn.
    5. Dividend Payout Ratio
  - Based on assets/investments
    1. Return on capital employed / Return on Investment
    2. Return on assets
  - Based on sales of the firm
    1. Gross profit Ratio
    2. Operating profit Ratio
    3. Net profit Ratio
    4. Expenses Ratios
  - Based on Capital Market information
    1. Price Earnings Ratio
    2. Yield Ratio
    3. Market Value / Book Value Per share
    4. Q Ratio

SUMMARY

1. LIQUIDITY RATIOS / SHORT TERM SOLVENCY RATIOS

- The term Liquidity or short-term solvency means ability of the business to pay its short-term liabilities.
- Inability to pay-off short-term liabilities affects its credibility as well as its credit rating. Continuous default on the part of the business leads to commercial bankruptcy.
- Short-term lenders and creditors of a business are very much interested to know its state of liquidity because of their financial stake.
- Consequently, these ratios focus on current assets and current liabilities.
- The Liquidity Ratios provide a quick measure of liquidity position of the firm by establishing a relationship between its current assets and its current liabilities.

Ratio	Formulae	Comments
Current Ratio	$\frac{\text{Current Assets}}{\text{Current Liabilities}}$	A simple measure that estimates whether the business can pay short term debts. Ideal ratio is 2 : 1.
Quick Ratio	$\frac{\text{Quick Assets}}{\text{Current Liabilities}}$	It measures the ability to meet current debt immediately. Ideal ratio is 1 : 1.
Cash Ratio	$\frac{\left(\begin{array}{c}\text{Cash and Bank Balances} + \\ \text{Marketable Securities}\end{array}\right)}{\text{Current Liabilities}}$	It measures absolute liquidity of the business.

Basic Defense Interval Ratio	$\dfrac{\left(\text{Cash and Bank balances} + \text{Marketable Securities}\right)}{\text{Opering Expenses} \div \text{No. of days}}$	It measures the ability of the business to meet regular cash expenditures.
Net Working Capital Ratio	Current Assets - Current Liabilities	It is a measure of cash flow to determine the ability of business to survive financial crisis.

2. LEVERAGE RATIOS/ LONG TERM SOLVENCY RATIOS / CAPITAL STRUCTURE RATIOS

Leverage Ratios are used to measure the firm's ability to meet the Long term Obligations. These Ratios indicate the mix of the Funds provided by owners and lenders and assure the lenders of the Long-term funds with regard to:

- Periodic payment of interest during the period of the loan.
- Repayment of principal amount on maturity.

Equity Ratio	$\dfrac{\text{Shareholders' Equity}}{\text{Capital Employed}}$	It indicates owner's fund in companies to total fund invested.
Debt Ratio	$\dfrac{\text{Total outside liabilities}}{\text{Total Debt} + \text{Net worth}}$	It is an indicator of use of outside funds.
Debt to equity Ratio	$\dfrac{\text{Total Outside Liabilities}}{\text{Shareholders' Equity}}$	It indicates the composition of capital structure in terms of debt and equity.
Debt to Total assets Ratio	$\dfrac{\text{Total Outside Liabilities}}{\text{Total Assets}}$	It measures how much of total assets is financed by the debt.
Capital Gearing Ratio	$\dfrac{\left(\text{Preference Share Capital} + \text{Debentures} + \text{Other Borrowed funds}\right)}{\left(\text{Equity Share Capital} + \text{Reserves \& Surplus} - \text{Losses}\right)}$	It shows the proportion of fixed interest bearing capital to equity shareholders' fund. It also signifies the advantage of financial leverage to the equity shareholder.
Proprietary Ratio	$\dfrac{\text{Proprietary Fund}}{\text{Total Assets}}$	It measures the proportion of total assets financed by shareholders.

3. COVERAGE RATIOS

- The ability to service the debt refers to how easily and readily the firm will be able to meet its commitments in respect of the contractual interest payment and the repayment schedule.
- In addition to the interests and the repayments, a firm may also have to pay the scheduled payment. The firm's ability to service the fixed liabilities can be measured with the help of Coverage ratios.

Debt Service Coverage Ratio (DSCR)	$\dfrac{\text{Earnings available for debt services}}{\text{Interest} + \text{Instalments}}$	It measures the ability to meet the commitment of various debt services like interest, instalment etc. Ideal ratio is 2.
Interest Coverage Ratio	$\dfrac{\text{EBIT}}{\text{Interest}}$	It measures the ability of the business to meet interest. Ideal ratio is > 1.
Preference Dividend Coverage Ratio	$\dfrac{\text{Net Profit / Earning after taxes (EAT)}}{\text{Preference dividend liability}}$	It measures the ability to pay the preference shareholders' dividend. Ideal ratio is > 1.

Fixed Charges Coverage Ratio	$\dfrac{\text{EBIT} + \text{Depreiation}}{\text{Interest} + \dfrac{\text{Re-payment of loan}}{1 - \text{tax rate}}}$	This ratio shows how many times the cash flow before interest and taxes covers all fixed financing charges. The ideal ratio is > 1.

4. ACTIVITY RATIOS/TURNOVER RATIO/PERFORMANCE RATIOS

Activity Ratios are used to measure the efficiency or effectiveness with which a firm manages its Assets or resources. Under this head we study the following Ratios.

Total Asset Turnover Ratio	$\dfrac{\text{Sales / Cost of Goods Sold}}{\text{Average Total Assets}}$	A measure of total asset utilisation. It helps to answer the question - What sales are being generated by each rupee's worth of assets invested in the business?
Fixed Assets Turnover Ratio	$\dfrac{\text{Sales / Cost of Goods Sold}}{\text{Fixed Assets}}$	This ratio is about fixed asset capacity. A reducing sales or profit being generated from each rupee invested in fixed assets may indicate overcapacity or poorer-performing equipment.
Capital Turnover Ratio	$\dfrac{\text{Sales / Cost of Goods Sold}}{\text{Net Assets}}$	This indicates the firm's ability to generate sales per rupee of long term investment.
Working Capital Turnover Ratio	$\dfrac{\text{Sales / COGS}}{\text{Working Capital}}$	It measures the efficiency of the firm to use working capital.
Inventory Turnover Ratio	$\dfrac{\text{COGS / Sales}}{\text{Average Inventory}}$	It measures the efficiency of the firm to manage its inventory.
Debtors Turnover Ratio	$\dfrac{\text{Credit Sales}}{\text{Average Accounts Receivable}}$	It measures the efficiency at which firm is managing its receivables.
Receivables (Debtors') Velocity	$\dfrac{\text{Average Accounts Receivables}}{\text{Average Daily Credit Sales}}$	It measures the velocity of collection of receivables.
Payables Turnover Ratio	$\dfrac{\text{Annual Net Credit Purchases}}{\text{Average Accounts Payables}}$	It measures the velocity of payables payment.

5. PROFITABILITY RATIOS/ CASUAL RATIOS

- The profitability ratios measure the profitability or the operational efficiency of the firm. These ratios reflect the final results of business operations.
- They are some of the most closely **watched and widely quoted ratios. Management attempts to maximize these ratios to maximize firm value.**
- The results of the firm can be evaluated in terms of its earnings with reference to a given level of assets or sales or owner's interest etc.
- Therefore, the profitability ratios are broadly classified in four categories
  1. Profitability ratios required for analysis from owners' point of view
  2. Profitability ratios based on assets/investments
  3. Profitability ratios based on sales of the firm
  4. Profitability ratios based on capital market information

1. Profitability Ratios Required for Analysis from Owner's Point of View		
Earnings per Share (EPS)	$\frac{\text{Net profit available to equity shareholders}}{\text{Number of equity shares outstanding}}$	EPS measures the overall profit generated for each share in existence over a particular period.
Dividend per Share (DPS)	$\frac{\text{Dividend Paid to equity shareholders}}{\text{Number of equity shares outstanding}}$	Proportion of profit distributed per equity share.
Dividend payout Ratio (DP)	$\frac{\text{Dividend per equity share}}{\text{Earning per Share (EPS)}}$	It shows % of EPS paid as dividend and retained earnings.
2. Profitability Ratios related to Overall Return on Assets/ Investments		
Return on Investment (ROI)	$\frac{\text{Return / Profit / Earnings}}{\text{Investments}} \text{x100}$	It measures overall return of the business on investment/ equity funds/ capital employed/ assets.
Return on Assets (ROA)	$\frac{\text{Net Profit after taxes}}{\text{Average total assets}}$	It measures net profit per rupee of average total assets/ average tangible assets/ average fixed assets.
Return on Capital Employed ROCE (Pre-tax)	$\frac{\text{EBIT}}{\text{Capital Employed}} \text{x100}$	It measures overall earnings (either pretax or post tax) on total capital employed.
Return on Capital Employed ROCE (Post-tax)	$\frac{\text{EBIT}(1-t)}{\text{Capital Employed}} \text{x100}$	
Return on Equity (ROE)	$\frac{\left(\text{Net Profit after taxes} - \text{Preference dividend (if any)}\right)}{\text{Net worth / equity shareholders' fund}}$	It indicates earnings available to equity shareholders in comparison to equity shareholders' net worth.
3. Profitability Ratios based on Sales		
Gross Profit Ratio	$\frac{\text{Gross Profit}}{\text{Sales}} \text{x100}$	This ratio tells us something about the business's ability consistently to control its production costs or to manage the margins it makes on products it buys and sells.
Net Profit Ratio	$\frac{\text{Net Profit}}{\text{Sales}} \text{x100}$	It measures the relationship between net profit and sales of the business.
Operating Profit Ratio	$\frac{\text{Operating Profit}}{\text{Sales}} \text{x100}$	It measures operating performance of business.
Expenses Ratio		
Cost of Goods Sold **(COGS) Ratio**	$\frac{\text{COGS}}{\text{Sales}} \text{x100}$	It measures portion of a particular expenses in comparison to sales.
Operating Expenses Ratio	$\frac{\left(\text{Administrative exp.} + \text{Selling \& Distribution OH}\right)}{\text{Sales}} \text{x100}$	
Operating Ratio	$\frac{\text{COGS} + \text{Operating Expenses}}{\text{Sales}} \text{x100}$	

Financial Expenses Ratio	$\frac{\text{Financial Expenses}}{\text{Sales}} \times 100$	
4. Profitability Ratios related to market/ valuation/ Investors		
Price - Earnings per Share (P/E Ratio)	$\frac{\text{Market price per Share (MPS)}}{\text{Earning per Share (EPS)}}$	At any time, the P/E ratio is an indication of how highly the market "rates" or "values" a business. A P/E ratio is best viewed in the context of a sector or market average to get a feel for relative value and stock market pricing.
Dividend Yield	$\frac{\text{Dividend per Share (DPS)}}{\text{Market Price per Share (MPS)}} \times 100$	It measures dividend paid based on market price of shares.
Earnings Yield	$\frac{\text{Earnings per Share (EPS)}}{\text{Market Price per Share (MPS)}} \times 100$	It is the relationship of earning per share and market value of shares.
Market Value/ Book Value per Share	$\frac{\text{Market Value per Share}}{\text{Book Value per Share}}$	It indicates market response of the shareholders 'investment.
Q Ratio	$\frac{\text{Market Value of Equity and Liabilities}}{\text{Estimated Replacement Cost of Assets}}$	It measures market value of equity as well as debt in comparison to all assets at their replacement cost.

DUPONT MODEL

There are three components in the calculation of return on equity using the traditional DuPont model- the net profit margin, asset turnover, and the equity multiplier.

By examining each input individually, the sources of a company's return on equity can be discovered and compared to its competitors.

Net Profit Margin: The net profit margin is simply the after-tax profit a company generates for each rupee of revenue. Net profit margins vary across industries, making it important to compare a potential investment against its competitors. Although the general rule of- thumb is that a higher net profit margin is preferable; it is not uncommon for management to purposely lower the net profit margin in a bid to attract higher sales.

Net profit margin = Net Income ÷ Revenue

Net profit margin is a safety cushion; the lower the margin, the less room for error. A business with 1% margins has no room for flawed execution. Small miscalculations on management's part could lead to tremendous losses with little or no warning.

Asset Turnover: The asset turnover ratio is a measure of how effectively a company converts its assets into sales. It is calculated as follows:

Asset Turnover = Revenue ÷ Assets

The asset turnover ratio tends to be inversely related to the net profit margin; i.e., the higher the net profit margin, the lower the asset turnover. The result is that the investor can compare companies using different models (low-profit, high-volume vs. high-profit, low-volume) and determine which one is the more attractive business.

Equity Multiplier: It is possible for a company with terrible sales and margins to take on excessive debt and artificially increase its return on equity. The equity multiplier, a measure of financial leverage, allows the investor to see what portion of the return on equity is the result of debt. The equity multiplier is calculated as follows:

Equity Multiplier = Assets ÷ Shareholders' Equity

IMPORTANT TERMS

- **Current Assets =** Inventory/Stock in Trade (S.I.T) + Sundry Debtors + Cash & Bank balances + Receivables i.e. B/R + Accruals i.e. Rent receivable + Loans & Advances + Prepaid Expenses and Short Investments, if any.
- **Current Liabilities =** Creditors for Goods & Services + Short Term Loans + Bank OD + Cash Credit + O/s Expenses + Provision for Taxation + Proposed Dividend + Unclaimed Dividend + Payables i.e. B/P+ Accrued Interest etc.
- **Quick Assets =** Current assets - Stock - Prepaid Expenses (as they aren't realizable back).

  Quick Liabilities = Current Liabilities - Bank OD - Cash Credit.

  Current Liabilities = Same as above.
- **Defensive or Liquid Assets** = cash + bank + debtors + marketable securities (or) current assets - inventory - prepaid expenses.

  Projected daily cash requirements = Operating Expenses +Interest+ Income taxes $\div$ 365
- **Capital Employed:** Total Assets - Current Liabilities (OR) = Fixed Assets +Working Capital (OR) Equity + Debt + Psc.
- **Total debt** includes short- and long-term borrowings from financial institutions, debentures/bonds, and deferred payment arrangements for buying capital equipments, bank borrowings, public deposits and any other interest-bearing loan.
- **Long term Debt** which means long term loans (whether Secured or unsecured)(eg. Debentures, bonds, loans from Financial institutions
- **Share Holders Funds or Shareholders equity** means Equity Share capital + Preference Share capital + reserves and Surpluses- fictitious assets.
- **Fixed interest bearing funds means:** Debentures + Long Term Loans +Preferential Share capital.
- **Equity shareholder's funds means:** Equity share capital+ Reserves & Surplus.

  Fixed Assets = Gross Block - Dep. to date
- **LT funds =** Share capital (Equity & Preference) + Reserves & surpluses + LT Loans**.**
- **Proprietary fund includes** Equity Share Capital + Preference Share Capital + Reserve & Surplus - Fictitious Assets.

  Total assets exclude fictitious assets and losses
- **Earnings available for Debt service =** Net Profit + Non cash operating expenses like depreciation and other amortization + non-operating adjustments like loss on sale of fixed assets + Interest on debt fund.
- **Net assets** = net fixed assets + current assets - current liabilities. Since net assets equal to capital employed it also known as Capital Turnover ratio.

  Net sales = Gross Sales - Returns
- **Net Working capital =** Total current assets - Total current liabilities
- **Cost of Goods sold =** Opening Stock + Purchases - Closing Stock or Net Sales -Gross profit.

  Average Inventory = $\frac{\text{Opening Inventory} + \text{Closing Inventory}}{2}$
- **STOCK VELOCITY RATIO/ STOCK HOLDING PERIOD:**

  Formula: Stock Holding Period $= \frac{\text{365 Days/12M/52 weeks}}{\text{Stock turnover Ratio}}$

  <u>Note:</u> In case Stock Velocity is given in problems in no. of times then it represents Stock Turnover Ratio.

- **Credit Sales =** Credit sales for the year - Sales returns for the year.

  Average Accounts Receivables = $\frac{\text{Opening A/cs Receivable} + \text{Closing A/cs Receivable}}{2}$

  Accounts Receivable = Trade Debtors + Bills Receivables from Customers.

- **DEBTORS COLLECTION PERIOD / DEBTORS VELOCITY RATIO:**

  Formula = $\frac{\text{365 Days/12M/52 weeks}}{\text{Debtors turnover Ratio}}$

  Note: In case Debtors Velocity is given in problems in no. of times, it represents Debtors Turnover Ratio.

- **Net Credit Annual purchase =** Total Credit purchases for the year - Purchase returns.

  Avg. Account payable = $\frac{\text{Opening Accounts Payable} + \text{Closing Accounts Payable}}{2}$

  Accounts Payable = Trade Creditors + Bills Payables from Customers.

- **CREDITORS VELOCITY RATIO/ AVERAGE PAYMENT PERIOD:**

  Formula = $\frac{\text{365 Days/12M/ 52weeks}}{\text{Creditors Turnover Ratio}}$

  Note: In case Creditors Velocity is given in problems in no. of times, it represents Creditors Turnover Ratio.

- **Net profits available to equity shareholders =** PAT - Preference Dividend
- **Capital employed =** Total Assets **less** Current liabilities Or E.S.C + P.S.C + Reserves & Surplus + Debt funds (Other than current liabilities) - Miscellaneous expenses not written off.
- **Gross Profit =** Net sales - cost of goods sold, Net **Sales =** Same as above

PROBLEMS FOR CLASSROOM DISCUSSION

MODEL 1: MISSING VALUES

PROBLEM NO 1: The following is the information of XML Ltd. relates to the year ended 31-03-2018:

Gross Profit	20% of Sales
Net Profit	10% of Sales
Inventory Holding period	3 months
Receivable collection period	3 months
Non-Current Assets to Sales	1: 4
Non-Current Assets to Current Assets	1: 2
Current Ratio	2: 1
Non-Current Liabilities to Current Liabilities	1: 1
Share Capital to Reserve and Surplus	4: 1
Non-current Assets as on 31st March, 2017	50,00,000

Assume that:

i) No change in Non-Current Assets during the year 20 17-18

ii) No depreciation charged on Non-Current Assets during the year 2017- 18.

iii) Ignoring Tax

You are required to Calculate:

Cost of goods sold, Net profit, Inventory, Receivables and Cash for the year ended on 31st March, 2018.

(A) (N18 (N) - 5M)

(ANS.: COGS: RS.1,60,00,000; NP: RS.20,00,000;RECEIVABLES: RS.50,00,000; CASH: RS.10,00,000)

(SOLVE PROBLEM NO.1 OF ASSIGNMENT PROBLEMS AS REWORK)

PROBLEM NO 2: **(PRINTED SOLUTION AVAILABLE)** MN Limited gives you the following information related for the year ending 31st March, 2009:

1.	Current Ratio	2.5 : 1
2.	Debt-Equity Ratio $\left(\frac{D}{E}\right)$	1 : 1.5
3.	Return on Total Assets	15%
4.	Total Assets Turnover Ratio	2
5.	Gross Profit Ratio	20%
6.	Stock Turnover Ratio	7
7.	Current Market Price per Equity Share	Rs.16
8.	Net Working Capital	Rs.4,50,000
9.	Fixed Assets	Rs.10,00,000
10.	60,000 Equity Shares of	Rs.10 each
11.	20,000, 9% Preference Shares of	Rs.10 each
12.	Opening Stock	Rs.3,80,000

You are required to calculate:

a) Quick Ratio

b) Fixed Assets Turnover Ratio $\left(\frac{\text{Sales}}{\text{Fixed Assets}}\right)$

c) Proprietary Ratio

d) Earnings per Share

e) Price-Earnings Ratio

(A) (OLD PM) (ANS.: I. 1.1; II.3.5; III. 0.5; IV RS.4.075 PER SHARE; V .3.926 TIMES)

(SOLVE PROBLEM NO.2 OF ASSIGNMENT PROBLEMS AS REWORK)

Note:____

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PROBLEM NO 3: **(PRINTED SOLUTION AVAILABLE)** G Ltd. has furnished the following information relating to the year ended 31st March, 2017 and 31st March, 2018:

Particulars	**31st March, 2017**	**31st March, 2018**
Share Capital	40,00,000	40,00,000
Reserve and Surplus	20,00,000	25,00,000
Long term loan	30,00,000	30,00,000

a) Net profit ratio: 8%

b) Gross profit ratio: 20%

c) Long-term loan has been used to finance 40% of the fixed assets.

d) Stock turnover with respect to cost of goods sold is 4.

e) Debtors represent 90 days sales.

f) The company holds cash equivalent to 1½ months cost of goods sold.

g) Ignore taxation and assume 360 days in a year.

You are required to prepare Balance Sheet as on 31st March, 2018 in following format:

Liabilities	**(Rs.)**	**Assets**	**(Rs.)**
Share Capital	-	Fixed Assets	-
Reserve and Surplus	-	Sundry Debtors	-
Long-term loan	-	Closing Stock	-
Sundry Creditors	-	Cash in hand	-

(A) (M18 (O) - 5M) (ANS.: SHARE CAPITAL: RS. 40,00,000; RESERVES AND SURPLUS: RS.25,00,000; LONG-TERM LOAN: RS.30,00,000; SUNDRY CREDITORS (B/F): RS.14,37,500; FIXED ASSETS: RS. 75,00,000; SUNDRY DEBTORS: RS. 15,62,500; CLOSING STOCK: RS. 12,50,000; CASH IN HAND: RS. 6,25,000)

(SOLVE PROBLEM NO.3 OF ASSIGNMENT PROBLEMS AS REWORK)

MODEL 2: TURNOVER RATIOS

PROBLEM NO 4: The total sales (all credit) of a firm are Rs.6,40,000. It has a gross profit margin of 15 per cent and a current ratio of 2.5. The firm's current liabilities are Rs.96,000; inventories Rs.48,000 and cash Rs.16,000.

a) Determine the average inventory to be carried by the firm, if an inventory turnover of 5 times is expected? (Assume a 360 days year).

b) Determine the average collection period if the opening balance of debtors is intended to be of Rs.80,000? (Assume a 360 day year). ***(A) (NEW SM, OLD SM) (ANS.: (A) 1,08,800 (B) 72 DAYS)***

(SOLVE PROBLEM NO. 4 OF ASSIGNMENT PROBLEMS AS REWORK)

Note:____

MODEL 3: PROPRIETORS FUNDS

PROBLEM NO 5: From the following information, relating to a Limited Company, prepare a Statement of Proprietors' Funds:

Current Ratio	2
Liquid Ratio	1.5
Fixed Assets/Proprietary Fund	3/4
Working Capital	Rs.75 Lakh
Reserves & Surplus	Rs.50 Lakh
Bank Overdraft	Rs.10 Lakh

There were no long - term loans or fictitious assets.

(A) (ANS.: STOCK RS.37,50,000; EQUITY SHARE CAPITAL IS RS.2,50,00,000; FIXED ASSETS RS.2,25,00,000; WORKING CAPITAL IS RS.75,00,000) (SOLVE PROBLEM NO. 5 OF ASSIGNMENT PROBLEMS AS REWORK)

Note:____

MODEL 4 : PREPARATION OF FINANCIAL STATEMENTS

PROBLEM NO 6: (PRINTED SOLUTION AVAILABLE) The following figures and ratios are related to company:

Sales for the year (all credit)	Rs.30,00,000
Gross profit ratio	25%
Fixed assets turnover (basis on cost of goods sold)	1.5
Stock turnover (basis on cost of goods sold)	6
Liquid ratio	1:1
Current ratio	1.5:1
Debtor's collection period	2 months
Reserves and surplus to share capital	0.6:1
Capital gearing ratio	0.5
Fixed assets to net worth	1.20:1

You required to prepare:

1. Balance sheet of the company on the basis of above details.
2. The statement showing working capital requirement, if the company wants to make a provision for contingencies @ 10% of net working capital including such provision. ***(A) (M10, SIMILAR: N16 - 8M; M19 (N) - 5M)***

(ANS.: TOTAL OF BALANCE SHEET: RS.26, 25,000; WORKING CAPITAL: RS. 4,16,667)

(SOLVE PROBLEM NO. 6 OF ASSIGNMENT PROBLEMS AS REWORK)

PROBLEM NO 7: **(PRINTED SOLUTION AVAILABLE)** From the following information, prepare the Balance Sheet of XYZ Co. Ltd. showing the details of working:

Paid-up capital	50 Lakh
Plant & Machinery	125 Lakh
Total sales (Annual)	500 Lakh
Gross Profit margin	25%
Annual credit sales	80% of net sales
Current Ratio	2:1
Inventory turnover	4:1
Fixed assets turnover	2:1
Sales returns	20% of sales
Average collection period	73 days
Bank credit to trade credit (in current liabilities)	2:1
Cash to inventory	1:15
Total debt to current liabilities	3:1

(A) (ANS.: RESERVES & SURPLUS: RS.78 LAKHS, OTHER FIXED ASSETS: RS.75 LAKHS, CASH: RS.5 LAKHS, STOCK: RS.75 LAKHS, ACCOUNTS RECEIVABLE: RS.64 LAKHS) (SOLVE PROBLEM NO.7 OF ASSIGNMENT PROBLEMS AS REWORK)

Note:____

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PROBLEM NO 8: Following is the abridged Balance Sheet of Alpha Ltd.

Liabilities	**Rs.**	**Assets**		**Rs.**
Share Capital	1,00,000	Land and Buildings		80,000
Profit and Loss Account	17,000	Plant and Machineries	50,000	
Current Liabilities	40,000	**Less:** Depreciation	15,000	35,000
				1,15,000
		Stock	21,000	
		Debtors	20,000	
		Bank	1,000	42,000
	1,57,000			**1,57,000**

With the help of the additional information furnished below, you are required to prepare Trading and Profit & loss Account and a Balance Sheet as at 31st March, 2017:

i) The company went in for reorganization of capital structure, with share capital remaining the same as follows:

Share capital	50%	Other Shareholder's funds	15%
5% Debentures	10%	Trade Creditors	25%

Debentures were issued on 1st April, interest being paid annually on 31st March.

ii) Land and Buildings remained unchanged. Additional plant and machinery has been bought and a further Rs.5,000 depreciation written off.

(The total fixed assets then constituted 60% of total net fixed and current assets).

iii) Working capital ratio was 8:5.

iv) Quick assets ratio was 1: 1.

v) The debtors (four - fifth of the quick assets) to sales ratio revealed a credit period of 2 months. There were no cash sales.

vi) Return on net worth was 10%.

vii) Gross profit was at the rate of 15% of selling price.

viii) Stock turnover (based on sales) was eight times for the year.

Ignore Taxation. ***(A) (NEW SM, OLD SM)***

(ANS.: SALES RS.2,40,000; GROSS PROFIT RS.36,000; NET PROFIT RS.13,000; SHARE CAPITAL RS.1,00,000; 5% DEBENTURES RS.20,000; TRADE CREDITORS RS.50,000) (SOLVE PROBLEM NO. 8 OF ASSIGNMENT PROBLEMS AS REWORK)

PROBLEM NO 9: (PRINTED SOLUTION AVAILABLE) The following accounting information and financial ratios of PQR Ltd. relate to the year ended 31st December 2016:

	Particulars	2016
I.	**Accounting Information:**	
	Gross Profit	15% of Sales
	Net profit	8% of sales
	Raw materials consumed	20% of Cost of Goods Sold
	Direct wages	10% of Cost of Goods Sold
	Stock of raw materials	3 months' usage
	Stock of finished goods	6% of works cost
	Debt collection period	60 days
	All sales are on credit	
II.	**Financial Ratios:**	
	Fixed assets to sales	1:3
	Fixed assets to Current assets	13:11
	Current ratio	2:1
	Long - term loans to Current liabilities	2:1
	Capital to Reserves and Surplus	1:4

If value of fixed assets as on 31st December, 2016 amounted to Rs.26 lakhs, prepare a summarized profit and Loss Account of the company for the year ended 31st December, 2016 and also the Balance Sheet as on 31st December, 2016. ***(B) (NEW SM, OLD SM)***

(ANS.: SALES RS.78,00,000; GROSS PROFIT RS.11,70,000; NET PROFIT RS.6,24,000; STOCK OF RAW MATERIAL RS.3,31,500; STOCK OF FINISHED GOODS RS.3,97,800; DEBTORS RS.12,82,192; CASH RS.1,88,508)

(SOLVE PROBLEM NO. 9 OF ASSIGNMENT PROBLEMS AS REWORK)

Note:____

PROBLEM NO 10: (PRINTED SOLUTION AVAILABLE) Exe Limited is a dealer in Automobile Components. While preparing the financial statements for the year ended 31.03.2001, it was discovered that a substantial portion of the record was missing. However, the Accountant was able to gather the following data:

Liabilities	Rs.	Assets	Rs.
Share Capital		**Fixed Assets**	
Authorised and subscribed:		Land	1,20,000
20,000 E. shares of Rs.10 each	2,00,000	Plant & Machinery at cost ?	
Reserves & Surplus		**Less:** Dep. ?	?
General Reserve:		**Current Assets**	
Balance on 1.4.2000 60,000		Stock ?	
Add: Transfer during the year ?	?	Debtors ?	
Secured Loans		Cash & Bank ?	?
15% Loan	?		
Current Liabilities			
Creditors ?			
Provision for tax ?			
Proposed Dividend ?	2,00,000		
	?		?

The following additional information is provided to you:

Current ratio	2 times
Cash and Bank	30% of total current assets
Debtors velocity (Sales/Debtors)	12 times
Stock velocity (Cost of goods sold/Stock)	12 times

Creditors velocity (cost of goods sold/Creditors)	12 times
Gross profit/sales	25%
Proposed dividend	20%
Tax rate	33 1/3%
Debt service coverage ratio	1 time
Interest coverage ratio	3 times interest on the balance of loan outstanding on 1.4.2000
Selling and distribution expenses	Rs.1,80,000
Depreciation rate	40%

Cost of goods sold does not include Depreciation. On the basis of the above-mentioned information, you are required to complete the Balance Sheet as on 31.03.2001. ***(B) (N05 - 10M, SIMILAR: MTP2 M19(N))***

(ANS.: PLANT & MACHINERY RS.3,00,000, DEPRECIATION RS.1,20,000, STOCK RS.1,20,000, DEBTORS RS.1,60,000, CASH & BANK RS.1,20,000)(SOLVE PROBLEM NO.10 OF ASSIGNMENT PROBLEMS AS REWORK)

Note:____

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MODEL 5 : PROFITABILITY RATIOS

PROBLEM NO 11: X Co. has made plans for the next year. It is estimated that the company will employ total assets of Rs.8,00,000; 50 per cent of the assets being financed by borrowed capital at an interest cost of 8 per cent per year. The direct costs for the year are estimated at Rs.4,80,000 and all other operating expenses are estimated at Rs.80,000. The goods will be sold to customers at 150 per cent of the direct costs. Tax rate is assumed to be 50 per cent.

You are required to calculate; (i) net profit margin; (ii) return on assets; (iii) asset turnover and (iv) return on owner' s equity. ***(A) (NEW SM, OLD SM) (ANS.: (I) 8.89% (II) 8%; (III) 0.9 TIMES; (IV) 16%)***

(SOLVE PROBLEM NO. 11 OF ASSIGNMENT PROBLEMS AS REWORK)

Note:____

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PROBLEM NO 12: The capital structure of beta limited is as follows:

Equity share capital of Rs.10/- each	8,00,000
9% Preference Share capital of Rs.10/- each	3,00,000

Additional information: Profit (after tax at 35 per cent), Rs.2,70,000; Depreciation: Rs.60,000; Equity dividend paid, 20 per cent; Market price of equity shares, Rs.40.

You are required to compute the following, showing the necessary workings:

a) Dividend yield on the equity shares

b) Cover for the preference and equity dividends

c) Earnings per shares **d)** Price - earnings ratio. ***(A) (NEW SM, OLD SM)***

(ANS.: A. 5%; B. 10 TIMES & 1.52 TIMES C. 3.04 TIMES D. 13.2 TIMES)(SOLVE PROBLEM NO. 12 OF ASSIGNMENT PROBLEMS AS REWORK)

Note:____

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PROBLEM NO 13: Following information has been gathered from the books of Tram Ltd. the equity share of which is trading in the stock market at Rs.14

Particulars	Amount (Rs.)
Equity Share Capital (face value Rs.10)	10,00,000
10% preference Shares	2,00,000

Reserves	8,00,000
10% Debentures	6,00,000
Profit Before Interest and Tax for the year	4,00,000
Interest	60,000
Profit After Tax for the year	2,40,000

Calculate the following:

i) Return on Capital Employed

ii) Earnings per share

iii) PE ratio *(N19 (N) - 5M) (SOLVE PROBLEM NO. 13 OF ASSIGNMENT PROBLEMS AS REWORK)*

Note:____

MODEL 6: INTRA FIRM COMPARISION

PROBLEM NO 14: (PRINTED SOLUTION AVAILABLE) In a meeting held at Solan towards the end of 2016, the Directors of M/s HPCL Ltd. have taken a decision to diversify. At present HPCL Ltd. sells all finished goods from its own warehouse. The company issued debentures on 01.01.2017 and purchased fixed assets on the same day. The purchase prices have remained stable during the concerned period. Following information is provided to you:

Income Statements

Particulars	2016 (Rs.)		2017 (Rs.)	
Cash Sales	30,000		32,000	
Credit Sales	2,70,000	3,00,000	3,42,000	3,74,000
Less: Cost of goods sold		2,36,000		2,98,000
Gross profit		64,000		76,000
Less: Expenses Warehousing	13,000		14,000	
Transport	6,000		10,000	
Administrative	19,000		19,000	
Selling	11,000	49,000	14,000	
Interest on Debentures			2,000	59,000
Net Profit		15,000		17,000

Balance Sheet

Particulars	2016 (Rs.)		2017 (Rs.)	
Fixed Assets (Net Block)	-	30,000	-	40,000
Debtors	50,000		82,000	
Cash at Bank	10,000		7,000	
Stock	60,000		94,000	
Total Current Assets (CA)	1,20,000		1,83,000	
Creditors	50,000		76,000	
Total Current Liabilities (CL)	50,000		76,000	
Working Capital (CA - CL)		70,000		1,07,000
Total Assets		1,00,000		1,47,000
Represented by:				
Share Capital		75,000		75,000
Reserve and Surplus		25,000		42,000
Debentures		–		30,000
		1,00,000		1,47,000

You are required to calculate the following ratios for the years 2016/2017.

i) Gross Profit Ratio

ii) Operating Expenses to Sales Ratio.

iii) Operating Profit Ratio

iv) Capital Turnover Ratio

v) Stock Turnover Ratio

vi) Receivables Collection Period and

vii) Net Profit to Net worth Ratio.

Ratio relating to capital employed should be based on the capital at the end of the year. Give the reasons for change in the ratios for 2 years. Assume opening stock of Rs. 40,000 for the year 2016. Ignore Taxation. ***(A) (NEW SM, OLD SM)***

(ANS.: I. 21.3%; 20.3 II. 16.3%; 15.2% III. 5%; 5.08% IV. 3, 2.54 V. 4.7; 3.9 VI. 68 DAYS; 88 DAYS VII.15%; 14.5%)

(SOLVE PROBLEM NO. 14 OF ASSIGNMENT PROBLEMS AS REWORK)

Note:____

MODEL 7: INTER FIRM COMPARISION

PROBLEM NO 15: (PRINTED SOLUTION AVAILABLE) From the following table of financial ratios of R. Textiles Limited, comment on various ratios given at the end:

Ratios	2016	2017	Average of Textile Industry
Liquidity Ratios			
Current ratio	2.2	2.5	2.5
Quick ratio	1.5	2	1.5
Receivable turnover ratio	6	6	6
Inventory turnover	9	10	6
Receivables collection period	87 days	86 days	85 days
Operating profitability			
Operating income -ROI	25%	22%	15%
Operating profit margin	19%	19%	10%
Financing decisions			
Debt ratio	49.00%	48.00%	57%
Return			
Return on equity	24%	25%	15%

Comment on the following aspect of R. Textiles Limited

i) Liquidity

ii) Operating profits

iii) Financing

iv) Return to the shareholders

(C) (RTP N17, RTP M19 (N&O)) (SOLVE PROBLEM NO. 15 OF ASSIGNMENT PROBLEMS AS REWORK)

Note:____

MODEL 8: DUPONT MODEL

PROBLEM NO 16: A Limited Company's books reveal following information:

Net Income	Rs. 3,60,000
Shareholder's Equity	Rs. 4,00,000
Asset Turnover	2.5 times
Net profit Margin	12%

You are required to calculate ROE (Return on Equity) of the company based on the 'Dupont Model'.

(A) (N18 (O) - 5M) (ANS.: ROE: 90%) (SOLVE PROBLEM NO. 16 OF ASSIGNMENT PROBLEMS AS REWORK)

Note:____

PRINTED SOLUTIONS TO SELECTIVE PROBLEMS

PROBLEMS FOR WHICH SOLUTIONS ARE PROVIDED: 2, 3, 6, 7, 9, 10, 14, 15

PROBLEM NO.2

Workings Notes:

1. Net Working Capital = Current Assets - Current Liabilities = 2.5 - 1= 1.5

Thus, Current Assets = $\frac{\text{Net Working Capital x 2.5}}{1.5} = \frac{\text{Rs. 4,50,000 x 2.5}}{1.5} = \text{Rs. 7,50,000}$

Current Liabilities = Rs. 7,50,000-Rs. 4,50,000= Rs. 3,00,000

2. Sales = Total Assets Turnover x Total Assets
= 2 x (Fixed Assets + Current Assets)
= 2 x (Rs. 10,00,000 + Rs. 7,50,000) = Rs. 35,00,000

3. Cost of Goods Sold = 100% - 20% = 80% of Sales = 80% of Rs. 35,00,000 = Rs. 28,00,000]

4. Average Stock = $\frac{\text{Cost of Good Sold}}{\text{Stock Turnover Ratio}} = \frac{\text{Rs. 28,00,000}}{7} = \text{Rs. 4,00,000}$

Closing Stock = (Average Stock x 2) - Opening Stock = (Rs. 4,00,000 x 2) - Rs. 3,80,000= Rs. 4,20,000

Quick Assets = Current Assets - Closing Stock = Rs. 7,50,000-Rs. 4,20,000= Rs. 3,30,0000

$\frac{\text{Debt}}{\text{Equity (here Proprietary fund)}} = \frac{1}{1.5}$, Or Proprietary fund $= 1.5$ Debt

Total Asset = Proprietary Fund (Equity) + Debt + Current Liabilities

Fixed Assets + Current Assets = Proprietary Fund (Equity) + Debt + Current Liabilities

Or 17,50,000 = 1.5 Debt + Debt + 3,00,000

Or Debt $= \frac{\text{Rs. 14,50,000}}{2.5}, = \text{Rs. 5,80,000}$

Proprietary fund = 5,80,000 x 1.5 =Rs. 8,70,000

5. Profit after tax (PAT) = Total Assets x Return on Total Assets = Rs. 17,50,000 x 15% = Rs. 2,62,500

i) Calculation of Quick Ratio

$$\text{Quick Ratio} = \frac{\text{Quick Assets}}{\text{Current Liabilities}} = \frac{\text{Rs. 3,30,000}}{\text{Rs. 3,00,000}} = 1.1:1$$

ii) Calculation of Fixed Assets Turnover Ratio

$$\text{Fixed Assets Turnover Ratio} = \frac{\text{Sales}}{\text{Fixed Assets}}, = \frac{\text{Rs. 35,00,000}}{\text{Rs. 10,00,000}} = 3.5$$

iii) Calculation of Proprietary Ratio

$$\text{Proprietary Ratio} = \frac{\text{Proprietary fund}}{\text{Total Assets}} = \frac{\text{Rs. 8,70,000}}{\text{Rs. 17,50,000}} = 0.5:1$$

iv) Calculation of Earnings per Equity Share (EPS)

$$\text{Earnings per Equity Share (EPS)} = \frac{\text{PAT} - \text{Preference Share Dividend}}{\text{Number of Equity Shares}}$$

$$= \frac{\text{Rs. 2,62,500} - \text{Rs. 18,000 (9\% of 2,00,000)}}{60,000} = \text{Rs. 4.075 per share}$$

v) Calculation of Price - Earnings Ratio (P/E Ratio)

$$\text{P/E Ratio} = \frac{\text{Market Price of Equity Share}}{\text{EPS}} = \frac{\text{Rs. 16}}{\text{Rs. 4.075}} \quad 3.926$$

PROBLEM NO.3

Change in Reserve & Surplus = Rs. 25, 00,000 - Rs. 20,00,000 = Rs. 5,00,000

So, Net profit = Rs. 5, 00,000

i) Net Profit Ratio = 8%

$\therefore$ Sales = $\frac{\text{Rs.5,00,000}}{8\%}$ = Rs.62,50,000

ii) Cost of Goods sold

= Sales - Gross profit Margin

= Rs. 62, 50,000 - 20% of Rs. 62, 50,000

= Rs. 50, 00,000

iii) Fixed Assets = $\frac{\text{Rs.30,00,000}}{40\%}$ = Rs.75,00,000

iv) Stock = $\frac{\text{Cost of Goods Sold}}{\text{STR}} = \frac{\text{Rs.50,00,000}}{4}$ = Rs.12,50,000

v) Debtors = $\frac{\text{Rs.62,50,000}}{360} \times 90$ = Rs.15,62,500

vi) Cash Equivalent = $\frac{\text{Rs.50,00,000}}{12} \times 1.5$ = Rs.6,25,000

Balance Sheet as on 31st March 2018

Liabilities	(Rs.)	Assets	(Rs.)
Share Capital	40,00,000	Fixed Assets	75,00,000
Reserve and Surplus	25,00,000	Sundry Debtors	15,62,500
Long-term loan	30,00,000	Closing Stock	12,50,000
Sundry Creditors (Balancing Figure)	14,37,500	Cash in hand	6,25,000
	1,09,37,500		**1,09,37,500**

PROBLEM NO.6

a) Preparation of Balance Sheet of a Company

Working Notes:

i) Cost of Goods Sold = Sales - Gross Profit (= 25% of Sales)
= Rs. 30,00,000 - Rs. 7,50,000 = Rs. 22,50,000

ii) Closing Stock = Cost of Goods Sold / Stock Turnover
= Rs. 22,50,000/6 = Rs. 3,75,000

iii) Fixed Assets = Cost of Goods Sold / Fixed Assets Turnover
= Rs. 22,50,000/1.5 = Rs. 15,00,000

iv) Current Assets = Current Ratio = 1.5 and Liquid Ratio = 1
Stock = 1.5 - 1 = 0.5
Current Assets = Amount of Stock x 1.5/0.5 = Rs. 3,75,000 x 1.5/0.5 = Rs. 11,25,000

v) Liquid Assets (Debtors and Cash) = Current Assets - Stock
= Rs. 11,25,000 - Rs. 3,75,000 = Rs. 7,50,000

vi) Debtors = Sales x Debtors Collection period /12 = Rs. 30,00,000 x 2 /12 = Rs. 5,00,000

vii) Cash = Liquid Assets - Debtors = Rs. 7,50,000 - Rs. 5,00,000 = Rs. 2,50,000

viii) Net worth = Fixed Assets /1.2 = Rs. 15,00,000/1.2 = Rs. 12,50,000

ix) Reserves and Surplus

Reserves and Share Capital = 0.6 + 1 = 1.6

Reserves and Surplus = Rs. 12,50,000 x 0.6/1.6 = Rs. 4,68,750

x) Share Capital = Net worth - Reserves and Surplus = Rs. 12,50,000 - Rs. 4,68,750 = Rs. 7,81,250

xi) Current Liabilities = Current Assets/ Current Ratio = Rs. 11,25,000/1.5 = Rs. 7,50,000

xii) Long-term Debts

Capital Gearing Ratio = Long-term Debts / Equity Shareholders' Fund

Long-term Debts = Rs. 12,50,000 x 0.5 = Rs. 6,25,000

Balance Sheet of a Company

Liabilities	Amount (Rs.)	Assets	Amount (Rs.)
Equity Share Capital	7,81,250	Fixed Assets	15,00,000
Reserves and Surplus	4,68,750	Current Assets	
Long-term debts	6,25,000	Stock	3,75,000
Current Liabilities	7,50,000	Debtors	5,00,000
		Cash	2,50,000
	26,25,000		**26,25,000**

b) Statement Showing Working Capital Requirement

A.	**Current Assets**		
	Stock	3,75,000	
	Debtors	5,00,000	
	Cash	2,50,000	11,25,000
B.	Current Liabilities		7,50,000
	Working Capital before Provision (A - B)		3,75,000
Add:	Provision for Contingencies @ 10% of Working Capital including Provision i.e. 1/9th of Working Capital before Provision: 3,75,000 x 1/9		41,667
	Working Capital Requirement including Provision		4,16,667

PROBLEM NO: 7

Balance Sheet of XYZ

Liabilities	Rs. (in lakhs)	Assets	Rs. (in lakhs)
Capital	50	Plant & Machinery	125
Reserves & Surplus (bal fig.)	78	Other Fixed Assets	75
Bank Credit	144	Stock	75
Current Liabilities	72	Cash	5
		Debtors	64
	344		**344**

WORKING NOTE-1: CLOSING STOCK:

Sales = 500L

Net Sales = Sales - Sales Returns

= 500L - 20%

= 400L

G.P% = 25%

COGS = (100-25) % = 75%

COGS = 400 x 75/100 = 300 Lakhs

Inventory T.O Ratio = 4

$$\frac{\text{COGS}}{\text{Closing Stock}} = 4$$

Closing Stock = $\frac{300L}{4} = 75L$

WORKING NOTE-2: CASH:

Cash to Inventory = 1:15

$\frac{\text{Cash}}{\text{ClosingStock}} = \frac{1}{15}$

Cash = $\frac{75L}{15} = 5L$

WORKING NOTE-3: F. ASSETS:

$\frac{\text{Sales}}{\text{Fixed Assets}} = 2$

Fixed Assets = $\frac{400L}{2} = 200L$

Plant & Machinery = 125L

$\therefore$ Other Fixed Assets = 75L

WORKING NOTE-4: DEBTORS:

Avg. Collection Period = 73

Annual Credit Sales = 80% of net sales = 80% of 400L = 320L

Debtors = $\frac{\text{Avg. Collection Period X Annual Credit Sales}}{365} = \frac{73 \text{ X } 320}{365} = 64L$

WORKING NOTE-5: CURRENT LIABILITIES:

$\frac{\text{Current Assets}}{\text{Current Liabilities}} = 2$

Current Assets = Stock + Cash + Debtors

= 75L + 5L + 64L = 144L

$\therefore$ Current Liabilities = $\frac{\text{Current Assets}}{2} = \frac{144}{2} = 72L$

Trade Credit / Current Liabilities = 72L

WORKING NOTE-6: BANK CREDIT:

$\frac{\text{Bank Credit}}{\text{Trade Credit}} = 2$

Bank Credit = 2 x 72L = 144L

PROBLEM NO.9

a) Working Notes:

i) Calculation of Sales = $\frac{\text{Fixed Assets}}{\text{Sales}} = \frac{1}{3} = \frac{26,00,000}{\text{Sales}} = \frac{1}{3} \Rightarrow \text{Sales} = \text{Rs.}78,00,000$

ii) Calculation of Current Assets:

$\frac{\text{Fixed Assets}}{\text{Current Assets}} = \frac{13}{11}$

$\therefore \frac{26,00,000}{\text{Current Assets}} = \frac{13}{11} \Rightarrow \text{Current Assets} = \text{Rs.}22,00,000$

iii) Calculation of Raw Material Consumption and Direct Wages

Particulars	Rs.
Sales	78,00,000
Less: Gross Profit	11,70,000
Works Cost	**66,30,000**

Raw Material Consumption (20% of Works Cost) Rs.13,26,000

Direct Wages (10% of Works Cost) Rs.6,63,000

iv) Calculation of Stock of Raw Materials (= 3 months usage)

$$= 13{,}26{,}000 \times \frac{3}{12} = \text{Rs.}\,3{,}31{,}500$$

v) Calculation of Stock of Finished Goods (= 6% of Works Cost)

$$= 66{,}30{,}000 \times \frac{6}{100} = \text{Rs.}\,3{,}97{,}800$$

vi) Calculation of Current Liabilities:

$$\frac{\text{Current Assets}}{\text{Current Liabilities}} = 2 \quad = \quad \frac{22{,}00{,}000}{\text{Current Liabilities}} = 2 \Rightarrow \text{Current Liabilities} = \text{Rs.}11{,}00{,}000$$

vii) Calculation of Debtors = $\text{Average Collection period} = \frac{\text{Debtors}}{\text{Credit Sales}} \times 365$

$$\frac{\text{Debtors}}{78{,}00{,}000} \times 365 = 60 \Rightarrow \text{Debtors} = \text{Rs.}12{,}82{,}191.78 \text{ or } 12{,}82{,}192$$

viii) Calculation of Long-term Loan = $\frac{\text{Long term Loan}}{\text{Current Liabilities}} = \frac{2}{1}$

$$\frac{\text{Long term loan}}{11{,}00{,}000} = \frac{2}{1} \Rightarrow \text{Long term loan} = \text{Rs.}22{,}00{,}000$$

ix) Calculation of Cash Balance:

Particulars		Rs.
Current Assets		22,00,000
Less: Debtors	12,82,192	
Raw Materials stock	3,31,500	
Finished goods stock	3,97,800	20,11,492
Cash Balance		**1,88,508**

x) Calculation of Net Worth:

Particulars		Rs.
Fixed Assets		26,00,000
Current Assets		22,00,000
Total Assets		48,00,000
Less: Long term Loan	22,00,000	
Current Liabilities	11,00,000	33,00,000
Net worth		**15,00,000**

Net worth = Share capital + Reserves = 15,00,000

$$\frac{\text{Capital}}{\text{Reserves and Surplus}} = \frac{1}{4} \Rightarrow \text{Share Capital} = 15{,}00{,}000 \times \frac{1}{5} = \text{Rs.}3{,}00{,}000$$

$$\text{Reserves and Surplus} = 15{,}00{,}000 \times \frac{4}{5} = \text{Rs.}12{,}00{,}000$$

Dr. Profit and Loss Account of PQR Ltd., for the year ended 31st December, 2006 Cr.

Particulars	Rs.	Particulars	Rs.
To Direct Materials	13,26,000	By Sales	78,00,000
To Direct Wages	6,63,000		
To Works (Overhead) Balancing figure	46,41,000		
To Gross Profit c/d (15% of Sales)	11,70,000		
	78,00,000		**78,00,000**
To Selling & Distribution Expenses (Bal. figure)	5,46,000	By Gross Profit b/d	11,70,000
To Net Profit (8% of Sales)	6,24,000		
	11,70,000		**11,70,000**

Balance Sheet of PQR Ltd. As at 31st December, 2006

Liabilities	Rs.	Assets	Rs.
Share Capital	3,00,000	Fixed assets	26,00,000
Reserves and Surplus	12,00,000	**Current Assets:**	
Long term Loans	22,00,000	Stock of Raw Material	3,31,500
Current liabilities	11,00,000	Stock of Finished Goods	3,97,800
		Debtors	12,82,192
		Cash	1,88,508
	48,00,000		**48,00,000**

PROBLEM NO. 10

Step 1: Given Current liabilities = Rs.2,00,000

Current ratio = 2 times $\Rightarrow \frac{\text{Currentassets}}{\text{Currentliab}} = 2 \Rightarrow \frac{CA}{2,00,000} = 2$

$\therefore$ Current assets = 4,00,000

Step 2: Given Cash & Bank balance = 30% of total CA = 30% (4,00,000) = 1,20,000

Step 3: Given proposed dividend = 20 % (Capital) = 20% (2,00,000) = 40,000

Step 4:

Given Debtors velocity = 12 times i.e. $\frac{\text{Sales}}{\text{Debtors}}$ = 12 times Closing debtors = $\frac{\text{Sales}}{12}$	Given stock velocity = 12 times i.e. $\frac{\text{COGS}}{\text{cl.stock}}$ = 12 times Closing stock = $\frac{\text{COGS}}{12}$

Whereas closing deb. + Cl. Stock = 2,80,000 $\Rightarrow \frac{\text{Sales}}{12\,\text{times}} + \frac{\text{COGS}}{12\,\text{times}} = 2,80,000$

Sales + COGS = 2,80,000 × 12

Sales + sales - GP = 33,60,000

Let the value of sales be 'X'

X + X - 0.25X = 33,60,000 $\Rightarrow$ X = 19,20,000

Sales = 19,20,000

COGS = 19,20,000 - 19,20,000 × 25% = 14,40,000

Given that debtors velocity = 12 times $\Rightarrow \frac{\text{sales}}{\text{Debtors}}$ = 12 times

i. e Debtors = $\frac{19,20,000}{12}$ = 1,60,000

Closing Stock = 2,80,000 - 1,60,000 = 1,20,000

Step 5: Given creditors velocity = 12 times

$\Rightarrow \frac{\text{COGS}}{\text{creditors}} = 12 \Rightarrow$ creditors = $\frac{14,40,000}{12}$ = 1,20,000

Step 6: Given current liabilities = 2,00,000

$\Rightarrow$ Creditors + Prov. for tax + Prop. Div. = 2,00,000

i.e. 1,20,000 + Prov. for tax + 40,000 = 20,00,000

$\therefore$ Provision for tax = 40,000

Step 7: Given tax rate = 33.33%

Profit before tax = 40,000 × 3 = 1,20,000

W.N.1: PBT = 100

(-) PFT = 33.33

PAT = 66.67

Step 8: Given interest coverage ratio = 3 times $\Rightarrow \dfrac{\text{PBIT}}{\text{Interest}} = 3$

$$\frac{\text{PBIT} + \text{Interest}}{\text{Interest}} = 3 \quad \Rightarrow \quad \frac{1{,}20{,}000 + \text{Interest}}{\text{Interest}} = 3$$

$\therefore$ Interest = 60,000.

Step 9: Given rate of int. on loan = 15%

Whereas int. as per step 8 = 60,000

$\therefore$ Value of loan $= \dfrac{60{,}000}{15\%} = 4{,}00{,}000$

Step 10: Gross profit = 4,80,000

	Gross profit	4,80,000
(-)	Sell. & dis. Exp.	1,80,000
	PBDIT	3,00,000
(-)	Dep. (B/F)	1,20,000
	PBIT	1,80,000
(-)	Interest	60,000
	PBT	1,20,000

Step 11: Given that depreciation ratio = 40%

i.e. P&M at cost $= \dfrac{12{,}000}{40\%} = 3{,}00{,}000$

Step 12:

Particulars	Amount
Profit Before Tax	1,20,000
Less: Tax	40,000
Profit after tax	80,000
Less: Proposed dividend	40,000
Profit after app.	40,000

$\therefore$ Transfer to General reserve during the year = 40,000

Step 13: Given debt service coverage ratio = 1 time

$$\frac{\text{Earnings available for debt ser.}}{\text{Interest} + \text{installment}} = 1 \text{ time}$$

$$\frac{\text{PAT} + \text{INT.} + \text{Dep}}{\text{Interest} + \text{installment}} = 1 \text{ time}$$

$$\frac{80{,}000 + 60{,}000 + 1.2\text{L}}{60{,}000 + \text{installment}} = 1 \text{ time}$$

$\therefore$ Installment = Rs.2,00,000

Balance Sheet as on 31.03.01

Liabilities	Rs.	Rs.	Assets	Rs.	Rs.
Share capital:			**Fixed assets:**		
Authorized and subscribed:			Land		1,20,000
20,000 E.S. of Rs.10,each		2,00,000	Plant & Machinery	3,00,000	
Reserves & Surplus:			(-) Depreciation	1,20,000	1,80,000
General Reserve:			**Current Assets:**		
Balance On 1. 4. 2000	60,000		Stock	1,20,000	
(+) T/s during the year	40,000	1,00,000	Debtors	1,60,000	
Secured Loans:			Cash & Bank Balance	1,20,000	
15% loan	4,00,000				4,00,000
(-) Instalment	2,00,000	2,00,000			
Current liabilities:					
Creditors					
Provision for tax	1,20,000				

Proposed dividend	40,000 40,000	2,00,000			
		7,00,000			**7,00,000**

PROBLEM NO.14

Computation of Ratios	2016	2017
1. Gross profit ratio Gross profit/sales	$\frac{64{,}000 \times 100}{3{,}00{,}000}$ = 21.3%	$\frac{76{,}000 \times 100}{3{,}74{,}000}$ =20.3
2. Operating expense to sales ratio Operating exp / Total sales	$\frac{49{,}000 \times 100}{3{,}00{,}000}$ = 16.3%	$\frac{57{,}000 \times 100}{3{,}74{,}000}$ =15.2%
3. Operating profit ratio Operating profit/ Total sales	$\frac{15{,}000 \times 100}{3{,}00{,}000}$ = 5%	$\frac{19{,}000 \times 100}{3{,}74{,}000}$ =5.08%
4. Capital turnover ratio Sales/capital employed	$\frac{3{,}00{,}000}{1{,}00{,}000}$ = 3	$\frac{3{,}74{,}000}{1{,}47{,}000}$ = 2.54
5. Stock turnover ratio COGS Average stock	$\frac{2{,}36{,}000}{50{,}000}$ = 4.7	$\frac{2{,}98{,}000}{77{,}000}$ = 3.9
6. Receivables collection period Average receivables / Average daily sales (Refer to working note)	$\frac{50{,}000}{739.73}$ =68 days	$\frac{82{,}000}{936.99}$ =88 days
7. Net Profit to Net worth Net Profit Net worth	$\frac{15{,}000 \times 100}{1{,}00{,}000}$ = 15%	$\frac{17{,}000 \times 100}{1{,}17{,}000}$ =14.5%

WORKING NOTE:

Average daily sales = Credit sales / 365 $\frac{2{,}70{,}000}{365}$ = Rs.739.73 $\frac{3{,}42{,}000}{365}$ = Rs. 936.99

ANALYSIS:

- The decline in the Gross profit ratio could be either due to a reduction in the selling price or increase in the direct expenses (since the purchase price has remained the same).
- Similarly, there is a decline in the ratio of Operating expenses to sales. However, since operating expenses have little bearing with sales, a decline in this ratio cannot be necessarily be interpreted as an increase in operational efficiency.
- The operating profit ratio has remained the same in spite of a decline in the Gross profit margin ratio. In fact, the company has not benefited at all in terms of operational performance because of the increased sales.
- The company has not been able to deploy its capital efficiently. This is indicated by a decline in the Capital turnover from 3 to 2.5 times. In case the capital turnover would have remained at 3 the company would have increased sales and profits by Rs. 67,000 and Rs. 3,350 respectively.
- The decline in the stock turnover ratio implies that the company has increased its investment in stock.
- The increase in the Average collection period indicates that the company has become liberal in extending credit on sales. However, there is a corresponding increase in the current assets due to such a policy.
- Return on Net worth has declined indicating that the additional capital employed has failed to increase the volume of sales proportionately.

CONCLUSION: It appears that the decision to expand the business has not shown the desired results.

PROBLEM NO.15

Ratios	Comment
Liquidity	Current ratio has improved from last year and matching the industry average. Quick ratio also improved than last year and above the industry average. This may happen due to reduction in receivable collection period and quick inventory turnover. However, this also indicates idleness of funds. Overall it is reasonably good. All the liquidity ratios are either better or same in both the year compare to the Industry Average.

Operating Profits	Operating Income-ROI reduced from last year but Operating Profit Margin has been maintained. This may happen due to variability of cost on turnover. However, both the ratio are still higher than the industry average.
Financing	The company has reduced its debt capital by 1% and saved operating profit for equity shareholders. It also signifies that dependency on debt compared to other industry players (57%) is low.
Return to the shareholders	R's ROE is 24 per cent in 2017 and 25 per cent in 2018 compared to an industry average of 15 per cent. The ROE is stable and improved over the last year.

ASSIGNMENT PROBLEMS

MODEL 1 : MISSING VALUES

PROBLEM NO 1: Following information relates to a concern:

Debtors Velocity	3 months
Credits Velocity	2 months
Stock Turnover Ratio	1.5
Gross Profit Ratio	25%
Bills Receivables	Rs. 25,000
Bills Payables	Rs. 10,000
Gross Profit	Rs. 4,00,000
Fixed Assets to turnover Ratio (Based on COGS)	4

Closing stock of the period is Rs. 10,000 above the opening stock.

Calculate:

a) Sales and cost of goods sold

b) Sundry Debtors

c) Sundry Creditors

d) Closing Stock

e) Fixed Assets *(A) (M17 - 8M, MTP2 N18 (N&O))*

(ANS.: A. SALES: RS. 16,00,000, COGS: RS. 12,00,000; B. SUNDRY DEBTORS: RS. 3,75,000; C. SUNDRY CREDITORS: RS. 1,99,667; D. CLOSING STOCK: RS. 8,05,000; E. FIXED ASSETS: RS. 3,00,000)

PROBLEM NO 2: The financial statements of a company contain the following information for the year ending 31st March, 2011:

Particulars	Amount (Rs.)
Cash	1,60,000
Sundry Debtors	4,00,000
Short-term Investment	3,20,000
Stock	21,60,000
Prepaid Expenses	10,000
Total Current Assets	30,50,000
Current Liabilities	10,00,000
10% Debentures	16,00,000
Equity Share Capital	20,00,000
Retained Earnings	8,00,000
Statement of Profit for the year ended 31st March, 2011	
Sales (20% cash sales)	40,00,000
Less: Cost of goods sold	28,00,000
Profit Before Interest & Tax	12,00,000
Less: Interest	1,60,000
Profit Before Tax	10,40,000
Less: Tax @ 30%	3,12,000
Profit After Tax	7,28,000

You are required to calculate:

a) Quick Ratio

b) Debt-equity Ratio $\left(\frac{D}{E}\right)$

c) Return on Capital Employed, and

d) Average collection period (Assuming 360 days in a year). ***(A) (ANS.: I. 0.88:1 II. 0.57:1 III. 27.27% IV. 45 DAYS)***

PROBLEM NO 3: P Ltd. has furnished the following information relating to the year ended 31st March, 2018 and 31st March, 2019:

Particulars	31st March, 2018	31st March, 2019
Share Capital	30,00,000	30,00,000
Reserve and Surplus	15,00,000	17,50,000
Long term loan	15,00,000	15,00,000

a) Net profit ratio: 10%

b) Gross profit ratio: 25%

c) Long-term loan has been used to finance 25% of the fixed assets.

d) Stock turnover with respect to cost of goods sold is 5.

e) Debtors represent 45 days sales.

f) The company holds cash equivalent to 1 month cost of goods sold.

g) Ignore taxation and assume 360 days in a year.

You are required to prepare Balance Sheet as on 31st March, 2019 in following format:

Liabilities	(Rs.)	Assets	(Rs.)
Share Capital	-	Fixed Assets	-
Reserve and Surplus	-	Sundry Debtors	-
Long-term loan	-	Closing Stock	-
Sundry Creditors	-	Cash in hand	-

(B) (ANS.: SHARE CAPITAL: RS. 30,00,000; RESERVES AND SURPLUS: RS.17,50,000; LONG-TERM LOAN: RS.15,00,000; SUNDRY CREDITORS (B/F): RS.5,93,750; FIXED ASSETS: RS. 60,00,000; SUNDRY DEBTORS: RS.3,12,500; CLOSING STOCK: RS. 3,75,000; CASH IN HAND: RS. 1,56,250)

MODEL 2: TURNOVER RATIOS

PROBLEM NO 4: A business furnishes you the following details:

a)	Opening Stock		50,000
b)	Closing Stock		70,000
c)	**Sales:**		
	Credit		2,10,000
	Cash		1,50,000
d)	Gross profit		60,000
e)	Year end debtors	20,000	
	Less: Provision for bad debts	2,000	18,000
f)	Year end Bills Receivable		15,000

A year may be taken to be of 360 days. You are asked to **(i)** Work out stock turnover and debtor's turnover ratios. ***(A) (ANS.: (I) STOCK TURNOVER RATIO IS 5 TIMES & DEBTORS TURNOVER RATIO IS 6 TIMES)***

MODEL 3: PROPRIETORS FUNDS

PROBLEM NO 5: From the following information, prepare a summarized balance sheet as at 31st march, 2002

Working capital	2,40,000	Fixed assets to proprietary ratio	0.75
Bank overdraft	40,000	Reserves and surplus	1,60,000

Current ratio	2.5	Liquid ratio	1.5

Assuming no long term debt and miscellaneous expenses.

(A) (OLD PM, RTP M17, MTP1 N18 (N&O), MTP1 M19(O), SIMILAR: N17 - 8M) (ANS.: TOTAL OF BALANCE SHEET: RS. 11,20,000)

MODEL 4: PREPARATION OF FINANCIAL STATEMENTS

PROBLEM NO 6: Using following data complete balance sheet given below:

Gross profit	Rs.54,000
Shareholder funds	Rs.6,00,000
Gross profit margin	20%
Credit sales to total sales	80%
Total asset turn over	0.3 times
Inventory turnover (COGS/Stock)	4 times
Average collection period (360 days per a year)	20 days
Current ratio	1.8
Long-term debt to equity	40%

Balance sheet

Liabilities	Amount (Rs.)	Assets	Amount (Rs.)
Creditors	?	Cash	?
Long term debts	?	Debtors	?
Shareholders fund	?	Inventory	?
		Fixed assets	?

(A) (OLD PM) (ANS.: TOTAL OF BALANCE SHEET - RS.9,00,000)

PROBLEM NO 7: Using the following information, complete this balance sheet:

Long-term debt to net worth	0.5 to 1
Total asset turnover	2.5 times
Average collection period*	18 days
Inventory turnover	9 times
Gross profit margin	10%
Acid-test ratio	1 to 1

* Assume a 360-day year and all sales on credit.

Particulars	Amount (Rs.)	Particulars	Amount (Rs.)
Cash	?	Notes and payables	1,00,000
Accounts receivable	?	Long-term debt	?
Inventory	?	Common stock	1,00,000
Plant and equipment	?	Retained earnings	1,00,000
Total assets	?	Total liabilities and equity	?

(A) (NEW SM, OLD SM) (ANS.: CASH: RS. 50,000; ACCOUNTS RECEIVABLE: RS.50,000; INVENTORY: RS. 1,00,000; P&E: RS. 2,00,000; TOTAL ASSETS: RS. 4,00,000)

PROBLEM NO 8: Ganapati Limited has furnished the following ratios and information relating to the year ended 31st March, 2017.

Sales	Rs. 60,00,000
Return on net worth	25%
Rate of income tax	50%
Share capital to reserves	7:3
Current ratio	2

Net profit to sales	6.25%
Inventory turnover (based on cost of goods sold)	12
Cost of goods sold	Rs. 18,00,000
Interest on debentures	Rs. 60,000
Sundry debtors	Rs. 2,00,000
Sundry creditors	Rs. 2,00,000

You are required to:

a) Calculate the operating expenses for the year ended 31st March, 2017.

b) Prepare a balance sheet as on 31st March in the following format:

Balance Sheet as on 31st March, 2017

Liabilities	Rs.	Assets	Rs.
Share Capital		Fixed Assets	
Reserve and Surplus		Current Assets	
15% Debentures		Stock	
Sundry Creditors		Debtors	
		Cash	

(A) (NEW SM, OLD SM, SIMILAR: M18 (N) - 5M)

(ANS.: A. OPERATING EXPENSES: RS. 33,90,000; B. TOTAL OF BALANCE SHEET: RS.21,00,000)

PROBLEM NO 9: Following figures are available in the books Tirupati Ltd.

Fixed assets turnover ratio (Cost of Sales / Fixed Assets)	8 times
Capital turnover ratio (Cost of Sales / Capital Employed)	2 times
Inventory Turnover (Based on Cost of Goods Sold)	8 times
Receivable turnover	4 times
Payable turnover	6 times
G P Ratio	25%

Gross profit during the year amounts to Rs. 8,00,000. There is no long-term loan or overdraft. Reserve and surplus amount to Rs. 2,00,000. Ending inventory of the year is Rs 20,000 above the beginning inventory.

You are required to calculate various assets and liabilities and Prepare a Balance sheet of Tirupati Ltd. ***(A) (RTP M18 (N&O), MTP1 M18 (N), MTP1 M19 (O)) (ANS.: TOTAL OF BALANCE SHEET: RS. 16,03,333)***

PROBLEM NO 10: Using the information given below, complete the Balance Sheet of PQR Private Limited:

(i) Current ratio	1.6 :1
(ii) Cash and Bank balance	15% of total current assets
(iii) Debtors turnover ratio	12 times
(iv) Stock turnover (cost of goods sold) ratio	16 times
(v) Creditors turnover (cost of goods sold) ratio	10 times
(vi) Gross Profit ratio	20%
(vii) Capital Gearing ratio	0.6
(viii) Depreciation rate	15% on W.D.V.
(ix) Net Fixed Assets	20% of total assets

(Assume all purchase and sales are on credit)

Balance Sheet of PQR Private Limited as at 31.03.2019

Liabilities	Rs.	Assets	Rs.
Share Capital	25,00,000	Fixed Assets	
Reserve & surplus	?	Opening WDV ?	
12% Long term debt	?	**Less:** Depreciation ?	?
Current Liabilities			
Creditors ?		Current Assets	
Provisions & outstanding expenses ?	68,50,000	Stock	?
		Debtors	?
		Cash and bank balance ?	?
Total	?	Total	?

(A) (M19 (O) - 8M) (ANS.: TOTAL OF BALANCE SHEET: RS. 1,37,00,000)

MODEL 5: PROFITABILITY RATIOS

PROBLEM NO 11: ABC Limited has an average cost of debt at 10 per cent and tax rate is 40 per cent. The Financial leverage ratio (Debt- Equity Ratio) for the company is 0.60. Calculate Return on Equity (ROE) if its Return on Investment (ROI) is 20 per cent. ***(C) (ANS.: ROE 15.6%)***

PROBLEM NO 12: MNP Limited has made plans for the next year 2010 -11. It is estimated that the company will employ total assets of Rs.25,00,000; 30% of assets being financed by debt at an interest cost of 9% p.a. The direct costs for the year are estimated at Rs.15,00,000 and all other operating expenses are estimated at Rs.2,40,000. The sales revenue are estimated at Rs.22,50,000. Tax rate is assumed to be 40%. Required to calculate:

a) Net profit margin (After tax);

b) Return on Assets (After tax);

c) Asset turnover; and

d) Return on Equity.

(B) (OLD PM, N10 - 4M) (ANS.: A. 13.6 (OR) 11.8%; B. 12.24% (OR) 10.62%; C. 0.9; D. 15.17%)

PROBLEM NO 13: With the following ratios and further information given below prepare a Trading Account, Profit and Loss Account and Balance Sheet of ABC Company.

Fixed Assets	Rs.40,00,000
Closing Stock	Rs.4,00,000
Stock turnover ratio	10
Gross profit ratio	25 percent
Net profit ratio	20 percent
Net profit to capital	1/5
Capital to total liabilities	1/2
Fixed assets to capital	5/4
Fixed assets/Total current assets	5/7

(B) (M16 - 8M) (ANS.: NET PROFIT: RS. 6,40,000; TOTAL OF BALANCE SHEET: RS. 96,00,000)

MODEL 6 : INTRA FIRM COMPARISION

PROBLEM NO 14: ABC Company sells plumbing fixtures on terms of 2/10, net 30. Its financial statements over the last 3 years are as follows:

Particulars	2015 (Rs.)	2016 (Rs.)	2017 (Rs.)
Cash	30,000	20,000	5,000
Accounts receivable	2,00,000	2,60,000	2,90,000
Inventory	4,00,000	4,80,000	6,00,000
Net fixed assets	8,00,000	8,00,000	8,00,000
	14,30,000	15,60,000	16,95,000
	(Rs.)	**(Rs.)**	**(Rs.)**
Accounts payable	2,30,000	3,00,000	3,80,000
Accruals	2,00,000	2,10,000	2,25,000
Bank loan, short-term	1,00,000	1,00,000	1,40,000
Long-term debt	3,00,000	3,00,000	3,00,000

Common stock	1,00,000	1,00,000	1,00,000
Retained earnings	5,00,000	5,50,000	5,50,000
	14,30,000	15,60,000	16,95,000
	(Rs.)	**(Rs.)**	**(Rs.)**
Sales	40,00,000	43,00,000	38,00,000
Cost of goods sold	32,00,000	36,00,000	33,00,000
Net profit	3,00,000	2,00,000	1,00,000

Analyse the company's financial condition and performance over the last 3 years. Are there any problems? ***(C) (NEW SM)***

MODEL 7 : INTER FIRM COMPARISION

PROBLEM NO 15: Following informations are available for Navya Ltd. along with various ratio relevant to the particulars industry it belongs to. Gives your comments on strength and weakness of Navya Ltd. comparing its ratios with the given industry norms.

Balance Sheet of Navya Ltd. as at 31.03.2017

Liabilities	Amount (Rs.)	Assets	Amount (Rs.)
Equity Share Capital	48,00,000	Fixed Assets	24,20,000
10% Debentures	9,20,0000	Cash	8,80,000
Sundry Creditors	6,60,000	Sundry debtors	11,00,000
Bills Payable	8,80,000	Stock	33,00,000
Other current Liabilities	4,40,000		-
Total	77,00,000	**Total**	77,00,000

Statement of Profitability for the year ending 31.03.2017

Particulars	Amount (Rs.)	Amount (Rs.)
Sales		1,10,00,000
Less: Cost of goods sold:	-	-
Material	41,80,000	-
Wages	26,40,000	-
Factory Overhead	12,98,000	81,18,000
Gross Profit	-	28,82,000
Less: Selling and Distribution Cost	11,00,000	-
Administrative Cost	12,28,000	23,28,000
Earnings before Interest and Taxes	-	5,54,000
Less: Interest Charges	-	92,000
Earning before Tax	-	4,62,000
Less: Taxes & 50%	-	2,31,000
Net Profit (PAT)		2,31,000

Industry Norms

Ratios	Norms
1. Current Assets/Current Liabilities	2.5
2. Sales/ debtors	8.0
3. Sales/ Stock	9.0
4. Sales/ Total Assets	2.0
5. Net Profit/ Sales	3.5%
6. Net profit /Total Assets	7.0%
7. Net Profit/ Net Worth	17.5%
8. Total Debt/Total Assets	60.0%

(A) (NEW SM) (ANS.: 1. 2.60; 2. 8.00; 3. 3.33; 4. 4.43; 5. 2.11; 6. 3.01; 7. 4.65; 8. 37.66)

MODEL 8: DUPONT MODEL

PROBLEM NO 16: XYZ Company's details are as under

Particulars	Amount (Rs.)
Revenue	29,261
Net Income	4,212
Assets	27,987
Shareholders' Equity	13,572

You are required to calculate ROE (Return on Equity) of the company based on the 'Dupont Model'

(A) (NEW SM)(ANS.: 31.03%)

ADDITIONAL PROBLEMS FOR SELF PRACTICE

PROBLEM NO 1: The Balance Sheet of Pilcom Ltd. for the last 3 years read as below:

Particulars	(Rs. in Lakhs)		
	2001	2002	2003
Sources:			
Share Capital (shares of Rs.10)	2,000	2,000	3,000
Share Premium	1,500	1,500	500
Reserves (after 10% dividend)	1,500	1,700	1,800
Long Term Loan	1,000	800	800
	6,000	6,000	6,100
Represented by:			
Fixed Assets	2,000	2,500	3,000
Less: Depreciation	700	950	1,250
Capital Work-in-progress	1,300	1,550	1,750
Investments	800	900	700
Net Current Assets	200	200	200
Current Assets:			
Debtors	1,700	1,800	1,850
Stocks	1,800	1,900	2,400
Cash & Bank	500	500	500
Others	400	600	1,400
	4,400	4,800	6,150
Current Liabilities	700	1,450	2,700
Working Capital	3,700	3,350	3,450
Total Assets	6,000	6,000	6,100
Sales	3,900	4,000	5,000

Sales excludes excise duty and sales tax at 20%. Calculate for the years 2002 & 2003:

i) Fixed Assets Turnover Ratio,

ii) Stock Turnover Ratio,

iii) Debtors Turnover Ratio in terms of numbers of day's sales,

iv) Earnings per shares. Briefly comment on the performance of the company.

(B) (ANS.: (I) 1.63, 2.04 (II) 2.15, 2.33 (III) 2.74, 3.29 (IV) 133.2 DAYS, 110.94 DAYS (V) RS.2, RS.1.33)

PROBLEM NO 2: From the following information and ratios, prepare the Profit & Loss A/c for the year ended 31st March, 2001, and the Balance Sheet as on that date of M/s Stan & Co., an export Company:

Current Assets to Stock	3 : 2
Current Ratio	3.00
Acid Test Ratio	1.00
Financial Leverage	2.20
Earnings per share (each of Rs.10)	10.00
Book Value per Share (Rs.)	40.00
Average Collection Period (assume 360 days in a year)	30 days
Stock Turnover Ratio(Based on Sales)	5.00
Fixed Assets, Turnover Ratio	1.20
Total Liabilities to Net Worth	2.75
Net Working Capital	Rs.10.00 lakh
Net Profit to Sales	10%
Variable Cost	60%
Long-term Loan Interest	12%
Taxation	Nil

(A) (ANS.: EQUITY SHARE CAPITAL RS.5,00,000, RESERVE & SURPLUS RS.15,00,000, CURRENT LIABILITIES RS.5,00,000, LONG TERM LOAN RS.50,00,0000)

PROBLEM NO 3: Assuming the current ratio of a Company is 2, STATE in each of the following cases whether the ratio will improve or decline or will have no change:

a) Payment of current liability

b) Purchase of fixed assets by cash

c) Cash collected from Customers

d) Bills receivable dishonored

e) issue of new shares

(B) (RTP N16, RTP N18 (N&O))

THE END