Answers to questions are to be given only in English except in the case of candidates who have opted for Hindi medium. If a candidate who has not opted for Hindi medium, answers in Hindi, his answers in Hindi will not be valued.

All questions are compulsory.

Qn 1. Answer any **five** of the following : **[** 5 x 2 = 10 **]**

(i) Two workmen, A and B, produce the same product using the same material. A is paid bonus according to Halsey plan, while B is paid bonus according to Rowan plan. The time allowed to manufacture the product is 100 hours. A has taken 60 hours and B has taken 80 hours to complete the product. The normal hourly rate of wages of workman A is Rs. 24 per hour. The total earnings of both the workers are same. Calculate normal hourly rate of wages of workman B.

(ii) Distinguish between product cost and period cost.

(iii) A lorry starts with a load of 24 tonnes of goods from station A. It unloads 10 tonnes at station B and rest of goods at station C. It reaches back directly to station A after getting reloaded with 18 tonnes of goods at station C. The distance between A to B, B to C and then from C to A are 270 kms, 150 kms and 325 kms respectively. Compute 'Absolute tonnes kms' and 'Commercial tonnes-kms'.

(iv) Following details relating to product X during the month of April, 2009 are available :
Standard cost per unit of X :
Materials : 50 kg @ Rs. 40/k.g
Actual production : 100 units
Actual material cost : Rs. 42/kg
Material price variance : Rs. 9,800 (Adverse)
Material usage variance : Rs. 4,000 (Favourable).
Calculate the actual quantity of material used during the month April, 2009.

(v) Discuss the components of budgetary control system.

(vi) Following information is available for the first and second quarter of the year 2008-09 of ABC Limited :

	Production (in units)	Semi-variable cost (Rs.)
Quarter I	36,000	2,80,000
Quarter II	42,000	3,10,000

You are required to segregate the semi-variable cost and calculate :
(a) Variable cost per unit; and
(b) Total fixed cost.

Ans. 1 (i)

Time allowed = 100 hr.
Time taken by A = 60 hrs.
Time taken by B = 80 hrs.
Time save by A = 100 – 60 = 40 hrs.
Time save by B = 100 – 80 = 20 hrs.

Total wages payable to A = minimum wages + Bonus

[Bonus = Time save x 50% x wages rate]

= (60 x 24) + 40 x 24 x 50%
= 1440 + 480
Total wages = 1920 / -

Both the worker total wages are same.
∴ Total wages of worker B = 1920
Let normal wages rate for B = x / -
Total Wages = minimum wages + Bonus.

$$\text{Bonus} = \frac{\text{Time taken}}{\text{Time allowed}} \times \text{Time save} \times \text{wages rate}$$

$$\text{Total wages} = 80 \times X + \frac{80 \times 20}{100} \times X$$

⇨ $1920 = 80x + 16x$

⇨ $1920 = 96x$

⇨ $X = 20 / -$

(ii) Difference between product cost and period cost : - product costs are those costs which are assigned to the product and are included in inventory valuation. It is also known as inventoriable cost where as period costs are those costs which cannot be assigned against a particular product but charged as expenses against the revenue of the period in which they are incurred. For example, administrative overhead, selling and distribution overhead etc.

(iii) Absolute Tonne – kms.

= 24 tonnes x 270 + (14 tonnes x 150 kms) + (18 tonnes x 325 kms)

= 6480 tonnes – km + 2100 tonne – kms + 5850 tonne – kms.

= 14430 tonne – km.

Commercial tonne – kms.

= Average load x total kms. traveled

$$= \frac{\left(\begin{matrix}20 \\ \text{tones}\end{matrix} + \begin{matrix}14 \\ \text{tones}\end{matrix} + \begin{matrix}18 \\ \text{tones}\end{matrix}\right)}{3} \times 745 \text{ kms.} = 12913 \text{ tonne – kms.}$$

(iv) Material price variance = AQ_{used} (Standard price per kg - Actual price per kg)

$$-9800 = AQ_{used} (40 - 42)$$

$$-9800 = AQ_{used} (-2)$$

$$\text{AQ used} = \frac{+9800}{+2} = 4900$$

Actual quantity of material used during the month of April = 4900 Kg.

(v) Components of budgetary control system

(i) Physical budgets : - This budget contains information in terms of physical units about sales, production etc.

(ii) Cost budgets : - Budgets provide cost information in respect of manufacturing, selling, administration etc.

(iii) Profits budgets : - A budget which enables in the ascertainment of profit, for example sales budget, profit and loss budget etc.

(vi) (a) Variable cost per unit $= \frac{\text{Change in cost}}{\text{Change in unit}} = \frac{3,10,000 - 2,80,000}{42000 - 36000}$

$$= \frac{30,000}{6000} = \text{Rs. } 5/-$$

(b) Fixed cost = Semi variable cost – variable cost

= 2,80,000 – (36,000 x 5)

= 2,80,000 - 1,80,000

= Rs. 1,00,000 / -

Qn 2. Following is the sales budget for the first six months of the year 2009 in respect of PQR Ltd. :

[6 + 9 = 15 marks]

Month	Jan.	Feb.	March	April	May	June
Sales (units)	10,000	12,000	14,000	15,000	15,000	16,000

Finished goods inventory at the end of each month is expected to be 20% of budgeted sales quantity for the following month. Finished goods inventory was 2,700 units on January 1. 2009. There would be no work-in-progress at the end of any month.

Each unit of finished product requires two types of materials as detailed below :

Material X : 4 kgs @ Rs. 10/kg
Material Y : 6 kgs @ Rs. 15/kg

Material on hand on January 1, 2009 was 19,000 kgs of material X and 29,000 kgs of material Y. Monthly closing stock of material is budgeted to be equal to half of the requirements of next month's production.

Budgeted direct labour hour per unit of finished product is 3/4 hour.
Budgeted direct labour cost for the first quarter of the year 2009 is Rs. 10,89,000.
Actual data for the quarter one, ended on March 31, 2009 is as under :

Actual production quantity : 40,000 units
Direct material cost
(Purchase cost based on materials actually issued to production)
Material X : 1,65,000 kgs @ Rs. 10.20/kg
Material Y : 2,38,000 kgs @ Rs. 15.10/kg
Actual direct labour hours worked : 32,000 hours
Actual direct labour cost : Rs. 13,12,000

Required :

(a) Prepare the following budgets :
- (i) Monthly production quantity budget for the quarter one.
- (ii) Monthly raw material consumption quantity budget from January, 2009 to April, 2009.
- (iii) Materials purchase quantity budget for the quarter one.

(b) Compute the following variances :
(i) Material cost variance
(ii) Material price variance
(iii) Material usage variance
(iv) Direct labour cost variance
(v) Direct labour rate variance
(vi) Direct labour efficiency variance.

Ans. 2 (a) (i) Statement showing monthly production quantity Budget for the quarter.

Particulars	Jan	Feb	Mar
Sale (in unit)	10,000	12,000	14,000
Add : Closing stock	2,400	2,800	3,000
Less : Opening stock	2,700	2,400	2,800
	9,700	12,400	14,200

(ii) Monthly Raw material consumption quantity budget From January 2009 to April 2009.

Particulars	Raw material		Total Kg.
	x	y	
Jan	9700 x 4	9700 x 6	97,000
Feb	12400 x 4	12400 x 6	1,24,000
March	14200 x 4	14200 x 6	1,42,000
April (15000 + 3000 – 3000)	15000 x 4	15000 x 6	1,50,000
	205200 Kg.	307800 Kg.	

(iii) Material purchase quantity budget for the quarter

Raw material x	Consumption	Closing Stock	Opening Stock	Purchase Qty
Jan	38800	24800	19000	44600
Feb	49600	28400	24800	53200
March	56800	30000	28400	58400

Raw material y

Jan	58200	37200	29000	66400
Feb	74400	42600	37200	79800
March	85200	45000	42600	87600
		$\left(\frac{15000 \times 6}{2}\right)$		

(b) Working Notes : -

Material Variance

	(1) SP X SQ	(2) SP X SM	(3) SP X AQ used	(4) AP x AQ used
X	10 x 1,60,000	10 x 1,61,200	10 x 1,65,000	10.20 x 1,65,000
Y	15 x 2,40,000	15 x 2,41,800	15 x 2,38,000	15.10 x 2,38,000
	52,00,000	52,39,000	52,20,000	52,76,800

Sm → Std. mix i.e. total actual quantity used in std. mix ratio

Total Actual quantity used = 165000 + 238000
= 403000 kgs.

Std. mix ratio = 4 : 6 i.e. x : y

$$\text{Std. mix for x} = \frac{4}{10} \times 403000$$

= 161200 kgs.

$$\text{Std. mix for y} = \frac{6}{10} \times 403000$$

= 241800 kgs.

Std. quantity i.e. std. qty for actual output.

Actual output = 40,000 kg.

∴ material x required = 40000 x 4 = 160,000

Material y " = 40,000 x 6 = 240,000

Here : - S P = Standard Price per kg of R M
SQ = Standard quantity for actual output
SM = Standard mix i.e. Total actual quantity used in standard mix ratio
AQ used = Actual quantity used.

Ans. (i) Material cost variance = 1 – 4
= 76800 (Adv.)

(ii) Material Price variance = 3 – 4
= 56800 (Adv.)

(iii) Material uses variance = 1 – 3
= 20,000 (Adv.)

Working notes : -

Labour Variance

(1)	(2)	(3)	(4)	(5)
SR x ST	SR x SM	SR x ATW	SR x ATP	AR x ATP
40/- x (40,000 X .75)	40/- x 32000	40/- x 32000	40/- x 32000	1312000/-
12,00,000	12,80,000	12,80,000	12,80,000	13,12,000

Budgeted Hours = Budget Production x Budgeted Time per unit
Budget Production = 9700 + 12400 + 14200

$$= 36300 \times \frac{3}{4}$$

= 27225 hours

$$SR = \frac{\text{Budgeted labours cost}}{\text{Budgeted hours}}$$

$$= \frac{10,89,000}{27225}$$

= 40/-

Let Actual time worked = Actual time paid

Here :- SR = Standard rate of labour per hour
ST = Standard time for Actual output
SM = Standard mix i.e. total at worked in ltd. mix ratio.
ATW = Actual time worked
ATP = Actual time paid for

(iv) Direct Labour Cost Var = 1 – 5
= 1,12,000/- (Adv)

(iv) Direct Labour rate variance = 4 – 5
= 32,000/- (Adv)

(vi) Direct Labour efficiency variance = 1 – 2
= 80,000/- (Adv)

Qn3. (a) A manufacturing company has disclosed a net loss of Rs. 2,13,000 as per their cost accounting records for the year ended March 31, 2009. However, their financial accounting records disclosed a net loss of Rs. 2,58,000 for the same period. A scrutiny of data of both the sets of books of accounts revealed the following information :

	Rs.
(i) Factory overheads under absorbed	5,000
(ii) Administration overheads over absorbed	3,000
(iii) Depreciation charged in financial accounts	70,000
(iv) Depreciation charged in cost accounts	80,000
(v) Interest on investments not included in cost accounts	20.000
(vi) Income-tax provided in financial accounts	65,000
(vii) Transfer fees (credit in financial accounts)	2,000
(viii) Preliminary expenses written off	3,000
(ix) Over-valuation of closing stock of finished goods in cost accounts	7,000

Prepare a Memorandum Reconciliation Account.

Ans. 3 (a)

Memorandum Reconciliation Account

Particulars	**Amount Rs.**	**Particulars**	**Amount Rs.**
To net loss as per costing books	2,13,000	By Administration overheads over absorbed in cost accounts	3,000
To factory overhead under absorbed in cost accounts	5,000	By Depreciation over charged in cost accounts	10,000
To Income tax not provided in cost accounts	65,000	By interest on investment not included in cost accounts	20,000
To over-valuation of closing stock	7,000	By transfer fees in financial books	2,000
To preliminary expenses written off	3,000	By net loss as per financial books	2,58,000
	2,93,000		2,93,000

(b) Describe briefly, how joint costs upto the point of separation may be apportioned amongst the joint products under the following methods :
(i) Average unit cost method
(ii) Contribution margin method
(iii) Market value at the point of separation
(iv) Market value after further processing
(v) Net realizable value method.

Ans 3 (b) Apportionment of joint costs upto the point of separation amongst the joint products under the following methods:

(i) Average unit cost method : - Under this method total process cost (upto the point of separation) is divided by total units of joint products produced. On division average cost per unit of production is obtained.
(ii) Contribution margin method :- According to this method joint costs are segregated into two parts – variable and fixed. The variable cost are apportioned over the joint products on the basis of units produced (average method) or physical quantities and fixed costs are apportioned on the basis of contribution marginal.

(iii) Market value of the point of separation : - This method is used for the apportionment of joint costs to joint products upto the split off point. It is difficult to apply this method if the market value of the products at the point of separation are not available. It is a useful method where further processing costs are incurred disproportionately.

(iv) Market value after further processing : - Here the basis of apportionment of joint cost is the total sales value of finished products. The use of this method is unfair where further processing costs after the point of separation are disproportionate or when the joint products are not subjected to further processing.

(v) Net realizable value method : - From the sales value of the joint products (at finished stage) following are deducted :
   a) estimated profit margins
   b) selling and distribution expenses, if any,
   c) post – split off costs.

The resultant figure so obtained is known as net realizable value of joint products. Joint costs are apportioned in the ratio of net realizable value.

Qn. 4. Answer any **three** of the following : **[3 x 3] = 9**

(i) Discuss accounting treatment of spoilage and defectives in cost accounting.

(ii) Discuss accounting treatment of idle capacity costs in cost accounting.

(iii) A contract is estimated to be 80% complete in its first year of construction as certified. The contractee pays 75% of value of work certified, as and when certified and makes the final payment on the completion of contract. Following information is available for the first year :

	Rs.
Cost of work-in-progress uncertified	8,000
Profit transferred to Profit & Loss A/c at the end of year I on incomplete contract	60,000
Cost of work to date	88,000

Calculate the value of work-in-progress certified and amount of contract price.

(iv) Product Z has a profit-volume ratio of 28%. Fixed operating costs directly attributable to product Z during the quarter II of the financial year 2009-10 will be Rs. 2,80,000.

Calculate the sales revenue required to achieve a quarterly profit of Rs. 70,000.

Ans. 4 (i) Treatment of spoilage in costing :

Normal spoilage : - If the cost of spoilage is normal and inherent in the process or operation, then the cost of spoilage is absorbed by changing either to the specific production order or to the product overheads :

Abnormal spoilage : -

If the cost of abnormal spoilage arise in the process then it is charged to costing profit & loss a/c.

If spoil units are reused as raw materials in the same process, no separate accounting treatment is required

But if spoilage is used for any other process or job, a proper credit should be given to relevant process a/c or job a/c.

Treatment of defective in costing : -

Normal Defective :

Charged to good output :- The entire cost of rectification of normal defective is charged to good units.

Charged to general overhead :- If the responsible department is not identified correctly, then the rectification costs are charged to general overheads.

Charged to departmental overheads : if department responsible for such defectives is correctly identified, then the rectification costs are charged to such departments.

Charged to specific jobs :- If it is easily identified with specific job, the rectification costs should be charged to that job.

Abnormal defective : -
The rectification costs should be charged to costing profit loss A/c.

Ans. 4 (ii) Idle capacity: It represents the difference practical capacity and the capacity based on long term sales expectancy.

If the actual capacity is different from the capacity based on sales expectancy, then the idle capacity is the difference between the practical capacity and the actual capacity.

Idle capacity represents a part of practical capacity which has not been utilized due to regular interruptions and which may not be avoided.

$$\text{Idle capacity cost can be determined as} = \frac{\text{Total OH related to plant}}{\text{Normal capacity}} \times \text{Idle capacity}$$

Treatment:

1. Arising due to unavoidable reasons (normal idle capacity):
Generally arises to lack of demand or due to seasonal nature of the product.

Production OH are absorbed in to the cost of production either by the inflated OH absorption rate or by the supplementary OH rate.

2. Arising due to avoidable reasons (Abnormal idle capacity):
It may arise due to lack of proper planning and control or due to lack of managements forecasting.

The cost of such idle treatment capacity should be charged to Costing P&L A/c.

3. If arises due to trade depression or any other external factors:
It being a normal in nature, should be charged to Costing P&L A/c.

Ans. 4 (iii) Contract is estimated to be 80% Completed.
The Contractee pays 75% of value of work certified

Contract A/c

To Cost to date	88,000	By Work in Projects Work certified. (B/L) Work uncertified.	 2,00,000 8,000
To Notional Profit	1,20,000		
	2,08,000		2,08,000
To P/ L A/c	60,000	By Notional Profit	1,20,000
To Work in Project.	60,000		
	1,20,000		1,20,000

$$\text{Amount transfer to P/L A/c} = \text{Notional Profit} \times \frac{2}{3} \times \frac{\text{Cash received}}{\text{work certified}}$$

$$\Rightarrow 60{,}000 = \text{Notional Profit} \times \frac{2}{3} \times \frac{75}{100}$$

$$\Rightarrow \text{Notional Profit} = 1{,}20{,}000$$

$$\text{Amount of Contract Price} \quad \text{\% of Completion} = \frac{\text{Work certified}}{\text{Contract Price}}$$

=> 80% = 2,00,000

Contract Price

=> Contract Price = 2,50,000/-

Ans 4(iv) Profit – volume ratio (P/V ratio) = 28%

$$\text{P/V ratio} = \frac{\text{Contribution}}{\text{Sales}}$$

$$\text{Or, P/V ratio} = \frac{\text{Fixed cost + Profit}}{\text{Sales}}$$

$$\text{Or, Sales} = \frac{\text{Fixed cost + Profit}}{\text{P/V ratio}}$$

$$= \frac{2,80,000 + 70,000}{0.28}$$

$$= \frac{3,50,000}{0.28} = 12,50,000$$

∴ Sales revenue required to achieve a quarterly profit = Rs. 12,50,000 /-

Qn 5. Answer any **five** of the following : **[5 x 2=10]**

(i) Write a short note on functions of Treasury department.
(ii) Discuss the concept of American Depository Receipts.
(iii) How is Debt service coverage ratio calculated ? What is its significance ?
(iv) Discuss conflict in profit versus wealth maximisation objective.
(v) Discuss the concept of Debt-Equity or EBIT-EPS indifference point, while determining the capital structure of a company.
(vi) Discuss the benefits to the originator of Debt Securitisation.

Ans. 5 (i) Treasury Department conducts efficient management of liquidity and financial risk is business. Earlier it was viewed as a peripheral activity conduced by back-office, but today it plays a very vital role is corporate management.

The major functions of treasury department are as follows :

1. **Setting up of corporate financial objective :**
   (i) Financial and treasury policies.
   (ii) Financial and treasury systems.
   (iii) Financial aims and strategies.

2. **Corporate Finance :**
   (i) Equity capital management.
   (ii) Project finance.
   (iii) Joint ventures.
   (iv) Business acquisition.
   (v) Business sales.
   (vi) Equity capital management.
3. **Liquidity Management :**
   (i) Working capital management.
   (ii) Money management.
   (iii) Money transmission management.
   (iv) Banking relationships and arrangements.

4. **Funding Management :**
   (i) Sources of fund.
   (ii) Funding policies.
   (iii) Types of funds.
   (iv) Funding procedures.

5. **Currency Management :**
   (i) Exposure policies and procedures.
   (ii) Exchange regulations.
   (iii) Exchange dealings.

6. **Other :**
   (i) Risk management.
   (ii) Insurance management.
   (iii) Corporate transaction.
   (iv) Pension fund investment management.

Ans. (ii) American depository receipt: - Deposit receipt issued by an Indian company in USA is known as American depository receipt (ADRs). Such receipts have to be issued in accordance with the provisions stipulated by the security and exchange commission of USA. An ADR is generally created by the deposit of the securities of an outsider company with a custodian bank in the country of incorporation of issuing company. The custodian bank informs the depository in USA that the ADRs can be issued. ADRs are dollar denominated and are traded in the same way as are security of U.S. company. ADRs can be traded either by trading existing ADRs or purchasing the shares in the issuer's home market and having new ADRs created, based upon availability and market conditions. When trading in existing ADRs, the trade is executed on the secondary market on the New York Stock Exchange through Depository Trust Company (DTC) without involvement from foreign brokers or custodians.

Ans (iii)

- This ratio is the vital indicator to the lender to assess the extent of ability of the borrower to service the loan in regard to timely payment of interest and repayment of principal amount.
- It shows whether the business is earning sufficient profits to pay not only the interest charges, but also the installment due of the principal amount.
- Debt service coverage ratio of 1 : 2 is considered ideal by the financial institutions.
- This ratio will enable the lender to take correct view of the borrower's repayment capacity.
- The ratio is calculated as follows :

$$= \frac{\text{Earning available for debt service *}}{\text{Interest on loan+Instalment of the principal amount}}$$

* Where earning available for debt service = Profit after tax + Depreciation + Interest on Loan.

Ans. (iv)

1. Profit Maximisation :

Profit Maximisation is the main objective of business because :
   (i) Profit acts as a measure of efficiency and
   (ii) It serves as a protection against risk.

Agreements in favour of profit maximisation :

(i) When profit earning is the main aim of business the ultimate objective should be profit maximisation.
(ii) Future is uncertain. A firm should earn more and more profit to meet the future contingencies,
(iii) The main source of finance for growth of a business is profit. Hence, profits maximisation is required.
(iv) Profit maximisation is justified on the grounds of rationality as profits act as a measure of efficiency and economic prosperity.

Arguments against profit maximisation :

(i) It leads to exploitation of workers and consumers.

(ii) It ignores the risk factor associated with profit.
(iii) Profit in itself is a vague concept and means differently to different people.
(iv) It is a narrow concept at the cost of social and moral obligations.

Thus, profit maximisation as an objective of financial management has been considered inadequate.

2. **Wealth Maximisation** : Wealth maximisation is considered as the appropriate objective of an enterprise. When the firms maximises the stock holder's wealth, the individual stockholder can use this wealth to maximise his individual utility. Wealth maximisation is the single substitute for a stock holder's utility.

A stock holder's wealth is shown by :

Stock holder's wealth = No. of share owned x Current stock price per share

Higher the stock price *per* shares, the greater will be the stock holder's wealth, the greater will be the stock price per share.

Maximum Utility
↓ Refers to
Maximum stock holder's wealth
↓ Refers to
aximum stock price per share

Arguments in favour of wealth maximisation:

(i) Due to wealth maximisation, the short term money lenders get their payments in time.
(ii) The long time lenders too get a fixed rate of interest on their investments.
(iii) The employees share in the wealth gets increased.
(iv) The various resources are put to economical and efficient use.

Argument against wealth maximisation :

(i) It is socially undesirable.
(ii) It is not a descriptive idea.
(iii) Only stock holder's wealth maximisation does not lead to firm's wealth maximisation.
(iv) The objective of wealth maximisation is endangered when ownership and management are separated.

In spite of the arguments against wealth maximisation, it is the most appropriative objective of a firm

Ans. (v) EBIT-EPS analysis is a widely used tool to determine level of debt in a firm. Through this analysis, a comparison can be drawn for various methods of financing by obtaining indifference point. It is point to the EBIT level at which EPS remain unchanged irrespective of debt level equity mix. For example indifference point for the capital mix (equity share capital and debt) can be determined as follows :

$$\frac{(EBIT - I_1)(1 - T)}{E_1} = \frac{(EBIT - I_2)(1 - T)}{E_2}$$

Where,

EBIT = Indifference point
E_1 = Number of equity shares in Alternative 1
E_2 = Number of equity shares in Alternative 2
I_1 = Interest charged in Alternative 1
1_2 = Interest charges in Alternative 2
T = Tax-rate

Alternative 1 = All equity finance
Alternative 2 = Debt-equity finance.

Ans. (vi) Benefits **to the Originator of Debt Securitisation**

(i) The assets are shifted off the balance sheet, thus giving the originator recourse to off balance sheet funding.
(ii) It converts illiquid assets to liquid portfolio.

(iii) It facilitates better balance sheet management as assets are transferred off balance sheet facilitating satisfaction of capital adequacy norms.
(iv) The originator's credit rating enhances.

Qn 6. Balance Sheets of RST Limited as on March 31, 2008 and March 31, 2009 are as under :

[5 + 10 = 15 Marks]

Liabilities	31.3.2008 Rs.	31.3.2009	Assets	31.3.2008 Rs.	31.3.2009 Rs.
Equity Share Capital (Rs.10 face value per share)	10,00,000	12,00,000	Land & Building	6,00,000	7,00,000
			Plant & Machinery	9,00,000	11,00,000
			Investments (Long-term)	2,50,000	2,50,000
General Reserve	3,50,000	2,00,000	Stock	3,60,000	3,50,000
9% Preference Share Capital	3,00,000	5,00,000	Debtors	3,00,000	3,90,000
			Cash & Bank	1,00,000	95,000
Share Premium A/c	25,000	4,000	Prepaid Expenses	15,000	20,000
Profit & Loss A/c	2,00,000	3,00,000	Advance Tax Payment	80,000	1,05,000
8% Debentures	3,00,000	1,00,000	Preliminary Expenses	40,000	35,000
Creditors	2,05,000	3,00,000			
Bills Payable	45,000	81,000			
Provision for Tax	70,000	1,00,000			
Proposed Dividend	1,50,000	2,60,000			
	26,45,000	30,45,000		26,45,000	30,45,000

Additional information :

(i) Depreciation charged on building and plant and machinery during the year 2008-09 were Rs.50,000 and Rs.1,20,000 respectively.
(ii) During the year an old machine costing Rs.1,50,000 was sold for Rs.32,000. Its written down value was Rs.40,000 on date of sale.
(iii) During the year, income tax for the year 2007-08 was assessed at Rs.76,000. A cheque of Rs.4,000 was received alongwith the assessment order towards refund of income tax paid in excess, by way of advance tax in earlier years.
(iv) Proposed dividend for 2007-08 was paid during the year 2008-09.
(v) 9% Preference shares of Rs.3,00,000, which were due for redemption, were redeemed during the year 2008-09 at a premium of 5%, out of the proceeds of fresh issue of 9% Preference shares.
(vi) Bonus shares were issued to the existing equity shareholders at the rate of one share for every five shares held on 31.3.2008 out of general reserves.
(vii) Debentures were redeemed at the beginning of the year at a premium of 3%.
(viii) Interim dividend paid during the year 2008-09 was Rs. 50,000. Required :

Required :
(a) Schedule of Changes in Working Capital; and
(b) Fund Flow Statement for the year ended March 31, 2009.

Ans 6 statement showing schedule of changer in working capital.

	Year ended.	
Current Assets-	31.3.2008	31.3.2009
Stock	3,60,000	3,50,000
Debtor	3,00,000	3,90,000
Cash and Bank	1,00,000	95,000
Prepaid expenses	15,000	20,000
Total (A)	7,75,000	8,55,000
Current Liabilities.		
Creditors.	2,05,000	3,00,000
Bills payable	45,000	81,000
Total (A)	2,50,000	3,81,000
Working capital (A – B)	5,25,000	4,74,000

Decrease in working capital	51,000	

Statement Showing Fund From Operation.

Increase in Profit and Loss accounts	1,00,000
Add: Preliminary expenses written off	5,000
Add: Depreciation (50,000 + 1,20,000)	1,70,000
Add: Loss on Sale of machine	8,000
Add: Proposed dividend	2,60,000
Add: Interim dividend Paid	50,000
Add: Transfer to General Reserve.	50,000
Add: Pro. for taxation	1,06,000
	7,49,000

Fund flow Statement

Sources of Fund	Rs	Application of Fund	Rs
Sale of Plant &Machinery	32,000	Dividend Paid	1,50,000
Issue 9% Preference Share Capital	5,00,000	Redemption of Preference Share Capital	3,15,000
Refund of Adv. Tax	4,000	Debenture Redeemed	2,06,000
Fund from operation	7,49,000	Interim dividend paid	50,000
Decrease in working capital	51,000	Purchase of Building	1,50,000
		Purchase of Plant & Machinery	3,60,000
		Adv. Tax paid	10,5,000
	13,36,000		13,36,000

Working notes.

Pro. for taxation

To Adv. Tax	80,000	By Bal. b/d	70,000
To Bal. c/d	1,00,000	By P & L A/c	6,000
		By Cash A/c	4,000
		By P & L A/c	1,00,000
	1,80,000		1,80,000

Advance Tax A/c.

To Bal. b/d	80,000	By Pro. for tax	80,000
To Cash A/c	1,05,000	By Bal. c/d	1,05,000
	1,85,000		1,85,000

General Reserve

To Equity Share Capital	2,00,000	By Balance b/d	3,50,000

To Balance c/d	2,00,000	By P/L	50,000
	4,00,000		4,00,000

9% Preference Share Capital

To Cash	3,00,000	By Balance b/d	3,00,000
		By Cash.	5,00,000
To Balance c/d	5,00,000		
	8,00,000		8,00,000

Share Premium A/c

To Premium of Redemption of P.S.C.	15,000	By Balance b/d	25,000
To Premium of Redemption of Debenture	6,000		
To Balance c/d	4,000		
	25,000		25,000

8% Debenture A/c

To Cash	2,00,000	By Balance b/d	3,00,000
To Balance c/d	1,00,000		
	3,00,000		3,00,000

Proposed dividend

To Cash	1,50,000	By Balance b/d	1,50,000
		By P/L A/c	2,60,000
To Balance c/d	2,60,000		
	4,10,000		4,10,000

Land & Building

To Balance b/d	6,00,000	By Deprecation	50,000
To Cash	1,50,000		
		By Balance c/d	7,00,000
	7,50,000		7,50,000

Plant & Machinery

To Balance b/d	9,00,000	By Deprecation	1,20,000
To Cash	3,60,000	By Cash	32,000
		By Profit & Loss A/c	8,000
		By Balance c/d	11,00,000
	12,60,000		12,60,000

Equity Share Capital A/c

		By Balance b/d	10,00,000
		By General Reserve (Bonus Share)	2,00,000
To Balance c/d	12,00,000		
	12,00,000		12,00,000

Qn 7. (a) The capital structure of MNP Ltd. is as under :

9% Debentures	Rs. 2,75,000
11% Preference shares	Rs. 2,25,000
Equity shares (face value : Rs. 10 per share)	Rs. 5,00,000

	Rs. 10,00,000

Additional information :

(i) Rs. 100 per debenture redeemable at par has 2% floatation cost and 10 years of maturity. The market price per debenture is Rs. 105.

(ii) Rs. 100 per preference share redeemable at par has 3% floatation cost and 10 years of maturity. The market price per preference share is Rs. 106.

(iii) Equity share has Rs. 4 floatation cost and market price per share of Rs. 24. The next year expected dividend is Rs. 2 per share with annual growth of 5%. The firm has a practice of paying all earnings in the form of dividends.

(iv) Corporate Income-tax rate is 35%.

Required :
Calculate Weighted Average Cost of Capital CWAC; ; using market value weights.

(b) A company is required to choose between two machines A and B. The two machines are designed differently, but have identical capacity and do exactly the same job. Machine A costs Rs. 6,00,000 and will last for 3 years. It costs Rs. 1,20,000 per year to run.

Machine B is an 'economy' model costing Rs. 4,00,000 but will last only for two years, and cost Rs. 1,80,000 per year to run. These are real cash flows. The costs are forecasted in Rupees of constant purchasing power. Opportunity cost of capital is 10%. Which machine company should buy ? Ignore tax.

$PVIF_{0.10,1}$ = 0.9091, $PVIF_{0.10,2}$ = 0.8264, $PVIF_{0.10,3}$ = 0.7513.

Ans. 7 (a) Calculation of weighted average cost of capital by using market value might.

Particulars	Market value	Weight	Cost	WACC
9% Debenture	2,88,750	0.167	6.11%	1.020
11% Preference share	2,38,500	0.138	11.47%	1.583
Equity share @ reach	12,00,000	0.695	15.00%	10.425
	17,27,250	1.000		13.028%

Working notes :

Calculation of cost of Redeemable debenture :

$$Kd = \frac{\text{Interest } (1 - \text{tax rate}) + \left(\frac{\text{Redeemable value} - \text{Issue price}}{\text{No. of years}}\right)}{\left(\frac{\text{Redeemable value} + \text{Issue Price}}{2}\right)} \times 100$$

$$Kd = \frac{9\,(1 - .35) + \left(\frac{100 - 98}{10}\right)}{\left(\frac{100 + 98}{2}\right)} \times 100$$

Kd = 6. 11 %

$$\text{Preference dividend} + \frac{\text{Redeemable value} + \text{Issue Price}}{\quad}$$

$$Kp = \frac{\text{No. of year's}}{\dfrac{\text{Redeemable value + Issue price}}{2}}$$

$$Kp = \frac{11 + \dfrac{100 - 97}{10}}{\dfrac{100 + 97}{2}} \times 100$$

$$Kp = 11.47\ \%$$

$$Ke = \frac{D_1}{P_0} + g$$

$$Ke = \frac{2}{(24 - 4)} + 0.05$$

$$= 15\ \%$$

Here : - D_1 = Expected dividend
P_0 = Current market price
g = Growth rate

Ans 7 (b) Calculation of Annualized cash outflow of machine 'A'.

Year	Cash of	D. F @ 10%	D F
0	6,00,000	1	6,00,000
1	1,20,000	0.9091	10,90,92
2	1,20,000	0.8264	99,168
3	1,20,000	0.7513	90,156
			8,98,416

$$\text{Annulized cash outflow} = \frac{898416}{2.4868} = 361274\ /-$$

Calculation of Annulized cash outflow of machine 'B'

Year	Cash of	DF @ 10%	DCF
0	4,00,000	1	4,00,000
1	1,80,000	0.9091	1,63,638
2	1,80,000	0.8264	1,48,752
			7,12,390

$$\text{Annulized Cash outflow} = \frac{7,12,390}{1.7353} = 4,10,481\ /-$$

Conclusion : Machine 'A' s Annulized cash out flow is lower than machine 'B'. Therefore machine 'A' should be adopted.

Qn 8. Answer any **three** of the following : **[3 x 3 = 9 marks]**

(i) A firm maintains a separate account for cash disbursement. Total disbursements are Rs. 2,62,500 per month. Administrative and transaction cost of transferring cash to disbursement account is Rs. 25 per transfer. Marketable securities yield is 7.5% per annum.

Determine the optimum cash balance according to William J Baumol model.

(ii) A firm has a total sales of Rs. 12,00,000 and its average collection period is 90 days. The past experience indicates that bad debt losses are 1.5% on sales. The expenditure incurred by the firm in administering

receivable collection efforts are Rs. 50,000. A factor is prepared to buy the firm's receivables by charging 2% commission. The factor will pay advance on receivables to the firm at an interest rate of 16% p.a. after withholding 10% as reserve. Calculate effective cost of factoring to the firm. Assume 360 days in a year.

(iii) Explain the concept of discounted payback period.

(iv) Discuss the composition of Return on Equity (ROE) using the DuPont model.

Ans. 8 (i)

$$EQQ = \sqrt{\frac{2\,A\,B}{C}}$$

Here : EQQ = Optimum cash balance
A = Annual disbursements
B = Administrative and transaction cost
C = Marketable securities yield

$$EQQ = \sqrt{\frac{2\,A\,B}{C}}$$

$$= \sqrt{\frac{2 \times (12 \times 2,62,500) \times 25}{0.075}}$$

$$= 45826 /-$$

Ans. 8 (ii) (a) Average level of receivables = $12,00,000 \times \frac{90}{360} = 3,00,000$

(b) Factory commission = $3,00,000 \times \frac{2}{100}$ = 6000

(c) Factoring reserve = 3,00,000 x 10% = 30,000

(d) Amount available for advance
3,00,000 – (6,000 + 30,000) 2,64,000

(e) Factory will deduct his interest @ 16%
interest = $2,64,000 \times 16\% \times \frac{90}{360}$ 10,560

(f) ∴ Advance to be paid = 2,64,000 – 10560 253.440

Annual cost of factoring to the firm : - Rs.

Factoring commission $\left(6,000 \times \frac{360}{90}\right)$ 24,000

Interest charges $\left(10560 \times \frac{360}{90}\right)$ 42,240

Total 66,240

Firm's Savings on taking factoring services.
Cost of credit administration saved 50,000
Cost of Bad debts (1.5% x 12,00,000) 18,000

Total 68,000

Net Saving to the firm [66240 – 68000] 1,760

$$\text{Effective rate of cost saving to the firm} = \frac{1760 \times 100}{253440} = 0.694\ \%$$

Ans. 8 (iii) When the pay back period is computed after discounting the cash flows by a pre-determined rate (cut-off rate) it is called as the "discounted pay back period. In this we have to find out the cash flows earnings over the years and get it discounted by multiplying those inflows with the discounting factor. After that we have to get the cumulative figures of those discounted cash flows and find the pay back period by interpolation. It obviously takes care of the time value of money.

Ans. 8 (iv) Composition of Return on Equity using the 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.

(i) 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.

(ii) 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.

(iii) 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.