Answer to PTP_Intermediate_Syllabus 2012_Dec2014_Set 2

Paper – 8: Cost Accounting & Financial Management

Full Marks: 100 **Time Allowed: 3 Hours**

This paper contains 3 questions. All questions are compulsory, subject to instruction provided against each question. All workings must form part of your answer. Assumptions, if any, must be clearly indicated.

1. Answer all questions: **[2×10=20]**

(a) If the ordering cost per order is ₹ 20, carrying cost is 10% of average inventory value, purchase cost is ₹ 10 per unit and economic order quantity (EOQ) for the product is 400 units; What will be the expected annual demand for the product?

Answer:

A=Annual demand of the product
O=Ordering cost
C=Carrying cost

$$EOQ = \sqrt{\frac{2AO}{C}}$$

$$=>400= \sqrt{\frac{2\times A\times 20}{1}}$$

=>A=4,000 Units

(b) In a workshop the normal working hours is 8 hours for which ₹450 is paid as wages. However, calculation of wages payable is made on piece rate basis that 30 pieces will be produced per hour. When a worker produces below standard, 90% of the piece rate is paid but when he produces above standard, 110% of piece rate is paid. On a particular day, a worker produces 260 pieces in the allotted time of 8 hours. What will be his earning?

Answer:

Normal price rate = 450/240 = 1.875.
Standard Production= 8hrs x 30 pieces = 240 pieces
260 pieces in 8 hours is above standard of 240 pieces.
Hence, wages = 110 % x 1.875 x 260 = 536.25 or 536.

(c) Draw a specimen bin card and appropriately record the following transactions. 01-09-2014 Received from Supplier SW, 80 kg material A, Purchase Price ₹20 per kg. 04-09-2014 Issued to assembly 50 kg. of A at ₹15 per kg vide requisition No. 313.

Answer:

BIN CARD

Bin No. : **Maximum Level:**
Material Code No. : A **Minimum Level:**
Material Description : **Re- order Level:**
Stores Ledger Folio No :
Unit : Kg.

Receipts			Issues			Balance Quantity	Remarks
Date	G.R.N. No.	Quantity	Date	S.R. No.	Quantity		
01.09.2014	-	80				80	

			04.09.2014	313	50	30	

Note:
Full form of G.R.N. No. = Goods Received Note Number.
Full form of S.R.N No. = Store Received Note Number.

(d) State the treatment of Bad Debts in Cost record.

Answer:

We know bad debt refer to customers who do not pay money after having purchased the product. This situation arises after the sale is done. Many experts say that bad debt is not an item of expense but it's a financial loss and thus should be excluded for the purpose of costing. However normal bad debts may be considered as selling expense and included in the cost. An exceptional case like bankruptcy of a big institution may be excluded from the cost.

(e) Royalty paid on sale ₹20,000, Royalty paid on units produced ₹15,000, hire charges of equipment used for production ₹4,000, Design charges ₹15,000, Software development charges related to production ₹20,000. Compute the direct expenses as per Cas10.

Answer:

Computation of Direct Expenses as per Cas10

	Particulars	**Amount (₹)**
	Royalty paid on sale	20,000
Add	Royalty paid on units produces	15,000
Add	Hire Charges of equipment used for production	4,000
Add	Design Charges	15,000
Add	Software development charges related to production	20,000
	Direct Expenses	74,000

(f) List the sources of collection of Overhead.

Answer:

The following are the source documents for collection of Overheads:-

- Stores Requisition
- Wages Sheet
- Cash Book
- Purchase Order and Invoices
- Journal Entries
- Other Registers and Records

(g) With the help of following information calculate the Fixed assets and Total Equity.

Equity Share Capital	**₹2,00,000**
The relevant ratios are as follows:	
Total debt to owner's equity	**60%**
Fixed assets to owner's equity	**50%**

Answer:

Fixed assets = 0.50 × Owner's equity
= 0.50 × ₹2,00,000
= ₹100,000
Total debt = .60 × Owner's equity
= .60 × ₹2,00,000
= ₹1,20,000
Total Equity = Total debt + Owner's equity
= ₹1,20,000 + ₹2,00,000

= ₹3,20,000

(h) Perpetual 15% debentures of ₹1,000 are sold at a premium of 10% with no floatation costs. Taking corporate tax rate at 35%.Then will be the after-tax cost of capital?

Answer:

After –tax cost of capital (Kd) = [Interest payment / Sale price of Debenture] x [1 -t];
= [150 x (1 -0.35)/ (1,000 + 100)] x 100 = 8.86%.

(i) The current market price of an equity share of a company is ₹ 90. The current dividend per share is ₹ 4.50. In case the dividends are expected to grow at the rate of 9%, then what will be the cost of equity capital?

Answer:

K_e=Cost of equity capital
D_1=Expected dividend per share
NP=Net proceeds of per share (Issue price- flotation Cost)
g=growth in expected dividend

$K_e = D_1/NP + g$
$K_e = 4.50/90 + 0.09$
$K_e = 0.05+0.09=0.14=14\%$

Note: Here market price is taken as net proceed (NP). Here there is no under writing expenses so full amount that is ₹ 90 will be taken

(j) Ascertain the compound interest of an amount of ₹60,000 at 6% compounded semi annually for 5 years.

Answer:

Amount invested = ₹60,000
Rate of interest = 6%
No. of Compounds = 2 × 5 =10 times
Rate of interest for half year = 6 /2 = 3%
Compound value = $p(1+i)^n$
Where,
P = Principle Amount
I = Rate of Interest (in the given case half year interest)
n = No. of years (no. of compounds)
$= 60,000(1+3\%)^{10}$
= 60,000 × 1.3439
= ₹80,634
Compound Interest = Compound Value – Principle Amount
= ₹80,634 - ₹60,000
= ₹20,634

2. (Answer any three questions) [3×16=48]

(a)

(i) ABC Limited uses a small casting in one of its finished products. The castings are purchased from a foundry. ABC Limited purchases 54,000 casting per year at a cost of ₹800 per casting.

The castings are used evenly throughout the year in production process on a 360 day per year basis. The company estimates that it costs ₹9,000 to place a single purchase order

and about ₹300 to carry one casting in inventory for a year. The carrying costs result from the need to keep the castings in carefully controlled temperature and humidity conditions, and from the high cost of insurance.

Delivery from the foundry generally takes 6 days, but it can take as much as 10 days. The days of delivery time and percentage of their occurrence are shown in the following table-

Delivery Time (days)	6	7	8	9	10
Percentage of occurrence	75	10	5	5	5

I. Compute the Economic Order Quantity.

II. Assume that the company is willing to take a 15% risk of being out of a stock. What would be the safety stock and the Re-Order point?

III. Assume that the company is willing to take a 5% risk of being out of stock. What would be the safety stock and Re-Order point?

IV. Refer to the original data. Assume that using process re-engineering the company reduces its cost of placing a purchase of order to only ₹600. In addition, the company estimates that when the waste and in efficiency caused by inventories are considered, the true cost of carrying a unit in stock is ₹720 per year. (a) Compute new EOQ and (b) How frequently would the company be placing an order, as compared to the old purchasing policy? [2+2+2+4=10]

Answer:

I. EOQ= $\sqrt{2AB \div C}$, Where,

A=Annual Requirement of materials= 54,000 castings

B= Buying cost per order= ₹9,000 per order

C=Carrying cost p.u. p.a.= ₹300 per unit per annum.

On substitution, EOQ=1,800 castings

II.

Average Consumption per day	=54,000 castings÷360 days	=150 castings
Average lead time	=(10+6)÷2	=8 days
For **15% stock-out risk**, relevant delivery time (Cumulative percentage of occurrence up to 7 days is 75 +10 = 85%. Hence, risk of stock-out is 15%)		=7 days
Hence Safety stock	=7days consumption=7x150	**=1,050 Castings**

Re-order point	=safety stock+ Lead time consumption	=1,050+(150x 8)	**2,250 Castings**

III.

For 5% stock-out risk, relevant delivery time		= 9 days
(Cumulative % of occurrence up to 9 days is 75+10+5+5=95%. Hence, risk of stock-out is 5%)		
Hence, Safety Stock	= 9 days consumption = 9 x 150	**=1,350 castings**

Re-order point	=Safety Stock+ Lead time consumption	=1,350+(150x8)	**=2,550 castings**

IV. EOQ= $\sqrt{2AB \div C}$, Where,

A=Annual Requirement of Raw Materials= 54,000 castings.

B=Buying Cost per order =₹600 per order.

C=Carrying Cost p.u. p.a.=₹720 per unit per annum.

On substitution, **EOQ=300 castings.**

Number of orders p.a.	=54,000÷1,800	**=30 orders(old)**	And 54,000÷300	**=180 orders(new)**

The Company should be placing an order every alternative day (360÷180) i.e. once in two days under the new system, whereas it was making an order once in 12 days earlier. (360÷30)

(ii) State the accounting treatment of idle time wages in cost accounts. [3]

Answer:

Accounting treatment of idle time wages in cost accounts:

Normal idle time is treated as a part of the cost of production. Thus, in the case of direct workers, an allowance for normal idle time is built into the labour cost rates. In the case of indirect workers, normal idle time is spread over all the products or jobs through the process of absorption of factory overheads.

Abnormal idle time: It is defined as the idle time which arises on account of abnormal causes; e.g. strikes, lockouts, floods, major breakdown of machinery, fire etc. such an idle time is uncontrollable.

The cost of abnormal idle time due to any reason should be charged to Costing Profit & Loss Account.

(iii) Explain Perpetual Inventory System. [3]

Answer:

Perpetual Inventory System may be defined as 'a system of records maintained by the controlling department, which reflects the physical movements of stocks and their current balance'. Thus it is a system of ascertaining balance after every receipt and issue of materials through stock records to facilitate regular checking and to avoid closing down the firm for stock taking. To ensure the accuracy of the perpetual inventory records (bin card and Stores ledger), physical verification of stores is made by a programme of continuous stock taking.

The operation of the perpetual inventory system may be as follows:-

- The stock records are maintained and up to date posting of transactions are made there in so that current balance may be known at any time.
- Different sections of the stores are taken up by rotation for physical checking. Every day some items are checked so that every item may be checked for a number of times during the year.
- Stores received but awaiting quality inspection are not mixed up with the regular stores at the time of physical verification, because entries relating to such stores have not yet been made in the stock records.
- The physical stock available in the store, after counting, weighing, measuring or listing as the case may be, is properly recorded in the bin cards / Inventory tags and stock verification sheets.

(b)

(i) The following is an extract of stores ledger of a particular item of stock with incomplete information for September 2014. You are required to fill in the rate column of issues correct to two decimal places. Also fill in the values under the 'Balance column' wherever indicated with a "?". Identify the method of stock issue followed by the company. How would you treat the value of the shortages on 30th September in Cost Accounts?

Date	Receipts		Issues		Balance	
September 2014	Quantity (Kg)	Rate (₹/Kg)	Quantity (Kg)	Rate (₹/Kg)	Quantity (Kg)	Value (₹)

1					**50,000**	**1,25,000**
7	**5,000**	**2.4**				
10			**30,000**			**62,000**
15			**20,000**			
20	**15,000**	**2.6**				
25	**10,000**	**2.5**				
29			**20,000**			
30 shortage-abnormal loss			**200**			**?**
30 shortage-abnormal loss			**400**			**?**
31					**9,400**	**?**

[8]

Answer:

Statement showing the value of closing stock

Date	**Receipts**		**Issues**		**Balance**	
September 14	**Quantity (kg)**	**Rate (₹/kg)**	**Quantity (kg)**	**Rate (₹/kg)**	**Quantity (kg)**	**Value ₹**
1					50,000	1,25,000
7	5,000	2.4			55,000	1,37,000
10			30,000	2.50	25,000	62,000
15			20,000	2.50	5,000	12,000
20	15,000	2.6			20,000	51,000
25	10,000	2.5			30,000	76,000
29			20,000	2.55	10,000	25,000
30 (Shortage-Normal loss)			200	2.50	9,800	24,500
30 (shortage - abnormal loss)			400	2.50	9,400	23,500
31					9,400	23,500

Working Note:

- The store ledger shows the value of the stock on 10.09.14 is ₹62,000 which show that the store ledger is maintained in FIFO method.

- On 29.09.14 the issue price is :

Quantity	**Rate**	**Value (₹)**
5,000	2.40	12,000
15,000	2.60	39,000
20,000	-	51,000

Therefore, rate of the issue : 51,000/20,000 = 2.55 **[1 mark]**

Therefore, rate of the issue: 51,000 / 20,000 = 2.55

- Normal Shortage is charged to production as a % of direct material consumed.

The value of normal loss to be included in material cost = 200 x 2.5 = ₹500

- Abnormal Loss is to be written off to costing P& L A/c
  Value of Abnormal Loss = 400 x 2.5 = ₹1,000

(ii) ABC Ltd. company having 25 different types of automatic machine, furnishes you the following data for 2013-2014 in respect of machine B:

I.	**Cost of machine**	**₹50,000**
	Life-10 years	**Scrap value is nil**
II.	**Overhead expenses are:**	
	Factory rent	**₹50,00 p.a**
	Heating & lighting	**₹40,000**
	Supervision	**₹1,50,000 p.a**
	Reserve equipment of machine B	**₹6,000 p.a**
	Area of the factory	**80,000 sq.ft.**
	Area occupied by machine B	**3,000 sq.ft.**
III.	**Wages of operator is ₹24 per day of 8 hours including all fringe benefits. He attends to one machine when it is under set up and two machines while under operation.**	
IV.	**Estimated production hours**	**3,600 p.a.**
	Estimated set up time	**400 hrs. p.a.**
	Power 0.5 per hour	

Prepare a schedule of comprehensive machine hour rate and find the cost of the following jobs:

	Job 1002	**Job 1008**
Set up time (hrs.)	**80**	**40**
Operation time (hrs.)	**130**	**160**

[6+2]

Answer:

Computation of machine hour rate when machine is in operation

Particulars		**Amount (₹)**
Standing charges:		
Rent	50,000×3/80	=1,875
Heating & Lighting	40,000×3/80	=1,500
Supervision	1,50,000×1/25	=6,000
Reserve equipment		=6,000
		15,375
Cost per hour	15,375/4,000	3.84
Machine Expenses:		
Depreciation	[50,000÷(10×3,600)]=1.39	
Wages	[24/8×1/2]=1.50	
Power	=0.50	3.39
Machine hour rate		7.23

Computation of machine hour rate when machine is under set up

Particulars		**Amount (₹)**
Standing charges:		
Rent	50,000×3/80	=1,875
Heating & lighting	40,000×3/80	=1,500
Supervision	1,50,000×1/25	=6,000

Reserve equipment		=6,000
		15,375
Cost per hour	15,375/4,000	3.84
Machine expenses:		
Depreciation	[50,000 ÷ (10×3,600)]	=1.39
Wages	[24/8]	=3.00
Power		-------
Machine Hour Rate		=8.23

Computation of cost of the jobs

Particulars	Job 1002	Job 1008
Set up cost		
Job 1002: 80×8.23	658.40	
Job 1008: 40×8.23		329.2
Operation Cost		
Job 1002: 130×7.23	939.9	
Job 1008: 160×7.23		1,156.8
Total Cost of the Job	**1,598.30**	**1,486.00**

(c)

(i) A factory has three production departments A, B and C and also two service departments 'X' and 'Y'. The primary distribution of the estimated overheads in the factory has just been completed. These details and the quantum of service rendered by the service departments, to the other departments are given below:

	A	B	C	X	Y
Primary distribution(₹)	**2,40,000**	**2,10,000**	**2,50,000**	**1,40,000**	**96,000**
Service rendered by					
Dept 'X'	**30%**	**20%**	**35%**	**-**	**15%**
Dept 'Y'	**25%**	**40%**	**25%**	**10%**	**-**

Prepare a statement showing the distribution of service dept. overheads to the production departments, by the simultaneous equation method. [5]

Answer:

Let, P and N be the total overheads of the service departments 'X' and 'Y' respectively. Then,

P=1,40,000+0.10N i.e.,	10P-N	=14,00,000
N=96,000+0.15P and	-0.15P+N	=96,000
(By adding)	9.85P	14,96,000
	P=14,96,000/9.85	=₹1,51,878
By substitution,	N=96,000+0.15X1,51,875 = 96,000+22,782	=₹1,18,782

Statement showing the distribution of service dept. overheads to the production departments

(Production Depts.)				
Distribution of overheads of	**A(₹)**	**B(₹)**	**C(₹)**	**Total (₹)**
1,40,000 Deptt. X(85% of ₹1,51,878)	45,563	30,376	53,157	1,29,096
96,000 Deptt. Y(90% of ₹ 1,18,782) 2,36,000	29,696	47,513	29,695	1,06,904
Total	75,259	77,889	82,852	2,36,000

(ii) Distinguish between Bin Card and Stores Ledger. [5]

Answer:

Difference between Bin Card and Store Ledger:

	Bin Card	Stores Ledger
I.	It is maintained by the store keeper.	It is maintain in the Costing department.
II.	It contains only quantitative details of materials received, issued and returned to stores.	It contains information both in quantity and value
III.	Entries are made when transactions take place.	It is always posted after the transaction.
IV.	Each transaction is individually posted.	Transactions may be summarized and then posted.
V.	Inter-department transfers do not appear in Bin-Card.	Material transfers from one job to another job are recorded for costing purpose.

(iii) In a factory guaranteed wages at the rate of ₹1.80 per hour are paid in a 50 hour week. By time and motion study it is estimated that to manufacture one unit of a particular product 20 minutes are taken, the time allowed is increased by 25%. During the week A produced 180 units of the product. Calculate his wages under the following method:

I. Time rate.

II. Piece rate with a guaranteed weekly wages.

III. Halsey premium bonus.

IV. Rowan premium Bonus. [$1^1/_2$x4=6]

Answer:

I. Calculation of wages under Time Rate system:

Earning under time wages=TR

=50×1.8=₹90

II. Calculation of wages under piece rate with Guaranteed Wage Rate

Normal time for one unit	=20 minutes
(+) Relation allowance@25%	=5 minutes
Standard time	=25 minutes
No. of pieces per hour	60/25 pieces
Piece rate	=Hourly Rate/No. of piece per hour
	=1.8÷(60/25)
	=0.75
Earning under Piece Rate	=180×0.75=₹135

III. Calculation of wages under Halsey premium Bonus

Standard time for actual production	=180×25/60	=75 hours
Earning under Halsey plan	=(50×1.8)+50/100(75-50)×1.8	
	=90+22.5	=₹112.50

IV. Calculation of wages under Rowan premium Bonus

Standard time for actual production	=180×25/60	=75 hours

Earning under rowan plan	=(50×1.8)+(75-50/75)×(50×1.8)	
	=90+30.00	=₹120.00

(d)

(i) In a factory the expenses of factory are charged on a fixed percentage basis on wages and office overhead expenses are calculated on the basis of percentage of works cost.

	I Order (₹)	II Order (₹)
Material	**12,500**	**18,000**
Wages	**10,000**	**14,000**
Selling price	**44,850**	**61,880**
Percentage of profit on cost	**15%**	**12%**

Find the rate of Factory OH and Office OH. [8]

Answer:

Let „X" and „Y" be the % of Works Overhead on wages and Office Overhead on works cost respectively.

Particulars	Order I	Order II
Material	12,500	18,000
Wages	10,000	14,000
Prime Cost	22,500	32,000
(+) Factory OH's	(10,000 x X/100)=100X	(14,000 x X/100)=140X
Work Cost	22,500+100X	32,000+140X
(+) Office Overheads [(100X+22,500) x Y/100] [(140X +32,000) x Y/100]	XY + 225Y	1.4XY + 320Y
Total Cost	100X+XY+225Y+22,500	140X+1.4XY+320Y+32,000
Cost	44,850 x (100/115)=39,000	61,880 x (100/112)=55,250

100X + XY + 225Y + 22,500 = 39,000
100X + XY + 225Y = 16,500 =>Equ. (1)
140X + 1.4XY + 320Y + 32,000 = 55,250
140X + 1.4XY + 320Y = 23,250 =>Equ. (2)
Equ. (1) x 1.4 =>140X + 1.4XY + 315Y = 23,100
Equ. (2) =>140X + 1.4XY + 320Y = 23,250
(–) (–) (–) (–)
5Y = 150
Therefore, Y = 150/5 = 30

Substituting the value of Y in Equ. (1), we get X
100X + 30X + 225 x 30= 16,500 =>Equ. (1)
130X + 6750 = 16,500
130X = 9,750
X = 9,750/130= 75
% of Factory OH on wages = 75%
% of Office OH on works cost = 30%

(ii) State the various causes of Labour Turnover. [4]

Answer:

The causes of Labour turnover can be divided into two categories:

Avoidable and unavoidable

- **Avoidable Causes:** These causes include the following:
- Dissatisfaction with the job.
- Dissatisfaction with the working hours.
- Dissatisfaction with the working environment.
- Relationship with colleagues.
- Dissatisfaction with monetary and non monetary incentives.
- Relationship with superiors.
- Other reasons like lack of facilities like absence of group insurance, good canteens, poor housing amenities, bad management etc.
- **Unavoidable causes:** These causes include the following:
- Personnel betterment
- Retirement
- Death
- Illness or accident
- Termination
- Marriage
- Pregnancy
- Other reasons like family commitments, attitude, organizational culture, etc.

(iii) List the advantages of Just-in-Time. [4]

Answer.

The advantages of Just-in-Time system are as follows:-

- Increased emphasis on supplier relationships. A company without inventory does not want a supply system problem that creates a part shortage. This makes supplier relationships extremely important.
- Supplies come in at regular intervals throughout the production day. Supply is synchronized with production demand and the optimal amount of inventory is on hand at any time. When parts move directly from the truck to the point of assembly, the need for storage facilities is reduced.
- Reduces the working capital requirements, as very little inventory is maintained.
- Minimizes storage space.
- Reduces the chance of inventory obsolescence or damage.

3. (Answer any two questions) [2×16=32]

(a)

(i) A dealer, having annual sales of ₹50 lakhs, extends 30 days credit period to its debtors. The variable cost is estimated at 80% of sales and fixed costs are ₹6,00,000.
The dealer intends to change the credit policy for which the following information is given:

Credit Policy	Average Collection	Annual Sales
A	45	56
B	60	60
C	75	62

Rate of Return (Pre-tax) required on investment is 20% [Consider 365 days a year]
You are required to-
Assess the most profitable credit policy with the help of incremental approach. [Calculations must be restricted to two decimal places]. [10]

Answer:

Evaluation of Proposed Credit Policies

(₹ in lakhs)

Credit Policy	Present	A	B	C
Period (days)	30.00	45.00	60.00	75.00
Annual sales	50.00	56.00	60.00	62.00
Variable cost (80% of sales)	40.00	44.80	48.00	49.60
Fixed Cost	6.00	6.00	6.00	6.00
Total Cost	46.00	50.80	54.00	55.60
Profit (A.S – T.C)	4.00	5.20	6.00	6.40
Incremental Profit (A)		1.20	2.00	2.40
Average Investment in Debtors:				
Present: 46 × [30 / 365] A: 50.8 × [45 / 365] B: 54 × [60 / 365] C: 55.6 × [75 / 365]	3.78	6.26	8.88	11.42
Incremental Investment in Debtors as compared to Present level:	-	2.48	5.10	7.64
Required return: 20% incremental investment [B]	-	0.50	1.02	1.53
Excess return [A – B]	-	0.70	0.98	0.87

Policy B, having Average Collection Period 60 days, yields the maximum profit and thus is more profitable.

(ii) Distinguish between Funds Flow Statement and Cash Flow Statement. [6]

Answer:

The following are the main differences between a Funds Flow Statement and a Cash Flow Statement:-

	Funds Flow Statement	Cash Flow Statement
I.	Funds Flow Statement reveals the change in working capital between two Balance Sheet dates.	Cash Flow Statement reveals the changes in cash position between two balance sheet dates.
II.	Funds Flow Statement is based on accounting.	Cash Flow Statement is based on cash basis of accounting
III.	In the case of Funds Flow Statement a schedule of changes in working capital is prepared.	No such schedule of changes in working capital is prepared for a Cash Flow Statement.
IV.	Funds Flow Statement is useful in planning, Intermediate and long term financing.	Cash Flow Statement as a tool of financial analysis is more useful for short-term analysis and cash planning.
V.	Funds Flow Statement deals with all components of working capital.	Cash Flow Statement deals only with cash and cash equivalents.
VI.	Funds Flow Statement reveals the sources and application of funds. The difference represents net increase or decrease in working capital.	Cash Flow Statement is prepared by taking into consideration the inflows and outflows in terms of operating, investing and financing activities. The net difference represents the net increase or decrease in cash and cash equivalents.

(b)

(i) From the following information, prepare the Balance Sheet.
Net Profit after Interest, Tax and Preference Dividend — ₹2,22,000
Tax Rate —50%
18% Preference Share Capital — ?
15% Debentures — ?
Return on Capital Employed —50%
Return on Shareholder's funds —60%
Return on Equity Shareholders' Funds —74%
Current Ratio —2:1
Net Fixed Assets ₹9,00,000 **[10]**

Answer:

$$\text{Equity share holders funds} = \frac{2,22,000}{74} \times 100 = 3,00,000$$

$$\text{Return on share holders' funds} = \frac{\text{EAT}}{\text{Sh. holder funds}}$$

Sh. holder fund = ₹4,00,000
Preference share capital = 4,00,000 – 3,00,000 = 1,00,000
EAT = 2,22,000 + 0.18 (1,00,000) = ₹2,40,000
Tax = 50% of EBT or 100% on EAT = ₹2,40,000
EBT = EAT + TAX = 2,40,000 + 2,40,000 = ₹4,80,000
Let debentures be Y
Interest = 0.15y
EBIT = EBT + Int. on L.T. Debt
= 4,80,000 + 0.15Y

$$\text{Return on capital employed} = \frac{\text{EBIT}}{\text{Cap. employed}} \times 100$$

$$0.50 = \frac{4,80,000 + 0.15y}{4,00,000 + y}$$

15% debentures (Y) = ₹8, 00,000

Capital employed = (3,00,000 +1,00,000) + 8,00,000= ₹12,00,000
Working capital = Cap. Employed - Net FA
=12,00,000–9,00,000
= 3,00,000 or CA -CL= 3,00,000....(i)

$$\text{Current ratio} = \frac{CA}{CL} = 2:1$$

Or CA – 2 CL = 0.....(ii)
(i) – (ii) CL = 3, 00,000
CA = 3, 00,000 x 2 = 6,00,000
Total assets = FA + CA = 9, 00,000 + 6, 00,000= 15, 00,000
EBIT = 4,80,000+ 15% of ₹8,00,000 = ₹6,00,000

Balance Sheet

Liabilities	₹	Assets	₹
Eq. Sh. holders funds	3,00,000	Fixed assets	9,00,000
Preference share capital	1,00,000	Current assets	6,00,000
15% debenture	8,00,000		

Current liabilities	3,00,000		
Total	15,00,000		15,00,000

(ii) List the functions of finance manager. [6]

Answer:

The Finance Manager's main objective is to manage funds in such a way so as to ensure their optimum utilisation and their procurement in a manner that the risk, cost and control considerations are properly balanced in a given situation. To achieve these objectives the Finance Manager performs the following functions:

- **Estimating the requirement of Funds:** Both for long-term purposes i.e. investment in fixed assets and for short-term i.e. for working capital. Forecasting the requirements of funds involves the use of techniques of budgetary control and long-range planning.
- **Decision regarding Capital Structure:** Once the requirement of funds has been estimated, a decision regarding various sources from which these funds would be raised has to be taken. A proper balance has to be made between the loan funds and own funds. He has to ensure that he raises sufficient long term funds to finance fixed assets and other long term investments and to provide for the needs of working capital.
- **Investment Decision:** The investment of funds, in a project has to be made after careful assessment of various projects through capital budgeting. Assets management policies are to be laid down regarding various items of current assets. For e.g. receivable in coordination with sales manager, inventory in coordination with production manager.
- **Dividend decision:** The finance manager is concerned with the decision as to how much to retain and what portion to pay as dividend depending on the company's policy. Trend of earnings, trend of share market prices, requirement of funds for future growth, cash flow situation etc., are to be considered.
- **Evaluating financial performance:** A finance manager has to constantly review the financial performance of the various units of organization generally in terms of ROI Such a review helps the management in seeing how the funds have been utilised in various divisions and what can be done to improve it.
- **Financial negotiation:** The finance manager plays a very important role in carrying out negotiations with the financial institutions, banks and public depositors for raising of funds on favourable terms.
- **Cash management:** The finance manager lays down the cash management and cash disbursement policies with a view to supply adequate funds to all units of organization and to ensure that there is no excessive cash.
- **Keeping touch with stock exchange:** Finance manager is required to analyse major trends in stock market and their impact on the price of the company share.

(c)

(i) The capital structure of J Ltd. is as under:

	₹
Equity shares @₹10 each	**100,00,000**
9% preference shares @₹100 each	**30,00,000**
14% Debentures @₹100 each	**70,00,000**
The market price of these securities are:	
Equity shares	**35 per share**
Preference shares	**120 per share**
Debentures	**110 per debenture**

Other information are:

- **Equity shares have a floatation cost of ₹5 per share. The next year's expected dividend is ₹3 with annual growth of 5%. The company pays all earnings in the form of dividends.**
- **Preference Shares are redeemable at a premium of 10%, have 2% floatation cost and 10 year maturity.**
- **Debentures are redeemable at par, have 4% floatation and 10 per year maturity.**
- **Corporate tax rate is 30%.**

You are required to calculate the weighted average cost of capital using (i) book value weights and (ii) market value weights. [8]

Answer:

$$\text{Cost of capital (Ke)} = \frac{D}{P} + G$$

$$= \frac{3}{(35-5)} + 0.05$$

$$= \frac{3}{30} + 0.05$$

$$= 0.10 + 0.05$$

$$= 0.15 \text{ or } 15\%$$

$$\text{Cost of preference capital (kp)} = \frac{9 + \frac{(110-98)}{10}}{\frac{(110+98)}{2}}$$

$$= \frac{(9+1.2)}{104}$$

$$= 0.098 \text{ Or } 9.8\%$$

$$\text{Cost of Debt (kd)} = \frac{14(1-0.3) + \frac{(100-96)}{10}}{\frac{(100+96)}{2}}$$

$$= \frac{14 \times 0.7 + 0.4}{98}$$

$$= \frac{9.8 + 0.4}{98}$$

$$= 10.2 / 98$$

$$= 0.1041 \text{ or } 10.41\%$$

Calculation of WACC using value weights:

Source of Capital	Book Value (₹)	Weight (W)	Specification (K)	WACC
Equity Shares	100,00,000	0.5	0.15	0.075
9% Preference Shares	30,00,000	0.15	0.098	0.0147
14% Debentures	70,00,000	0.35	0.1041	0.0364
	200,00,000	1.00		0.1261

WACC = 0.1261 or 12.61%

Calculation of WACC using market value weights:

Source of Capital	Book Value (₹)	Weight (W)	Specification (K)	WACC
Equity Shares	350,00,000	0.756	0.15	0.1134

9% Preference Shares	36,00,000	0.078	0.098	0.0076
14% Debentures	77,00,000	0.166	0.1041	0.0173
	463,00,000	1.00		0.1383

WACC = 0.1383 or 13.83%

(ii) Explain how the combined effects of operating and financial leverages provide the risk profile of an organization. [4]

Answer:

The total risk involved in a firm can be determined by combining the operating and financial leverages. The Degree of combined leverage is calculated by multiplying the two leverages. As a rule, a firm having a high operating leverage should have a low financial leverage and vise versa. If a firm has both the leverages at a high level, it will be a very risky proposition because the combined effect of the two is a multiple of these two leverages. As such if a firm has a high operating leverage the financial leverage should be kept low. Thus it will be necessary to have a proper balance between operating and financial leverage of keep the risk profile of a firm within a reasonable limit. Such a situation should also maximize return to shareholders.

(iii) Write a short note on Commercial Paper in India. [4]

Answer:

Issue of Commercial Papers in India:

CP was introduced as a money market instruments in India in January, 1990 with a view to enable the companies to borrow for short term. Since the CP represents an unsecured borrowing in the money market, the regulation of CP comes under the purview of the Reserve Bank of India:

- CP can be issued in multiples of ₹5 Lakhs.
- CP can be issued for a minimum duration of 15 days and maximum period of 12 months.
- For issuing CP the company's net worth should be more than ₹4 crores.
- CP can neither be redeemed before maturity nor can be extended beyond the maturity period.
- CP issue requires a credit rating of P2 from CRISIL or A2 from ICRA.