PUNJAB STATE TRANSMISSION CORPORATION LTD.
Departmental Accounts Examination-2023 (2nd Session)
Category- SAS Part-II Paper-VIII Roll No. .....
Works & Management Accounting
Time allowed: 3 hours Max. marks: 100
Note:- All Questions are compulsory.

Qus.1) Jason Limited is planning to raise additional finance of Rs 20 lakhs for meeting its new project plans. It has Rs. 4,20,000/- in the form of retained earnings available for investment purposes. Further details are as following:-

Debt/Equity Mix	30/70
Cost of Debt	
Upto 3,60,000	8% (before tax)
Beyond 3,60,000	12% (before tax)
Equity Per Share	Rs. 4
Dividend Pay out	50% of earnings
Current Market Price per Share	Rs. 44
Expected Growth rate in Dividend	10%
Tax	40%

You are required:

(a) To determine the cost of retained earnings and cost of equity.

(b) To determine the post-tax average cost of additional debt.

(c) To determine the pattern for raising the additional finance.

(d) Compute the overall weighted average after tax cost of additional finance.

(Marks:5x4=20)

Qus.2(a) Following details are related to a manufacturing concern:-

Re-order Level	1,60,000 units
Economic Order Quantity	90,000
Maximum Stock Level	1,90,000 units
Minimum Stock Level	1,00,000 units
Average Lead Time	6 days
Difference between minimum lead time and Maximum lead time	4 days

Calculate: (i) Maximum consumption per day
(ii) Minimum consumption per day Employee Cost

(b) What are the essential features of Good Cost Accounting System?

(Marks: 10+10=20)

Qus.3 (a) Suggest the units of Cost for following industries:

i. Power
ii. Transport
iii. Hotel
iv. Hospital
v. Steel
vi. Coal Mining
vii. Professional Service
viii. Gas
ix. Engineering
x. Oil

(b) Discuss the Difference between Cost Control and Cost Reduction.

(Marks:10+10=20)

Qus.4 From the following information, find out missing figures and REWRITE the balance sheet of Mukesh Enterprise.

1	Current Ratio	2:1
2	Acid Test ratio	3:2
3	Reserves and surplus	20% of equity share capital
4	Long term debt	45% of net worth
5	Stock turnover velocity	1.5 months
6	Receivables turnover velocity	2 months
7	Gross profit ratio	20%

- Sales is ` 21,00,000 (25% sales are on cash basis and balance on credit basis)
- Closing stock is ` 40,000 more than opening stock.
- Accumulated depreciation is 1/6 of original cost of fixed assets.
- You may assume closing Receivables as average Receivables.
- Balance sheet of the company is as follows:

Liabilities	Rs.	Assets	Rs.
Equity Share Capital	-	Fixed Assets (Cost)	-
Reserves & Surplus	-	Less: Accumulated Depreciation	-
Long Term Loans	6,75,000/-	Fixed Assets (WDV)	-
Bank Overdraft	60,000/-	Stock	-
Creditors	-	Debtors	-
	-	Cash	-
Total	-	Total	-

(Marks:20)

Qus.5 The following data are available from the budget records of Finesign Women's Handbag Company for the forthcoming budget period. `

Sr. No.	Particulars	(Rs.)
1	Selling Price per unit	1000
2	**Variable cost per unit:**	
3	Cost of Material used	750
4	Sales commission	50
5	Total Variable Cost	800
6	**Annual fixed expenses:**	
7	Rent	7,00,000
8	Salaries	11,00,000
9	Other fixed expenses	5,00,000
10	**Total Fixed Cost**	**23,00,000**

Although the firm manufactures Bags with different styles, they have identical purchase costs and selling price.

Requirement:

(a) What is the annual break-even point both in terms of units and value?

(b) If the store manager is paid 1 per cent commission on sales, what would be the annual break-even point both in terms of units and value?

(c) If the firm decides to pay a fixed salary of ` 9,00,000 in lieu of sales commission, what would be the annual break-even point in terms of units and value.
Considering break-even point in requirement (a), If the store's manager is paid 2 per cent commission on each bag sold in excess of the break-even point, what would be the profit if 20000 bags were sold.

(Marks:20)

Model Solution
SAS Part-II
Paper no. VIII
(Works & Management Accounting)

Ans.1

(a) Cost of Equity / Retained Earnings (using dividend growth model)

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

where D1 = Do (1 + g) = 2 (1 + .10) = 2.2

$$Ke = \frac{2.2}{44} + 0.10 = 0.15 \text{ or } 15\ \%$$

(b) Cost of Debt (Post Tax)

Kd = I (1-t)

Upto 3,60,000 Kd = .08 (1-0.4) = 0.048

Beyond 3,60,000 = .12 (1-0.4) = 0.072

Thus, post-tax cost of additional debt = 0.048 x 3,60,000 / 6,00,000 + 0.072 x 2,40,000/ 6,00,000 = 0.0288 + 0.0288 = 0.0576 or 5.76%

(c) Pattern for Raising Additional Finance

Debt = 20,00,000 x 30% = 6,00,000

Equity = 20,00,000 x 70 % = 14,00,000

Out of this total equity amount of ` 14,00,000 -

Equity Shares = 14,00,000 – 4,20,000

= 9,80,000

And Retained Earnings = 4,20,000

(d) Overall Weighted Average after tax cost of additional finance

WACC = Kd x Debt Mix + Ke x Equity Mix = 0.0576 x 30% + 0.15 x 70% = 0.01728 + 0.105 = 0.1223 or 12.23% (approx.)

Ans 2 (a)

Difference between Minimum lead time Maximum lead time =4 days

Max. lead time –Min. lead time=4days

Or, Max. lead time=Min. lead time + 4days ..... (i)

Average lead time is given as 6 days i.e.

$\frac{\text{Max. lead time x Min. lead time}}{2}$ =6days..... (ii)

Putting the value of (i) in (ii),

$\frac{\text{Min. lead time x 4days x Min. lead time}}{2}$

Or, Min. lead time = 4 days + Min. lead time = 12 days

= 8 days

Or., 2 Min. lead time

Or, Minimum lead time = $\frac{8 \text{ days}}{2}$ = 4 days

Putting this Minimum lead time value in (i), we get

Maximum lead time= 4 days + 4 days = 8days

(i) **Maximum consumption per day:**

Re-order level=Max. Re-order period × Maximum Consumption per day

1,60,000 units= 8 days × Maximum Consumption per day

Or, Maximum Consumption per day= $\frac{1,60,000\text{units}}{8\text{days}}$ =20,000 units

(ii) **Minimum Consumption per day:**

Maximum Stock Level=

Re-order level + Re-order Quantity – (Min. lead time × Min. Consumption per day)

Or,1,90,000 units = 1,60,000 units + 90,000 units –(4days × Min. Consumption per day)

Or, 4 days × Min. Consumption per day = 2,50,000 units– 1,90,000 units

Or, Minimum Consumption per day= $\frac{60,000\text{units}}{4 \text{ days}}$ = 15,000 units

Ans. 2(b)

The essential features, which a good cost accounting system should possess, are as follows:

(a) Informative and simple: Cost accounting system should be tailor-made, practical, simple and capable of meeting the requirements of a business concern. The system of costing should not sacrifice the utility by introducing inaccurate and unnecessary details.

(b) Accurate and authentic: The data to be used by the cost accounting system should be accurate and authenticated; otherwise it may distort the output of the system and a wrong decision may be taken.

(c) Uniformity and consistency: There should be uniformity and consistency in classification, *treatment and reporting of cost data and related information*. This is required for benchmarking and comparability of the results of the system for both horizontal and vertical analysis.

(d) Integrated and inclusive: The cost accounting system should be integrated with other systems like financial accounting, taxation, statistics and operational research etc. to have a complete overview and clarity in results.

(e) Flexible and adaptive: The cost accounting system should be flexible enough to*makenecessaryamendmentandmodificationsin*thesystemtoincorporatechanges in technological, reporting, regulatory and other requirements.

(f) Trust on the system: Management should have trust on the system and its output. For this, an active role of management is required for the development of such a system that reflects a strong conviction in using information for decision making.

Ans. 3(a) Sugg

Ans. 3(a) Suggest the units of Cost for following industries:-

Industry or Product	Cost Unit Basis
Transport	Passenger-kilometer
Power	Kilo-watt hour(kWh)
Hotel	Room
Hospitals	Patient day
Steel	Ton
Coalmining	Tonne/ton
Professional services	Chargeable hour, job, contract
Gas	Cubic feet
Engineering	Contract, job
Oil	Barrel, tonne, litre

Ans. 3(b) Difference between Cost Control and Cost Reduction is as follows:-

S.No.	Cost Control	Cost Reduction
1	Cost control aims at maintaining the costs in accordance with the established standards.	Cost reduction is concerned with reducing costs. It challenges all standards and endeavours to Improvise them continuously
2	Cost control seeks to attain lowest possible cost under existing conditions.	Cost reduction recognises no condition as permanent, since a Change will result in lower cost.
3	In case of cost control, emphasis is on past and present	In case of cost reduction ,it is on present and future.
4	Cost control is a preventive function	Cost reduction is a corrective function. It operates even when an Efficient cost control system exists.
5	Cost control ends when targets are achieved.	Cost reduction has no visible end and is a continuous process.

Liabilities	(')	Assets	(')
Equity Share Capital	12,50,000	Fixed Assets(cost)	20,58,000
Reserves & Surplus	2,50,000	Less: Acc. Depreciation	(3,43,000)
Long Term Loans	6,75,000	Fixed Assets(WDV)	17,15,000
Bank Overdraft	60,000	Stock	2,30,000
Payables	4,00,000	Receivables	2,62,500
		Cash	4,27,500
Total	**26,35,000**	Total	**26,35,000**

Working Notes:

(i) Sales — Rs. 21,00,000
Less: Gross Profit(20%) — Rs. 4,20,000
Cost of Goods Sold(COGS) — Rs. 16,80,000

(ii) Receivables Turnover Velocity= $\frac{\text{Average Receivables}}{\text{Credit Sales}} \times 12$

$2 = \frac{\text{Average Receivables}}{21,00,000 \times 75\%} \times 12$

Average Receivables= $\frac{\text{Rs. } 21,00,000 \times 75\% \times 2}{12}$

Average Receivables = Rs. 2,62,500

Closing Receivables = Rs. 2,62,500

(iii) Stock Turnover Velocity= $\frac{\text{Average Stock}}{\text{COGS}} \times 12$

Or1.5= $\frac{\text{Average Stock}}{\text{Rs. } 16,80,000} \times 12$

Or Average Stock= $\frac{\text{Rs.}16,80,000 \times 1.5}{12}$

Or Average Stock=Rs. 2,10,000

$\frac{\text{Opening Stock + Closing Stock}}{2}$ = Rs. 2,10,000

Opening Stock + Closing Stock= Rs. 4,20,000 ..... (1)

Also, Closing Stock-Opening Stock= Rs. 40,000..... (2)

Solving(1)and(2),weget **closing stock= Rs. 2,30,000**

(iv) Current Ratio= $\frac{\text{Current Assets}}{\text{Current Liabilities}} = \frac{\text{Stock + Receivables + Cash}}{\text{Bank Overdraft + Creditors}}$

Or2= $\frac{\text{Rs. } 2,30,000 + \text{Rs. } 2,62,500 + \text{Cash}}{\text{Rs. } 60,000 + \text{Creditors}}$

Or Rs. 1,20,000 + 2 Payables = Rs. 4,92,500 + Cash

Or 2 Payables – Cash.= Rs. 3,72,500

Or Cash= 2 Payables–Rs. 3,72,500 ..... (3)

$$\text{Acid Test Ratio} = \frac{\text{Current Assests - Stock}}{\text{Current Liabilities}} = \frac{\text{Debtor + Cash}}{\text{Current Liabilities}}$$

$$\text{Or } \frac{3}{2} = \frac{\text{Rs. 2,62,500+Cash}}{\text{60,000+Creditors}}$$

Or Rs. 1,80,000+3 Payables=Rs. 5,25,000+2Cash

Or 3 Payables–2 Cash= Rs. 3,45,000 ..... (4)

Substitute(3)in(4)

Or 3 Payables–2(2Payables–Rs. 3,72,500)=Rs. 3,45,000

Or 3 Payables – 4 Payables + Rs. 7,45,000= Rs. 3,45,000

(Payables) = Rs. 3,45,000 – Rs. 7,45,000

Payables=Rs. 4,00,000

So. Cash=2x Rs. 4,00,000–3,72,5000

Cash=Rs. 4,27,500

(v) Long term Debt=45%ofNetWorth

Or Rs. 6,75,000=45%ofNetWorth

Net Worth = 15,00,000

(vi) Equity Share Capital (ESC) + Reserves = Rs. 15,00,000

Or ESC + 0.2 ESC = Rs. 15,00,000

Or1.2 ESC=Rs. 15,00,000

Equity Share Capital(ESC)=12,50,000

(vii) Reserves=0.2 x Rs. 12,50,000

Reserves=Rs. 2,50,000

(viii) Total of Liabilities =Total of Assets

Or Rs. 12,50,000 + Rs. 2,50,000 + Rs. 6,75,000 +Rs. 60,000 + Rs. 4,00,000 = Fixes Assets(FA) (WDV) + Rs. 2,30,000 + Rs. 2,62,000 + Rs. 4,27,500

Or Rs. 26,35,000= Rs. 9,20,000+FA(WDV)

FA (WDV)= Rs. 17,15,000

Now FA (Cost) – Depreciation = FA(WDV)
Or FA (Cost) – FA (Cost)/6 = Rs. 17,15,000
Or 5 FA (Cost) = Rs. 17,15,000
Or FA(Cost) = Rs. 17,15,000 x 6/5

So. FA (Cost) = Rs. 20,58,000
Depreciation = Rs. 20,58,000/6 = Rs. 3,43,000

Ans. 5

(a) P/V ratio = $\frac{\text{Sales per unit - Variable Cost per unit}}{\text{Selling price per unit}} \times 100$

$= \frac{1000 - 800}{1000} \times 100$

$= \frac{200}{1000} \times 100 = 20\%$

Annual BEP in units: $\frac{\text{Annual fixed cost}}{\text{Contribution per unit}}$

$= \frac{\text{Rs. } 23,00,000}{\text{Rs. } 200} = 11,500 \text{ units}$

Annual BEP in value: $\frac{\text{Annual fixed cost}}{\text{P / V ratio}}$

$\frac{\text{Rs. } 23,00,000}{\text{Rs. } 20\%} = \text{Rs. } 1,15,00,000$

(b) **Revised P/V ratio and BEP :**

commission on sales per unit= 1% of 1,000= Rs. 10

So, P/V ratio : $\frac{1000 - (750 + 50 + 10)}{1000}$

$= \frac{190}{1000} \times 100 = 19\%$

BEP in terms of units: $\frac{\text{Annual fixed cost}}{\text{Contribution per unit}}$

$= \frac{23,00,000}{190} = 12,106 \text{ units}$

BEP in terms of value: $\frac{\text{Annual fixed cost}}{\text{P / V}}$

$= \frac{23,00,000}{19\%} = \text{Rs. } 1,21,05,263$

(c) **Break-even point under fixed salary plan:**

$$P/V \text{ ratio} = \frac{\text{Contribution per unit}}{\text{Selling price per unit}} = \frac{1000 - 750}{1000} \times 100 = \frac{250}{1000} \times 100 = 25\%$$

Revised fixed cost :

Original fixed cost	Rs. 23,00,000
Proposed fixed salary	Rs. 9,00,000
Total	Rs. 32,00,000

$$\text{BEP in terms of units: } \frac{\text{Annual fixed cost}}{\text{Contribution per unit}} = \frac{32,00,000}{250} = 12,800 \text{ units}$$

$$\text{BEP in terms of value: } \frac{\text{Annual fixed cost}}{\text{P / v ratio}} = \frac{32,00,000}{25\%} = 1,28,00,000$$

(d) Annual break-even point under requirement (a) is 11,500 units.

Margin of safety at sales volume of 20,000 unit of bags (20,000 – 11,500) = 8500 units

Contribution on sales beyond break-even sales:

Revised contribution per unit: 200 – (2% of 1000) = 180

Profit = Margin of safety (in units) x Contribution per unit = 8500 x 180 = Rs. 15,30,000