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SUGGESTED SOLUTION

I.P.C.C MAY 2014 EXAM

COST ACCOUNTING & FINANCIAL MANAGEMENT

Prelims (Test Code - I M J 4 0 6 8)

(Date: 11 April, 2014)

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Ans. 1
(a)

Calculation of cost:

| | Standard | | | Revised | | | Actual | | |
|--------------|------------|----|--------------|------------|----|-----------------|------------|-----|--------------|
| A | 80 | 20 | 1,600 | 80.89 | 20 | 1,617.80 | 90 | .18 | 1,620 |
| B | 120 | 30 | 3,600 | 121.33 | 30 | 3,639.90 | 110 | 34 | 3,740 |
| | 200 | | 5,200 | 202.22 | | 5,257.70 | 200 | | 5,360 |
| | 20 | | | 20.22 | | | 20 | | |
| Total | 180 | | 5,200 | 182 | | 5,257.70 | 180 | | 5,360 |

Calculation of Variance:

| Material Cost Variance=Standard Cost–Actual Cost =5257.70–5360 =102.30 Adverse | | | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------|------------------------------------------------------------------------------------------|----------------|
| | Material Price Variance (SP–AP)×AQ | | Material Usage Variance (SQ–AQ) ×SP | |
| A | (20–18) ×90 | 180F | (80.89–90) ×20 | 182.20A |
| B | (30–34) ×110 | 440A | (121.33–110) ×30 | 339.90F |
| | | 260A | | 157.70F |
| | Material Mix Variance SP × (Std. Mix for Act. Qty. – Act. Mix. for Act. Qty.) | | Material sub-usage Variance SP × (Std. Mix for Act. Qty. – Std. Mix for Std. Qty.) | |
| A | 20 ×(80–90) | 200A | 20 ×(80.89–80) | 17.8F |
| B | 30 ×(120–110) | 300F | 30 ×(121.33–120) | 39.9F |
| | | 100F | | 57.7F |

(b)

$$1. \text{ P/V ratio} = \frac{\text{Change in profit}}{\text{Change in sales}} \times 100$$

$$= \frac{14,000-10,000}{90,000-80,000} \times 100$$

$$= \frac{4,000}{10,000} \times 100$$

$$\therefore \text{ P/V ratio} = \left(\frac{4}{10} \times 100 \right) = 40\%$$

2. Calculation of Break-even point

$$\text{Sales} \times \text{P/V ratio} - \text{Fixed cost} = \text{Profit}$$

$$80,000 \times \text{P/V ratio} - \text{Fixed cost} = 10,000$$

$$\therefore \text{ Fixed cost} = 80,000 \times 40\% - 10,000 = ₹22,000$$

$$\text{Break-even sales} = \frac{\text{Fixed cost}}{\text{P/V Ratio}} = \frac{\text{Rs.22,000}}{40\%} = ₹55,000$$

3. Sales × P/V ratio – Fixed cost = Profit (loss)

$$₹50,000 \times 40\% - ₹22,000 = \text{Profit (loss)}$$

$$\therefore \text{ Profit} = ₹20,000 - ₹22,000$$

$$\therefore \text{ (Loss)} = ₹2,000$$

Therefore, when sales is ₹50,000 then loss of ₹2,000 is incurred.

4. Sales × P/V ratio – Fixed cost = Profit

$$\text{Sales} \times 40\% - ₹22,000 = ₹19,000$$

$$\text{Sales} \times 40\% = ₹19,000 + ₹22,000$$

$$\therefore \text{ Sales} = \frac{\text{Rs.41,000}}{40\%} = ₹1,02,500$$

Hence, required sales = ₹1,02,500

5. Margin of Safety = Total sales – Break-even sales = ₹60,000 – ₹55,000 = ₹5,000

(c)

WACC based on Market Value weights

| Capital Source | Market value | Weights | Cost of capital | WACC |
|--------------------------|--------------|---------|-----------------|-------|
| Equity capital | 80 | 53.33 | 18 | 9.60 |
| Preference Share Capital | 30 | 20.00 | 15 | 3.00 |
| Debentures | 40 | 26.67 | 14 | 3.73 |
| | 150 | 100 | | 16.33 |

The weighted average cost of capital of the company based on market value is 16.33%

WACC based on Book Value weights

| Capital Source | Book value (₹) | Weights | Cost of capital | WACC |
|--------------------------|----------------|---------|-----------------|-------|
| Equity capital | 120 | 66.67 | 18 | 12.00 |
| Preference Share Capital | 20 | 11.11 | 15 | 1.67 |
| Debentures | 40 | 22.22 | 14 | 3.11 |
| | 180 | 100 | | 16.78 |

The weighted average cost of capital of the company based on book value is 16.78%

(d)

1. Dividend yield on ordinary shares:

Dividend per share = 20% of paid up value = ₹0.20

Therefore, Dividend yield = $\left(\frac{\text{DPS}}{\text{Market Price}}\right) \times 100 = \left(\frac{0.20}{4}\right) \times 100 = 5\%$

2. Cover for Preference and Equity Dividends:

i. Preference Dividend Cover = $\frac{\text{PAT}}{\text{Preference Dividend}} = \frac{\text{Rs.5,42,000}}{\text{Rs.42,000}} = 12.9 \text{ times}$

ii. Equity dividend cover = $\frac{(\text{PAT} - \text{Preference Dividend})}{\text{Equity Dividend}} = \frac{\text{Rs.5,00,000}}{\text{Rs.3,20,000}} = 1.56 \text{ times}$

3. Earning Yield

= $\frac{\text{EPS}}{\text{Market Price}} = \frac{\text{Rs.5,00,000} \div \text{Rs.16,00,000}}{\text{Rs.4}} = 7.8\%$

4. Price/Earnings Ratio

= $\frac{\text{Market Price}}{\text{EPS}} = \frac{\text{Rs.4}}{\text{Rs.0.31}} = 12.9$

5. Net Cash Flow:

| | |
|--------------------------------------|-----------------|
| Profit after tax | 5,42,000 |
| Add: Depreciation | 1,20,000 |
| Less: Dividends on Preference shares | 42,000 |
| Less: Dividends | 3,20,000 |
| Net Cash flow | <u>3,00,000</u> |

Ans. 2

(a)

1.

**Amit Industrial Corporation Ltd. Statement of changes
in financial position on total resources for the Current year ending March 31**

| Sources of Working Capital: | Amount (₹) |
|--------------------------------------|------------|
| Fund from Business operations: (WN1) | 39,405 |
| Issue of long term liabilities: | |

| | |
|-----------------------------------------------------------------------|--------|
| Issue of equity share (for the purchase of assets of another company) | 37,500 |
| Total financial resources provided [A] | 76,905 |
| Uses of Working Capital: | |
| Purchase of non-current assets: | |
| Plant for cash | 4,237 |
| Machinery (in exchange for equity shares) | 13,770 |
| Goodwill (in exchange for equity shares) | 7,500 |
| Recurring payments to investors: | |
| Dividends paid | 19,500 |
| Total Financial Resources used [B] | 45,007 |
| Increase in working capital (sources-uses) [A–B] | 31,898 |

Working Notes:

| | | |
|-------------------------------------------------------------|-------|----------|
| (i) Determination of funds from business operations | | ₹ |
| Profit and Loss A/c balance as on March 31, current year | | 30,915 |
| Add: Depreciation: Property | 3,188 | |
| Machinery | 8,070 | 11,258 |
| Dividends | | 19,500 |
| Transfer to Reserve [30,000–22,500] | | 7,500 |
| | | 69,173 |
| Less: Profit and Loss balance as on March 31, Previous year | | (29,768) |
| Funds from business operations | | 39,405 |

2.

Schedule of Changes in Working Capital

| | Year | | Working Capital | |
|-----------------------------------------------------------|----------------|----------------|-----------------|---------------|
| | Previous ₹ | Current ₹ | Increase (+) ₹ | Decrease(–) ₹ |
| Current Assets: | | | | |
| Stock | 82,500 | 69,000 | | 13,500 |
| Trade Debtors | 64,620 | 52,073 | | 12,547 |
| Cash and Bank | 1,125 | 8,250 | 7,125 | |
| Pre-payments | 2,527 | 750 | | 1,777 |
| | 150,772 | 130,073 | | |
| Current Liabilities: | | | | |
| Creditors | 29,250 | 31,245 | | 1,995 |
| Bills payable | 25,342 | 8,250 | 17,092 | |
| Bank overdraft | 45,000 | - | 45,000 | |
| Provision for taxation | 30,000 | 37,500 | | 7,500 |
| | 129,592 | 76,995 | | |
| Networking Capital (Current assets – Current liabilities) | 21,180 | 53,078 | | |
| Increase in networking Capital | 31,898 | - | | 31,898 |
| | 53,078 | 53,078 | 69,217 | 69,217 |

(b)

1.

| Halsey's Premium Plan: | Worker – Amar | Worker - Bimal |
|-------------------------------------|-----------------------------------------------------|-----------------------------------------------------|
| Actual time taken | 40 hours | 40 hours |
| Standard time for actual Production | 176 Pcs × $\frac{15 \text{ Min.}}{60 \text{ Min.}}$ | 140 Pcs × $\frac{15 \text{ Min.}}{60 \text{ Min.}}$ |
| | =44 hours | =35 hours |
| Minimum Wages | 40 hours × ₹40 | 40 hours × ₹40 |
| | ₹1,600 | ₹1,600 |
| Bonus | 50% (44 – 40) × ₹40 = ₹80 | No bonus |
| Earnings | ₹1,680 | ₹1,600 |

Rowan's Premium Plan:

| | | |
|--------------------------|----------------------------------------------|----------|
| Minimum Wages (as above) | ₹1,600 | ₹1,600 |
| Bonus | $\frac{4}{49} \times 40 \times 40 = ₹145.45$ | No bonus |
| Earning | ₹1,745.45 | ₹1,600 |

2.

| Differential Piece rate | Worker – Amar | Worker - Bimal |
|-------------------------|------------------------------------------------------|-----------------------------------------------------|
| Efficiency | $\frac{176}{60} \times 100 = 110\%$ | $\frac{140}{60} \times 100 = 87.5\%$ |
| Earning | $₹10 \times 120\% \times 176 \text{ Pcs}$ = ₹2112 | $₹10 \times 80\% \times 140 \text{ Pcs}$ = ₹1120 |

Ans. 3

(a)

Process I A/c

| Particulars | Total (₹) | Cost (₹) | Profit (₹) | Particulars | Total (₹) | Cost (₹) | Profit (₹) |
|---------------------|------------------|-----------------|-----------------|----------------|------------------|-----------------|-----------------|
| To Opening Stock | 1,50,000 | 1,50,000 | - | By Transfer to | 10,80,000 | 8,10,000 | 2,70,000 |
| To Direct Material | 3,00,000 | 3,00,000 | - | Process II | | | |
| To Direct Wages | 2,24,000 | 2,24,000 | - | | | | |
| | 6,74,000 | 6,74,000 | | | | | |
| Less: Closing Stock | (74,000) | (74,000) | - | | | | |
| Prime Cost | 6,00,000 | 6,00,000 | - | | | | |
| To Overheads | 2,10,000 | 2,10,000 | - | | | | |
| To Process Cost | 8,10,000 | 8,10,000 | - | | | | |
| Profit 33½% of cost | 2,70,000 | - | 2,70,000 | | | | |
| | 10,80,000 | 8,10,000 | 2,70,000 | | 10,80,000 | 8,10,000 | 2,70,000 |

Process II A/c

| Particulars | Total (₹) | Cost (₹) | Profit (₹) | Particulars | Total (₹) | Cost (₹) | Profit (₹) |
|-----------------------------------------------|------------------|------------------|-----------------|-----------------------------------|------------------|------------------|-----------------|
| To Opening Stock | 1,80,000 | 1,50,000 | 30,000 | By Transfer to Finished Stock A/c | 22,50,000 | 15,15,000 | 7,35,000 |
| To Direct Material | 3,15,000 | 3,15,000 | - | | | | |
| To Direct Wages | 2,25,000 | 2,25,000 | - | | | | |
| To Transfer from Process A/c | 10,80,000 | 8,10,000 | 2,70,000 | | | | |
| | 18,00,000 | 15,00,000 | 3,00,000 | | | | |
| Less: Closing Stock (W.N. 1) | (90,000) | (75,000) | (15,000) | | | | |
| Prime Cost | 7,10,000 | 14,25,000 | 2,85,000 | | | | |
| To Factory Overhead | 90,000 | 90,000 | | | | | |
| Total Cost: | 18,00,000 | 15,15,000 | 2,85,000 | | | | |
| Profit 20% on transfer price i.e. 25% on cost | 4,50,000 | | 4,50,000 | | | | |
| | 22,50,000 | 15,15,000 | 7,35,000 | | 22,50,000 | 15,15,000 | 7,35,000 |

Working Notes:

1. Profit element in closing stock = $\frac{3,00,000}{18,00,000} \times 90,000 = ₹15,000$

Finished Stock A/c

| Particulars | Total (₹) | Cost (₹) | Profit (₹) | Particular | Total (₹) | Cost (₹) | Profit (₹) |
|------------------------------|------------|------------|------------|------------|-----------|-----------|------------|
| To Opening Stock | 4,50,000 | 2,85,000 | 1,65,000 | By Sales | 28,00,000 | 16,50,000 | 11,50,000 |
| To Transfer from Process II | 22,50,000 | 15,15,000 | 7,35,000 | | | | |
| | 27,00,000 | 18,00,000 | 9,00,000 | | | | |
| Less: Closing Stock (W.N. 2) | (2,25,000) | (1,50,000) | (75,000) | | | | |
| Total Cost | 24,75,000 | 16,50,000 | 8,25,000 | | | | |

| | | | | | | | |
|---------------------------|------------------|------------------|------------------|--|------------------|------------------|------------------|
| Profit (Balancing Figure) | 3,25,000 | - | 3,25,000 | | | | |
| | 28,00,000 | 16,50,000 | 11,50,000 | | 28,00,000 | 16,50,000 | 11,50,000 |

Working Notes:

2. Profit element in closing stock = $\frac{9,00,000}{27,00,000} \times 2,25,000 = ₹75,000$

Calculation of Profit on Sale

| Process | Apparent Profit (₹) | Add Unrealised Profit in Opening Stock (₹) | Less Unrealised Profit in Closing Stock (₹) | Actual Profit (₹) |
|-------------|------------------------|-----------------------------------------------|------------------------------------------------|----------------------|
| Process-I | 2,70,000 | - | - | 2,70,000 |
| Process-II | 4,50,000 | 30,000 | (15,000) | 4,65,000 |
| Process-III | 3,25,000 | 1,65,000 | (75,000) | 4,15,000 |
| | | | | 11,50,000 |

(b)

1. Total Assets ₹40 Lakhs
Total Assets Turnover 3

Income Statement

| Particulars | ₹in Lakhs |
|-------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| Total sales (₹40 Lakhs × 3) | 120 |
| Less: Variable cost (80%) | (96) |
| Contribution | 24 |
| Less: Fixed Costs | (8) |
| Net Profit (EBIT) | 16 |
| Less: Interest on debentures | (3) |
| Profit before tax (PBT) | 13 |
| Less: Tax @ 50% | (6.5) |
| Profit after tax (PAT) | 6.5 |
| Earning per share = $\frac{\text{Profit after tax}}{\text{No. of equity shares}} = \frac{\text{Rs.6,50,000}}{1,00,000} = ₹6.50$ per share | |

2. Operating Leverage = $\frac{\text{Contribution}}{\text{EBI}} = \frac{24}{16} = 1.5$

3. Financial Leverage = $\frac{\text{EBIT}}{\text{PBT}} = \frac{16}{13} = 1.23$

4. Combined Leverage = $\frac{\text{Contribution}}{\text{EBIT}} \times \frac{\text{EBIT}}{\text{PBT}} = 1.5 \times 1.23 = 1.85$

5. Current Ratio = $\frac{\text{Current Assets}}{\text{Current Liabilities}} = \frac{15}{8} = 1.88$

Ans. 4

(a)

| | | |
|-----------------------------------|-----------------|----------------|
| | Pre | Que |
| Selling price | 16,000 | 8,000 |
| Less: Profit | <u>(4,000)</u> | <u>(1,600)</u> |
| | 12,000 | 6,400 |
| Total cost | 18,400 | |
| Less: Further processed cost | (8,000) | |
| Less: Joint cost | <u>(10,000)</u> | |
| Selling and distribution expenses | <u>400</u> | |
| | Pre | Que |
| Selling and distribution | 267 | 133 |

expenses

Apportionment of joint cost

| | Pre | Que |
|---------------------|----------------|----------------|
| Selling price | 16,000 | 8,000 |
| Less: Profit | (4,000) | (1,600) |
| Selling expenses | (267) | (133) |
| Subsequent costs | <u>(5,000)</u> | <u>(3,000)</u> |
| Share of joint cost | <u>6,733</u> | <u>3,267</u> |

(b)

| | Particulars | Amount (₹) |
|----|--------------------------------------|------------------|
| 1. | Total Manufacturing expenses | |
| | Sales | 24,00,000 |
| | Less: Gross profit 20% | (4,80,000) |
| | Manufacturing cost | 19,20,000 |
| | Less: Material (6,00,000) | |
| | Wages (4,80,000) | <u>10,80,000</u> |
| | Manufacturing expenses | 8,40,000 |
| 2. | Cash manufacturing expenses | 6,00,000 |
| 3. | Depreciation (₹8,40,000 – ₹6,00,000) | 2,40,000 |
| 4. | Cost of Sales (Cash Expenses) | |
| | Manufacturing Cost | 19,20,000 |
| | Less: Depreciation | (2,40,000) |
| | Cash cost of manufacture | 16,80,000 |
| | Add: Administrative expenses | 1,50,000 |
| | Sale promotion expenses | <u>75,000</u> |
| | Total Cash Cost | 19,05,000 |
| 5. | Cash in hand | ₹80,000 |

Computation of Working Capital

| Particulars | Amount (₹) |
|-------------------------------------------------------|---------------------------|
| Current Assets | |
| Debtors (₹19,05,000/6) | 3,17,500 |
| Sales promotion expenses prepaid (₹75,000/4) | 18,750 |
| Raw materials (₹6,00,000/12) | 50,000 |
| Finished goods (₹16,80,000/12) | 1,40,000 |
| Cash in hand | 80,000 |
| | (A) 6,06,250 |
| Current Liabilities | |
| Sundry creditors (₹6,00,000/6) | 1,00,000 |
| Manufacturing expenses (₹6,00,000/12) | 50,000 |
| Administrative expenses (₹1,50,000/12) | 12,500 |
| Wages due (₹4,80,000/12) | 40,000 |
| | (B) 2,02,500 |
| Working Capital | (A) – (B) 4,03,750 |
| Add: 10% Safety margin | 40,375 |
| Working Capital requirement on Cash Cost Basis | 4,44,125 |

Ans. 5

(a) **Cost allocation:** It is defined as the allotment of whole items of cost to cost centers. It is the process of identifying, aggregating, and assigning costs to cost objects. A cost object is any activity or item for which you want to separately measure costs. The very term “allocation” implies that there is no overly precise method available for charging a cost to a cost object, so the allocating entity is using an approximate method for doing so. For example, if a typist works exclusively for board of studies, then the salary paid to him or her should be charged to board of studies account. This technique of charging the entire overhead expenses to a cost centre are known as cost allocation.

Cost absorption: It is defined as the process of absorbing all overhead costs allocated to or apportioned over particular cost centre or production department by the units produced. Cost absorption can take place only after cost allocation. An example of cost absorption would be the application of factory overhead costs to processing departments using a pre-determined overhead rate.

(b) Advantages of Integrated Accounting System:

The following are the main advantages:

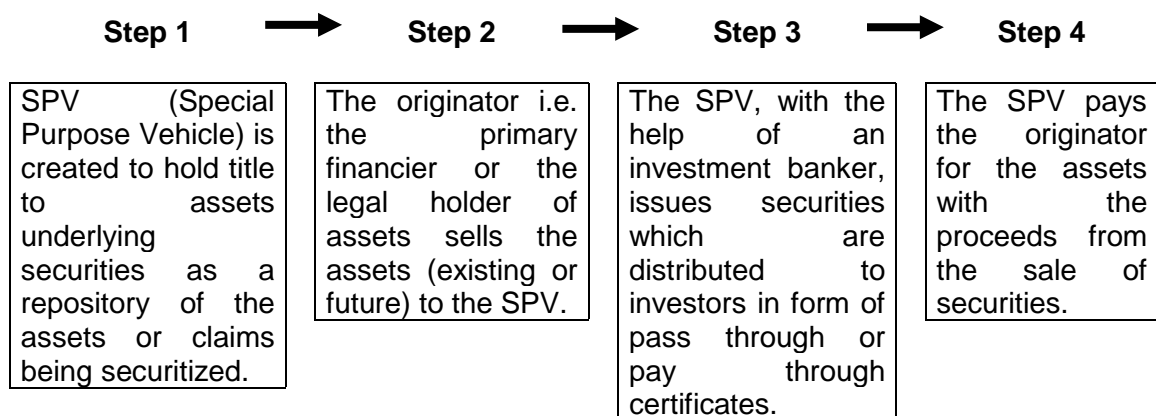
1. Since there is one set of accounts, thus there is one figure of profit. Hence, the question of reconciliation of costing profit and financial profit does not arise.
2. Efforts in duplicate recording of entries & to maintain separate sets of books are saved. Thus, there is saving of time and labour.
3. The operation of the system is facilitated with the use of mechanized accounting.
4. Costing data are available from books of original entry and hence, no delay is caused in obtaining information.
5. Combination of two sets of books and centralisation of accounting function results in economy.
6. Complete analysis of cost and sales is kept.
7. Complete details of all receipts and payments in cash are kept.
8. Complete details of all assets and liabilities are kept and this system does not use national account to represent impersonal accounts.
9. Since financial books are subject to a rigorous accuracy, checking integrated accounts ensures similar checks for cost account.

(c) Modigliani and Miller begin by making several assumptions about capital market and about firms. These assumptions simplify their analysis and focus it entirely on the valuation effect or debt. The M & M assumptions are as follows:

1. Capital markets are frictionless, meaning that neither firms nor investors pay taxes or transactions costs.
 2. Investors can borrow and lend at the same rate as that of corporations.
 3. Firms are identical in every respect except for capital structure.
- Using these assumptions, M & M put forth two propositions, detailed below.

(d)

- Securitization is a process in which liquid assets are pooled into marketable securities that can be sold to investors.
- The process leads to the creation of financial instruments that represent ownership interest in or secured by a segregated income producing asset or pool of assets.
- These assets are generally secured by personal or real property.



- Process of securitization is generally without recourse (investor bears the credit risk or risk of default).
- Issuer has a right to legal recourse in the event of default.
- The risk run by investors can be further reduced through credit Enhancement facilities like insurance, letter of credit and guarantees.

Ans. 6

(a)

1. **Statement of budget profitability**

| Products | P | Q | R | Total |
|--------------------------------------------|----------|----------|----------|-----------------|
| Budgeted quantity (units): (A) | 9,750 | 7,800 | 7,800 | |
| | ₹ | ₹ | ₹ | ₹ |
| Selling price (per unit): (B) | 270 | 280 | 400 | |
| Variable cost (per unit): | | | | |
| Direct materials: | 64 | 152 | 117 | |
| Direct labour | 160 | 94 | 222 | |
| Variable overheads | 16 | 9 | 21 | |
| Total variable cost (per unit): (C) | 240 | 255 | 360 | |
| Contribution (per unit): (D) = [(B) – (C)] | 30 | 25 | 40 | |
| Total contribution: (A) × (D) | 2,92,500 | 1,95,000 | 3,12,000 | 7,99,500 |
| Less: Fixed cost | | | | 4,00,000 |
| Profit | | | | 3,99,500 |

2. **Statement of budget profitability**

| Particulars | P | Q | R | Total |
|------------------------------------|---------------|---------------|---------------|-----------------|
| Contribution (per unit): (₹)(A) | 30 | 25 | 40 | |
| [Refer to part (a) above] | | | | |
| Direct labour hours in Dep2. (B) | 5 | 4 | 7 | |
| Contribution per hour: (A ÷ B) (₹) | 6 | 6.25 | 5.71 | |
| Ranking | II | I | III | |
| Optimal product mix units: (C) | 11,700 | 9,750 | 5,292 | |
| (Refer to Working Notes 1 and 2) | (58,500 hrs.) | (39,000 hrs.) | (37,044 hrs.) | |
| Total contribution (₹) (A) × (C) | 3,51,000 | 2,43,750 | 2,11,680 | 8,06,430 |
| Less: Fixed cost (₹) | | | | (4,00,000) |
| Optional Profit | | | | 4,06,430 |

Working Notes:

1. **Total hours available in department 2**

| Products (a) | Units (b) | Hrs. (p. u.) (c) | Total hrs. (d) = (b) × (c) |
|-----------------|--------------|---------------------|-------------------------------|
| P | 9,750 | 5 | 48,750 |
| Q | 7,800 | 4 | 31,200 |
| R | 7,800 | 7 | 54,600 |
| | | | 1,34,550 |

2. **Maximum sales quantities of products (under improved market conditions)**

| Products | Units | Increase in percentage | Total number of units |
|----------|-------|------------------------|-----------------------|
| P | 9,750 | 20 | 11,700 |
| Q | 7,800 | 25 | 9,750 |
| R | 7,800 | 25 | 9,750 |

(b)

1. **Computation of pay back period (₹in lakhs)**

| Year | Machine – X | Cumulative Cash Flows | Machine – Y | |
|------|------------------|-----------------------|------------------|---------------------------|
| | Cash Inflows (₹) | | Cash Inflows (₹) | Cumulative Cash Flows (₹) |
| 1 | 1.5 | 1.5 | 0.5 | 0.5 |
| 2 | 2.0 | 3.5 | 1.5 | 2.0 |
| 3 | 2.5 | 6.0 | 2.0 | 4.0 |
| 4 | 1.5 | 7.5 | 3.0 | 7.0 |
| 5 | 1.0 | 8.5 | 2.0 | 9.0 |

Pay Back Period (Machine X) = $2 + \frac{1.5}{2.5} = 2.6$ years

Pay Back Period (Machine Y) = 3 = $1\frac{1}{3}$ = 3.33 years

2. Statement Showing Computation of N.P.V

| Particulars | Year | P.V.F. @ 10% | Machine X | | Machine Y | |
|----------------------|------|--------------|------------|----------|------------|---------------|
| | | | Amount (₹) | P.V. (₹) | Amount (₹) | P.V. (₹) |
| Cash Outflows | | | | | | |
| Initial Investment | 0 | 1 | 5 | 5 | 5 | 5 |
| P.V.CO.(A) | | | | 5 | | 5 |
| Cash Inflows | | | | | | |
| | 1 | 0.909 | 1.5 | 1.3635 | 0.5 | 0.4545 |
| | 2 | 0.826 | 2.0 | 1.6520 | 1.5 | 1.2390 |
| | 3 | 0.751 | 2.5 | 1.8775 | 2.0 | 1.5020 |
| | 4 | 0.683 | 1.5 | 1.0245 | 3.0 | 2.0490 |
| | 5 | 0.621 | 1.0 | 0.6210 | 2.0 | <u>1.2420</u> |
| P.V.C.I. (B) | | | | 6.5385 | | 6.4865 |
| N.P.V. {(B) - (A)} | | | | 1.5385 | | 1.4865 |

3. Profitability Index = $\frac{\text{P.V.Cash Inflows}}{\text{P.V.Cash Outflows}}$

Machine X = $\frac{6.5385}{5.0} = 1.3077$

Machine Y = $\frac{6.4865}{5.0} = 1.2973$

4.

Machine X

| Year | CFAT | Depreciation | PAT |
|------|------------|--------------|------------|
| 1 | 1.5 | 1 | 0.5 |
| 2 | 2.0 | 1 | 1.0 |
| 3 | 2.5 | 1 | 1.5 |
| 4 | 1.5 | 1 | 0.5 |
| 5 | 1.0 | 1 | 0 |
| | 8.5 | 5 | 3.5 |

Average PAT = $\frac{3.5}{5} = 0.7$ **OR**

Average PAT = $\frac{(8.5 - 5)}{5} = 0.7$

ARR (Total Investment Approach)

= $\frac{\text{Average P.A.T}}{\text{Total Investment}} \times 100 = \frac{0.7}{5} \times 100 = 14\%$

Machine Y

| Year | CFAT | Depreciation | PAT |
|------|------------|--------------|------------|
| 1 | 0.5 | 1.0 | (0.5) |
| 2 | 1.5 | 1.0 | 0.5 |
| 3 | 2.0 | 1.0 | 1.0 |
| 4 | 3.0 | 1.0 | 2.0 |
| 5 | 2.0 | 1.0 | 1.0 |
| | 9.0 | 5.0 | 4.0 |

Average PAT = $\frac{4.0}{5} = 0.8$

ARR (Total Investment Approach) = $\frac{0.8}{5} = 16\%$

Ans. 7

(a)

1. Marginal Costing:

(i) The fixed production overhead is treated as period cost. It is charged at the period for which it is incurred.

(ii) The opening and closing stocks are valued at variable production cost. The profit arrived under marginal costing is realistic profit.

2. Absorption Costing:

(i) The fixed production overhead recovery rate is calculated on the basis of normal production. Overhead is charged on the quantity produced. Hence it is initially treated as product cost. If the actual production quantity is different from budgeted quantity, then there may arise under recovery or over recovery of fixed production overhead. It is finally adjusted with the cost of sales.

(ii) The opening / closing stock is valued at total cost per unit (variable + fixed). Hence the profit under absorption costing differs from profit under marginal costing.

(b)

| Bin Card | Store Ledger |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> • It contains records regarding quantity of receipts, issues, and balances of material. | <ul style="list-style-type: none"> • It contains both quantity and value of materials. |
| <ul style="list-style-type: none"> • It is maintained by the storekeeper. | <ul style="list-style-type: none"> • It is written up by the costing department. |
| <ul style="list-style-type: none"> • Transfer of material from one department to another or from one job to another do not to appear in bin card. | <ul style="list-style-type: none"> • Such transfer, as department to department or from one job to another is maintained. |
| <ul style="list-style-type: none"> • Posting bin card is made simultaneously, i.e., at the time of receipt and issue of made material. | <ul style="list-style-type: none"> • Entries in store ledger are made after the transaction. |

(c)

1. **Cash management:** The efficient collection and payment of cash both inside the group and to third parties is the function of the treasury department. The involvement of the department with the details of receivables and payables will be a matter of policy. There may be complete centralization within a group treasury, or the treasury may simply advise subsidiaries and divisions on policy (collection/payment periods, discounts, etc.). Any position between these two extremes would be possible. Treasury will normally manage surplus funds in an investment portfolio. Investment policy will consider future heads for liquid funds and acceptable levels of risk as determined by company policy.

2. **Currency Management:** The treasury department manages the foreign currency risk exposure of the company. In a large multinational company (MNC) the first step will usually be to set off intra-group indebtedness. The use of matching receipts and payments in the same currency will save transaction costs. Treasury might advise on the currency to be used when invoicing overseas sales.

3. **Funding Management:** Treasury department is responsible for planning and sourcing the company's short, medium and long-term cash needs. Treasury department will also participate in the decision on capital structure and forecast future interest and foreign currency rates.

4. **Banking:** It is important that a company maintains a good relationship with its bankers. Treasury department carry out negotiations with bankers and act as the initial point of contact with them. Short-term finance can come in the form of bank loans or through the sale of commercial paper in the money market.

5. **Corporate Finance:** Treasury department is involved with both acquisition and divestment activities within the group. In addition it will often have responsibility for investor relations. The latter activity has assumed increased importance in markets where share-price performance is regarded as crucial and may affect the company's ability to undertake acquisition activity or, if the price falls drastically, render it vulnerable to a hostile bid.

(d) Advantages of Profit Maximization

1. Easy to calculate profits
 2. Easy to determine the link between financial decision and profits.
 3. Must for survival of business, else capital is lost.
 4. Essential for growth and development of business
 5. Only profit-making firms can pursue social obligations
- Disadvantages.

(e)

1. Many large firms operate different divisions in different industries, and for such companies it is difficult to develop a meaningful set of industry averages. Therefore, ratio analysis is more useful for small, narrowly focused firms than for large, multidivisional ones.
2. Most firms want to be better than average, so merely attaining average performance is not necessarily good. As a target for high-level performance, it is best to focus on the industry leaders' ratios. Benchmarking helps in this regard.
3. Inflation may have badly distorted firms' balance sheets - recorded values are often substantially different from "true" values.
4. Seasonal factors can also distort a ratio analysis.
5. Firms can employ "window dressing" techniques to make their financial statements look stronger.
6. Different accounting practices can distort comparisons.
7. It is difficult to generalize whether a particular ratio is "good" or "bad."
8. A firm may have some ratios that look "good" and others that look "bad" making it difficult to tell whether the company is, on balance, strong or weak.

Ratio analysis is useful, but analysts should be aware of these problems and make adjustments as necessary. Ratio analysis conducted in a mechanical, unthinking manner is dangerous, but used intelligently and with good judgment, it can provide useful insights into a firm's operations.

MARKS ALLOCATION SHEET

| Que. No. | Sub point No.(if any) | Name of Chapter | Description of Concept | Mark Allocation | Total Marks |
|-----------------|------------------------------|----------------------------|-------------------------------------------------|------------------------|--------------------|
| 1(a) | - | Standard costing | Calculation of material cost variance | 1 | |
| 1(a) | - | Standard costing | Calculation of price variance | 1 | |
| 1(a) | - | Standard costing | Calculation of usage variance | 1 | |
| 1(a) | - | Standard costing | Calculation of mix variance | 1 | |
| 1(a) | - | Standard costing | Calculation of sub-usage variance | 1 | 5 |
| 1(b) | - | Marginal costing | Calculation of P/V Ratio | 1 | |
| 1(b) | - | Marginal costing | Calculation of BEP | 1 | |
| 1(b) | - | Marginal costing | Calculation of P / L at 50,000 | 1 | |
| 1(b) | - | Marginal costing | Calculation of sales at 90,000 profit | 1 | |
| 1(b) | - | Marginal costing | Calculation of MOS | 1 | 5 |
| 1(c) | - | Cost of capital | Calculation of WACC on Market value | 2.5 | |
| 1(c) | - | Cost of capital | Calculation of WACC on Book t value | 2.5 | 5 |
| 1(d) | - | Ratio Analysis | Calculation of dividend yield | 1 | |
| 1(d) | - | Ratio Analysis | Calculation of Preparation & ordinary dividends | 1 | |
| 1(d) | - | Ratio Analysis | Calculation of earning yield | 1 | |
| 1(d) | - | Ratio Analysis | Calculation of price earning ratio | 1 | |
| 1(d) | - | Ratio Analysis | Calculation of net cash flow | 1 | 5 |
| 2(a) | - | Cash flow statement | Statement of charges in financial position | 4 | |
| 2(a) | - | Cash flow statement | Calculation of funds from business operation | 2 | |
| 2(a) | - | Cash flow statement | Schedule of changes in working capital | 4 | 10 |
| 2(b) | - | Labour cost | Earning under Halsey's Premium plan | 2 | |
| 2(b) | - | Labour cost | Earning under Rowan's Premium Plan | 2 | |
| 2(b) | - | Labour cost | Earning under Differential Piece Rate | 2 | 6 |
| 3(a) | - | Process costing | Preparation of Process – I A/c | 3 | |
| 3(a) | - | Process costing | Preparation of Process – II A/c | 3 | |
| 3(a) | - | Process costing | Profit element in closing stock | 0.5 | |
| 3(a) | - | Process costing | Preparation of finished stock | 2 | |
| 3(a) | - | Process costing | Profit element in closing stock | 0.5 | |
| 3(a) | - | Process costing | Calculation of profit on sale | 1 | 10 |
| 3(b) | - | Leverage | Calculation of operating leverage | 1 | |
| 3(b) | - | Leverage | Calculation of financial leverage | 1 | |
| 3(b) | - | Leverage | Calculation of EPS | 1 | |
| 3(b) | - | Leverage | Calculation of combined leverage | 1 | |
| 3(b) | - | Leverage | Calculation of current ratio | 1 | 5 |
| 4(a) | - | Joint product / By Product | Selling & distribution expenses | 3 | |
| 4(a) | - | Joint product / By | Apportionment of joint cost | 2.5 | |

| | | | | | |
|------|---|-------------------------------|-----------------------------------------------------|-----|---|
| | | Product | | | |
| 4(a) | - | Joint product / By Product | Cost of product | 2.5 | 8 |
| 4(b) | - | Working Capital Management | Calculation of total Mfg. Exp. | 2 | |
| 4(b) | - | Working Capital Management | Calculation of Depreciation | 0.5 | |
| 4(b) | - | Working Capital Management | Calculation of cost of sales | 2 | |
| 4(b) | - | Working Capital Management | Calculation of cash in hand | 0.5 | |
| 4(b) | - | Working Capital Management | Calculation of working capital | 3 | 8 |
| 5(a) | - | Basic concepts | Cost allocation | 2 | |
| 5(a) | - | Basic concepts | Cost absorption | 2 | 4 |
| 5(b) | - | Integrated & Non integrated | Any 4 advantages (each carry 1 mark) | 4 | 4 |
| 5(c) | - | Capital Structure | Introduction Pera. | 1 | |
| 5(c) | - | Capital Structure | 3 assumption | 3 | 4 |
| 5(d) | - | Types of Financing | Meaning | 1 | |
| 5(d) | - | Types of Financing | Steps | 2 | |
| 5(d) | - | Types of Financing | Explanation | 1 | 4 |
| 6(a) | - | Budgets & Budgeting control | Statement of budgeted profit | 2.5 | |
| 6(a) | - | Budgets & Budgeting control | Statement of optimal product mix & profit | 2.5 | |
| 6(a) | - | Budgets & Budgeting control | Calculation of total Hrs. Available in department 2 | 1 | |
| 6(a) | - | Budgets & Budgeting control | Calculation of maximum sales | 1 | 2 |
| 6(b) | - | Capital Budgeting | Computation of pay back period | 2 | |
| 6(b) | - | Capital Budgeting | Statement showing NPV | 3 | |
| 6(b) | - | Capital Budgeting | Calculation of profitability index | 2 | |
| 6(b) | - | Capital Budgeting | Calculation of Average rate of return | 2 | 9 |
| 7(a) | - | Marginal costing | Marginal costing | 2 | |
| 7(a) | - | Marginal costing | Absorption costing | 2 | 4 |
| 7(b) | - | Material costing | Any 4 differences (each carry 1 mark) | 4 | 4 |
| 7(c) | - | Treasury & cash management | Any 4 function (each carry 1 mark) | 4 | 4 |
| 7(d) | - | Scope & objectives of FM | Advantages of profit maximization | 2 | |
| 7(d) | - | Scope & objectives of FM | Advantages of wealth maximization | 2 | 4 |
| 7(e) | - | Financial analysis & Planning | Any 4 limitation (each carry 1 mark) | 4 | 4 |