Achievable

CMA PART 1 DUMP SHEET

Master budget and forecasting

Master budget sequence & formulas

- **Sales budget:** $\text{units} \times \text{price} = \text{revenue}$; the foundation for all budgets
- **Production budget (units)** $= \text{budgeted sales} + \text{desired ending inventory} - \text{beginning inventory}$
- **Direct materials usage** $= \text{units to produce} \times \text{materials per unit}$ ($\times$ cost = DM cost)
- **DM purchases** $= \text{materials required} + \text{desired ending materials inventory} - \text{beginning materials inventory}$ ($\times$ cost)
- **Direct labor hours** $= \text{production units} \times \text{DL hours per unit}$ ($\times$ rate = DL cost)
- **Overhead** $= (\text{variable overhead rate} \times \text{activity}) + \text{fixed overhead}$
- **COGM** $= \text{total manufacturing costs} + \text{beginning WIP} - \text{ending WIP}$
- **COGS** $= \text{beginning FG} + \text{COGM} - \text{ending FG}$
- **Contribution margin per unit** $= \text{sales price} - \text{variable cost per unit}$, including variable S&A
  $\text{Total CM} = \text{total sales} - \text{total variable costs}$
- **Break-even units** $= \dfrac{\text{total fixed costs}}{\text{unit CM}}$
- **Operating-budget output:** budgeted income statement
- **Master-budget outputs:** budgeted income statement, cash budget, capital-expenditure budget, and budgeted balance sheet

Financial budgets

- **Cash budget:** short-term (often monthly); sections = receipts, disbursements, financing; consolidates the sales, production, and capital-expenditure budgets
- **Capital budget:** long-term asset investments (3—10+ years); major cash outflows; generates depreciation
- **Pro forma statements:** scenario/"what-if"; start from the budgeted statements, then adjust
- **Policy timing:** credit policy shifts the timing of inflows; purchasing policy shifts the timing of outflows

Forecasting techniques

- **Simple regression:** $Y = a + bX$ (a = intercept, b = slope)
- **Multiple regression:** $Y = a + b_1X_1 + \cdots + b_nX_n + \varepsilon$
  Assumes linearity; risk of overfitting
- **Expected value:** $EV = \sum[P(x) \times x]$; a probability-weighted average (probabilities sum to 1); ignores spread and variance
- **Learning curve:** each doubling of cumulative output reduces the cumulative average time or cost to the learning-curve % of the prior level; a valid curve is above 50% and below 100% (typically 70—90%; a lower % = faster learning)
- **Financing-need methods:** forecasted financial statements, percentage of sales, cash-flow projection, sensitivity/scenario analysis, regression