Achievable

CMA PART 1 DUMP SHEET

Overhead, ABC, and process improvement

Overhead & allocation

- **Predetermined OH rate** $= \frac{\text{estimated total overhead}}{\text{estimated total allocation base}}$
  Applied OH = rate × actual activity
- **Over/underapplied:** applied > actual = overapplied (credit); applied < actual = underapplied (debit). Close an immaterial amount to COGS; prorate a material amount across WIP, FG, and COGS
- **Rate structures:** plantwide (simple, may distort) → departmental → activity-based (most accurate, data-intensive)
- **Service-department allocation:**
  - Direct: only to operating departments; ignores inter-service
  - Step-down: sequential, partial recognition; order matters
  - Reciprocal: full mutual recognition via simultaneous equations; most accurate
  - Dual: fixed by capacity, variable by usage

Activity-based costing (ABC)

- **Concept:** allocates overhead by activities, not just volume; best for high, diverse overhead where products consume resources differently
- **Two-stage flow:** resource costs → activity pools (resource drivers) → cost objects (activity drivers)
- **Activity rate** $= \frac{\text{total overhead in pool}}{\text{total activity units}}$
  OH per product = activity usage × activity rate
- **vs traditional:** multiple activity pools vs a single or few volume-based pools; more accurate, prevents cross-subsidization; costlier to maintain

Business process improvement

- **Value chain (Porter):** primary (inbound logistics, operations, outbound logistics, marketing & sales, service) + support (infrastructure, HRM, technology, procurement). Value chain = internal value creation; supply chain = external flow of goods
- **Value-added** (changes form, fit, or function; done right the first time; the customer pays for it) vs **non-value-added** (rework, waiting, excess movement, redundant approvals, overproduction)
- **Process redesign / BPR:** map the "as-is" process to find bottlenecks; BPR = radical redesign for dramatic gains in cost, quality, service, speed
- **Cost of quality (COQ):** conformance = prevention + appraisal; non-conformance = internal failure (before delivery) + external failure (after delivery). Investing in prevention and appraisal lowers total COQ
- **Continuous improvement (kaizen):** incremental gains; tools = PDCA cycle, root-cause analysis, process mapping. **Benchmarking** measures "what" level; **best-practice analysis** shows "how" excellence is achieved
- **Lean, 5 principles:** define value, map the value stream, create flow, establish pull, pursue perfection. Goal: maximize value, minimize waste
- **Capacity levels:** theoretical (max, no downtime) → practical (adjusts for unavoidable downtime) → normal (long-run average) → actual. Capacity = the denominator in the OH rate; practical capacity avoids overcosting in low-volume periods

Supply chain management & ERP

- **SCM:** coordinates sourcing, procurement, production, logistics; manages the flow of materials, information, and finances from supplier to customer
- **MRP** (push, forecast-driven): uses the master production schedule + bill of materials + inventory records; planned buffers
- **JIT** (pull, demand-driven): inventory arrives exactly when needed; small lots, minimal inventory; needs supplier coordination; sensitive to disruption
- **ERP:** integrated modular system (finance, HR, inventory, sales, procurement) on a centralized database; real-time data, standardized workflows; costs = implementation, data migration, change management