ACT503 Cost and Management Accounting

LINGNAN UNIVERSITY · POSTGRADUATE · TERM 1, 2026–27

Full guide + ask Sia about ACT503

SIDE 1/2 FORMULAS · METHOD RULES · DECISION LOGIC — **OPEN-BOOK EXAM SHEET** — **Final:** 50% · conceptual + numerical · whole course

0 · Exam Map

COURSE DATA · BRIEF

10 | 15 | 25 | FINAL 50%

ASSESSMENT	WT	FORMAT
Class Participation and Exercises	10%	class + online
Group Assignment	15%	group case
Midterm Test	25%	open book; first part
Final Examination	**50%**	open book; conceptual + numerical; whole course

"Final exam: open book, date to be determined" *(ACT503 first-class administration slides, 2026–27)*

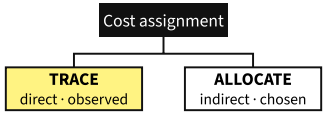
The test/exam rubric weights **problem identification, critical analysis and application at 50%**, comprehension at 40%, and logical expression at 10%. After every result, state the managerial action and why a tempting alternative figure misleads.

Answer spine: name the decision → select the method → show labelled working → check direction and units → recommend an action.

1 · Cost Object First

C1–2

Direct means economically traceable to the named cost object; ***indirect*** means allocated. The same salary can be direct to a line but indirect to each product. Name the object before classifying.



Trace direct costs; allocate indirect costs.

PAIR	TEST	TRAP
Direct / indirect	relationship to object	not a property of the item
Variable / fixed	total response to activity	only within relevant range
Product / period	attached to plant?	selling/admin expensed

MIXED COST

```
Total cost = fixed amount +
(variable rate × activity)
```

2 · Manufacturing Flow

C2

```
DM used = opening raw materials +
purchases - closing raw materials
COGM = opening WIP + manufacturing
costs incurred - closing WIP
COGS = opening finished goods + COGM
- closing finished goods
```

Prime cost = DM + direct labour. **Conversion** = direct labour + manufacturing overhead. Labour overlaps; neither subtotal is a fourth cost category.

3 · CVP Core

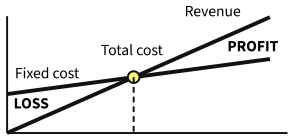
C3 · NUMERICAL

CONTRIBUTION

```
CM/unit = selling price - variable
cost/unit
CM ratio = CM ÷ sales = CM/unit ÷
price
Operating income = units × CM/unit -
fixed costs
```

SOLVE FOR OUTPUT

```
Breakeven units = fixed costs ÷
CM/unit
Breakeven sales = fixed costs ÷ CM
ratio
Target units = (fixed costs + target
OI) ÷ CM/unit
```



Breakeven: total revenue meets total cost.

MEASURE	FORMULA / USE
Margin of safety	actual or budget sales − breakeven sales; ratio ÷ actual/budget sales
Operating leverage	CM ÷ operating income; × % sales change = % OI change
Sensitivity	rebuild price, unit VC, fixed cost and volume together

CM ≠ gross margin: CM deducts all variable costs; gross margin deducts COGS, including absorbed fixed manufacturing overhead.

Decision reading: margin of safety answers "how far can sales fall before loss?" Operating leverage answers "how strongly will profit respond to a percentage sales movement?" A high fixed-cost structure raises leverage once it is above breakeven, but it also makes the loss region more exposed.

3b · CVP Assumptions

C3

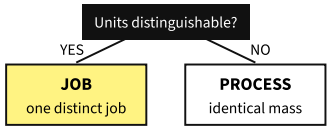
- Revenue and cost are linear within the relevant range.
- Price, unit variable cost and total fixed cost are known and constant.
- For multiple products, sales mix is constant.
- Units made equal units sold, or inventory change is ignored.

Also assume costs can be separated into fixed and variable components and that the chosen activity driver explains cost. If a requirement attacks an assumption, explain the direction: a step-up in capacity changes fixed cost; a discount changes price; a mix shift changes the weighted contribution margin.

EXAM MOVE *A multi-driver proposal is a fresh contribution statement, not an adjustment to the old answer.*

4 · Choose the Costing System

C4–6



Choose from the output, not the industry.

METHOD	DIRECT	INDIRECT
Actual costing	actual rate × actual qty	actual rate × actual qty
Normal costing	actual rate × actual qty	**budget rate × actual qty**

NORMAL JOB COSTING

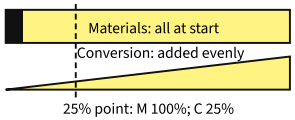
```
Predetermined OH rate = budgeted OH
÷ budgeted base
OH allocated = predetermined rate ×
actual base used
Job cost = direct materials + direct
labour + allocated OH
```

Actual OH > allocated OH → underallocated → write-off raises COGS. Actual < allocated → overallocated → write-off lowers COGS. Alternatives: adjusted allocation rate; prorate across WIP/FG/COGS; write off to COGS.

Seven steps: job → direct costs → base → indirect pool → budgeted rate → OH at actual base use → total cost. Rate = budgeted ÷ budgeted; allocation = that rate × actual use.

5 · Process Costing

C5 · FIVE STEPS



25% point: M 100%; C 25%

Timing creates two equivalent-unit columns.

1. Reconcile physical units.
2. Compute equivalent units for materials and conversion.
3. Summarise costs to account for.
4. Cost per equivalent unit.
5. Assign cost to transferred output and ending WIP; tie back.

WEIGHTED AVERAGE	FIFO
Opening cost + current cost; work *to date*. Do not subtract opening EU.	Current cost only; current-period work only. Opening WIP is completed first.
Smoother, consistent rates	Better period cost control

EU definition: physical units × completion %. Use separate materials and conversion denominators. Under FIFO, opening WIP contributes only work needed: units × (100% − opening completion).

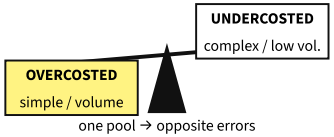
6 · ABC Refinement

C6

Refine when product diversity, indirect cost and competition rise. Improve by tracing more costs directly, opening **homogeneous pools**, and selecting cause-and-effect drivers.

```
Activity rate = budgeted pool cost ÷
budgeted driver quantity
Product OH = Σ(activity rate ×
product driver use)
```

Under a simple plant-wide system, divide the **whole OH pool** by the total volume-driver quantity—not one activity pool by that driver's quantity.



one pool → opposite errors

Volume drivers miss setup, design and orders.

HIERARCHY	DRIVER IDEA
Unit level	each unit: machine/labour hours
Batch level	each run: setups/orders
Product sustaining	design/product support
Facility sustaining	general plant; may remain unallocated

ABC changes assignment, **not total overhead**. Use the result for pricing/product mix, cost reduction/process improvement, design, and planning activities.

7 · Pricing Direction

C7

TARGET COSTING

Market price − profit = cost ceiling

COST PLUS cost + markup → price

market may refuse the computed price

One route constrains cost; one computes price.

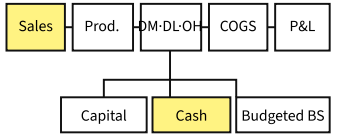
```
Target cost/unit = target market
price - required operating
income/unit
Required operating income = invested
capital × target return
Cost-plus price = chosen cost base ×
(1 + markup %)
```

Target sequence: product specification → market price → required profit → cost ceiling → value engineering. Full cost is common for recovery, stability and simplicity. A cost is *locked in* when a prior decision makes it unavoidable, often before it is incurred.

Markup trap: when target income is a percentage of revenue, divide total cost by 1 − target percentage. Adding that percentage to cost gives the wrong price.

8 · Master Budget Chain

C8



Every schedule inherits the sales forecast.

```
Production units = sales + desired
closing FG - opening FG
Materials usage = production ×
material/unit
Purchases = usage + desired closing
materials - opening materials
```

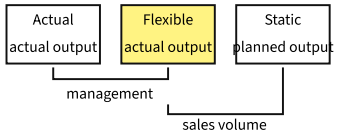
Cash budget: cash available → disbursements → financing → closing cash. Receipts follow collection timing; payments follow payment timing. Depreciation is in the income statement, never the cash budget.

Budget ≠ forecast: a forecast predicts what will happen; a budget is a plan and commitment for which someone is answerable. A profitable plan may still need financing because customer credit, supplier credit and inventory separate profit from cash.

CENTRE	MANAGER CONTROLS
Cost	costs
Revenue	revenues
Profit	revenues + costs
Investment	profit + capital employed

9 · Flexible Budget + Variances

C9



Adjacent columns isolate performance and volume.

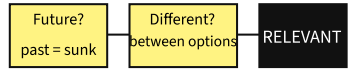
```
Price/rate variance = AQ × (AP - SP)
Efficiency variance = SP × (AQ - SQ
allowed for actual output)
```

For a cost, actual below standard is favourable; for revenue, the direction reverses. The label is arithmetic, not praise. Variable OH splits spending/efficiency. Fixed OH splits spending and **production volume**; the latter is underused capacity, not overspending.

COMMENTARY *Name variance + size relative to base + responsible manager + action. Investigate by relative size, persistence and controllability.*

10 · Relevant Decisions

C10



Opportunity cost passes both gates even though no ledger records it

Relevant means future *and* different.

DECISION	USE / DISCARD
Special order	incremental revenue vs incremental cost; normal price is not a floor
Make / buy	avoidable make cost + opportunity cost vs supplier quote
Add / drop	lost CM vs genuinely avoidable fixed cost
Sell / process	incremental revenue vs further cost; joint cost is irrelevant
Constraint	rank by CM per unit of scarce resource

Variable/fixed is not relevant/irrelevant. A disappearing supervisor salary may be fixed and relevant; a variable amount identical under both options is irrelevant.

11 · Transfer + Performance

C12–13

```
Supplier floor = incremental cost +
opportunity cost
Buyer ceiling = outside purchase price
ROI = operating income ÷ operating
assets
= operating margin × asset turnover
RI = operating income - (required rate
× assets)
EVA = after-tax OI - [WACC × (assets -
current liabilities)]
```

QUESTION	RULE
Spare capacity?	yes → opportunity cost 0; no → contribution forgone
Transfer?	floor ≤ ceiling; if floor > ceiling, buy outside
Compare divisions?	ROI plus margin/turnover decomposition
Choose/pay?	RI/EVA align with group required return

Balanced scorecard chain: learning & growth → internal process → customer → financial. The causal arrows, with lead and lag measures, distinguish a scorecard from four lists.

CONCEPTUAL METHOD	PROCEDURE
MA guideline	different purpose? → behaviour/technical effect? → cost-benefit
Ethics	facts → issue/stakeholders → principles → alternatives → consequences → reasoned choice
Sustainability	materiality → governance, strategy, risk, metrics/targets → assurance

EXAM MOVE *Define the asset base consistently. ROI can reject a project below the division's current ROI even when it exceeds the group's hurdle; RI avoids that suboptimisation.*

ACT503 Cost and Management Accounting

LINGNAN UNIVERSITY · FIVE WORKED DRILLS · TRAPS + RECALL

Full guide + ask Sia about ACT503

SIDE 2/2 · WORK EVERY LINE · STATE THE DECISION · CHECK THE DIRECTION · 5 WORKED DRILLS · numbers retained from the ACT503 guide

W1 · CVP Rebuild C3 WORKED EXAMPLE

Given: price 90; unit variable cost 54; monthly fixed costs 43,200; target operating income 18,000. Proposal: price 84, advertising +7,200, volume 2,100.

BASE CASE

```
CM/unit = 90 - 54 = 36
CM ratio = 36 ÷ 90 = 40%
BE units = 43,200 ÷ 36 = 1,200
BE sales = 43,200 ÷ .40 = 108,000
Target units = (43,200 + 18,000) ÷ 36 = 1,700
Target sales = 1,700 × 90 = 153,000
```

New CM	New fixed	At 2,100
84−54=30	50,400	OI 12,600

Target 18,000 needs 68,400 ÷ 30 = 2,280 units

Sales rise; operating income falls to 12,600.

PROPOSAL

```
New fixed = 43,200 + 7,200 = 50,400
OI = 2,100 × 30 - 50,400 = 12,600
Sales = 2,100 × 84 = 176,400
```

Reject on these expectations: sales are 23,400 above the original target-sales figure while OI is 5,400 below target. To restore 18,000 requires 2,280 units, a 34% rise rather than the forecast 24%.

PROOF AND INTERPRETATION

CHECK	PROOF
Breakeven	1,200×36 = 43,200 → fixed cost exactly covered
Target	1,700×36 = 61,200 → 43,200 fixed + 18,000 OI
Proposal	price removes 6 CM/unit and advertising lifts the fixed hurdle

Managerial sentence: "Do not accept the proposal on the 2,100-unit forecast; either protect price/variable cost or establish credible demand of at least 2,280 units." This completes the application step that a bare 12,600 does not.

CVP Traps MARK CHECK

Target OI	add to fixed cost numerator
Sales-value answer	divide by CM ratio, not CM/unit
Several drivers change	rebuild; do not patch old answer
Operating leverage	multiplies % sales change, not dollars

For a multiple-product case, preserve the assumed sales mix and use the weighted-average CM. If production differs from sales, the simple model's no-inventory-change assumption has failed; say so before applying a one-period result.

FINISH *State the volume the decision requires; managers can judge whether 2,280 units is plausible.*

W2 · Normal Job Costing C4 WORKED EXAMPLE

Given: budget OH 1,380,000; budget direct-labour hours 46,000. Actual activity 44,000 hours; actual OH 1,395,000. Job 214: 260 hours, DM 18,400, DL 9,100.

RATE THEN JOB

```
Budget OH rate = 1,380,000 ÷ 46,000 = 30/DLH
Job OH = 260 × 30 = 7,800
Job 214 = 18,400 + 9,100 + 7,800 = 35,300
```

ACTUAL OH	ALLOCATED OH
1,395,000	44,000×30

UNDERALLOCATED 75,000

actual > applied: COGS ↑

Actual OH exceeds allocated OH by 75,000.

YEAR END

```
Allocated OH = 44,000 × 30 = 1,320,000
Actual - allocated = 1,395,000 - 1,320,000 = 75,000 underallocated
```

Under direct write-off, COGS rises 75,000. An adjusted-rate method recomputes at actual; proration spreads the difference across WIP, finished goods and COGS. Prorating on allocated OH is more causally precise than using total ending balances.

WHY THE METHOD IS USED

NEED THE JOB COST EARLY FOR	TRADE-OFF
pricing and bidding	actual rate waits for period close; budgeted rate gives speed but creates a year-end adjustment
monitoring, evaluation and learning	
interim statements	

Ledger logic: manufacturing-overhead control accumulates actual indirect cost; manufacturing-overhead allocated records the amount applied to production. Keep them separate until the period-end comparison. The job receives only the allocation, never the 1,395,000 actual pool directly.

Direction Check C4

COMPARISON	NAME	WRITE-OFF
Actual > allocated	underallocated	COGS ↑
Actual < allocated	overallocated	COGS ↓

Never use budget hours in the allocation step. That merely recreates budget OH and forces the difference towards zero by construction.

Disposal chooser: use adjusted rate for the strongest correction; use proration when inventories containing the misallocation are material; use COGS write-off when the difference is immaterial. State purpose, size and whether extra accuracy is worth the work.

W3 · Weighted-Average Process C5 WORKED EXAMPLE

Given: opening WIP 600 litres (materials 100%, conversion 40%), costs 7,200 + 2,160. Started 3,400; transferred 3,200; ending WIP 800 (materials 100%, conversion 25%). Added costs 40,800 + 25,040.

STEP	MATERIALS	CONVERSION
Physical flow	600 + 3,400 = 3,200 + 800 = 4,000	
Equivalent units	3,200 + 800 = **4,000**	3,200 + 200 = **3,400**
Costs to account	7,200 + 40,800 = **48,000**	2,160 + 25,040 = **27,200**
Cost/EU	**12**	**8**

COST TO ACCOUNT FOR = 75,200

Transferred 3,200	Ending WIP
3,200×(12+8)=64,000	800×12 + 200×8 = 11,200

64,000 + 11,200 ties exactly to 75,200.

Why opening completion disappears: weighted average blends opening costs and counts all work to date. The supplied 40% opening conversion is the FIFO temptation; do not subtract it here.

FIVE-STEP AUDIT TRAIL

Step 1 must reconcile both ways before costs enter. Step 2 keeps materials and conversion separate. Step 3 includes opening plus added cost because the method is weighted average. Step 4 divides each cost column by its matching EU column. Step 5 prices transferred units as fully complete and ending WIP at its own completion percentages.

The assignment has an economic meaning: each transferred litre receives 12 of material and 8 of conversion; an ending litre receives all 12 of material but only 25% × 8 = 2 of conversion. Thus ending WIP is 14 per physical litre, producing 11,200 for 800 litres.

Process Traps C5

One EU column	wrong when materials and conversion enter differently
Current cost / to-date EU	mixed convention; numerator and denominator must match
Small tie difference	may be prescribed rounding; state it, do not force
Large tie difference	denominators or assignment are wrong

Under FIFO, opening WIP is the first layer completed and transferred; only the work needed to finish it belongs in current-period EU. Started-and-completed units form the next layer. Ending WIP is the final current-period layer.

MEMORY LINE *Weighted average = stability; FIFO = current-period control.*

W4 · Four Direct-Cost Variances C9 WORKED EXAMPLE

Standards: steel 2.5 kg at 6; labour 0.8 h at 25 per kettle. Static output 12,000. Actual output 11,400; 29,400 kg at 6.20; 9,400 h at 24.60.

ALLOWED QUANTITIES AT ACTUAL OUTPUT

```
Steel SQ = 11,400 × 2.5 = 28,500 kg
Labour SH = 11,400 × 0.8 = 9,120 h
```

VARIANCE	WORKING	RESULT
Materials price	29,400×(6.20−6)	5,880 U
Materials efficiency	6×(29,400−28,500)	5,400 U
Labour rate	9,400×(24.60−25)	3,760 F
Labour efficiency	25×(9,400−9,120)	7,000 U

Material price 5,880 U · Material eff. 5,400 U · 3,760 F L rate · Labour eff. 7,000 U

Cheaper labour; more time and steel used.

Interpret together: 3,760 F in labour rate accompanies 12,400 U across the two efficiency results. "Favourable" is arithmetic; the purchase/hiring choice may be operationally poor.

SHAPE BEFORE SIGN

A price/rate variance holds quantity at actual and changes the price. An efficiency variance holds price at standard and changes the quantity. This convention prevents double-counting the overlap. Compute SQ allowed before touching either efficiency formula; here it depends on 11,400 actual kettles, never the 12,000-unit static plan.

Managerial sentence: test whether the lower labour rate reflects less-experienced staff or another common cause of the extra 280 hours and 900 kg; do not investigate four numbers as four unrelated events.

Variance Error Scan C9

- Using static-budget quantity makes both efficiency variances wrong while price/rate stays right.
- Materials price may be recorded at purchase or use; follow the requirement.
- Variable OH efficiency shares labour's base movement; it is not separately manageable.
- Reconcile static-budget OI to actual: F adds, U subtracts.

OH VARIANCE	COMPARISON / MEANING
Variable spending	actual VOH vs actual base at standard rate
Variable efficiency	labour's AQ−SQ base movement
Fixed spending	actual vs budgeted fixed OH
Production volume	budgeted vs absorbed fixed OH; capacity use, not spending

W5 · Make or Buy C10 WORKED EXAMPLE

Given: 4,000 panels. In-house unit cost 96 = DM 38 + DL 22 + variable OH 14 + allocated fixed OH 22. Supplier quote 84. Of fixed OH, 6 is avoidable supervision; 16 continues. Freed space earns 30,000.

MAKE

```
Relevant/unit = 38 + 22 + 14 + 6 = 80
Relevant make cost = 4,000 × 80 = 320,000
```

BUY

```
Supplier = 4,000 × 84 = 336,000
Less alternative-space income 30,000
Net relevant buy cost = 306,000
```

MAKE	BUY NET
320,000	306,000

BUY: SAVES 14,000

16/unit continues → exclude

Never compare full unit cost 96 directly with 84.

Buy; annual saving 14,000. The 16/unit plant charge fails the "different" test. The 30,000 opportunity benefit is relevant although absent from the accounts.

RECONCILE THE RECOMMENDATION

Buying looks dearer before capacity use: 336,000 versus 320,000, a 16,000 disadvantage. Releasing the floor then creates 30,000 of contribution elsewhere, reversing the result to a 14,000 advantage. This is why the opportunity cost must sit beside the explicit cash flows rather than appear as an afterthought.

Qualitative check: after the numerical answer, consider quality, reliability of supply, delivery timing, confidentiality, staff effects and whether the alternative use of space is feasible. These factors do not replace the relevant-cost schedule; they test whether its assumptions hold.

Decision-Family Traps C10

SHAPE	PLANTED DISTRACTION
Special order	normal price or full cost
Make / buy	allocated fixed block
Add / drop	fixed cost that will continue
Further processing	joint cost before split-off
Constraint	CM per product, not per scarce unit

Opportunity cost = contribution forgone from the best alternative use. **Sunk cost** is past and irrelevant regardless of size. A disposal loss built from a past book value remains sunk; use future disposal cash flow instead.

EXAM MOVE *Split fixed cost into avoidable and continuing before using any part of it.*

12 · Capacity + Transfer Price C12 FAST DRILL

Source numbers: supplier VC 46; fixed cost 18/unit; outside selling price 72; buyer can purchase outside at 70; order 8,000.

FULL CAPACITY

70 ceiling

72 floor

SPARE CAPACITY

46 floor · 70 ceiling

Capacity opens or closes the bargaining band.

STATE	FLOOR	GROUP VERDICT
Full capacity	46 + (72−46) = **72**	buy outside at 70; save 2/unit = 16,000
8,000 spare	46 + 0 = **46**	transfer; save 24/unit = 192,000

If spare capacity covers only part, split the order: floor 46 inside spare capacity; floor 72 beyond it. A single floor for the whole order is wrong.

13 · Performance Verdict C13 FAST DRILL

```
Division ROI = 1,440,000 ÷ 8,000,000 = 18%
Margin = 1,440,000 ÷ 12,000,000 = 12%
Turnover = 12,000,000 ÷ 8,000,000 = 1.5
RI = 1,440,000 - 12%×8,000,000 = 480,000
EVA = 1,080,000 - 10%×6,800,000 = 400,000
```

Project: 255,000 ÷ 1,500,000 = 17%

ROI: REJECT	RI: ACCEPT
17% < current 18%	adds 75,000

GROUP: ACCEPT · 17% > required 12%

ROI rejects; residual income aligns the decision.

LAST-MINUTE CHOOSER	FIRST LINE
Distinct output	job cost; name job object
Identical flow + partial WIP	process cost; two EU columns
Diverse products consume setups/design	ABC; causal pools/drivers
Volume/profit relation	CM then fixed-cost numerator
Alternative decision	future + different; add opportunity cost
Division project	ROI for diagnosis; RI/EVA for alignment

FINAL SCAN *Cost object named? Denominator labelled? Actual/budgeted inputs separated? Sign re-derived? Units shown? Decision sentence written?*