Mock Exam One

AAT L4 Management Accounting: Budgeting

Contents **Page**

This practice assessment is one of a set of five AAT mock practice assessments which have been published for this subject. They are produced by expert AAT tutors to ensure real AAT exam style and real AAT exam standard tasks and ensure the best chance of success.

All practice assessments are relevant for the current syllabus.

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1

Mock Exam One

Management Accounting: Budgeting

Assessment information:

You have **2 hours and 30 minutes** to complete this practice assessment.

This assessment contains **8 tasks** and you should attempt to complete **every** task.
Each task is independent. You will not need to refer to your answers to previous tasks.
Read every task carefully to make sure you understand what is required.

Tasks 4 and 8 require extended writing as part of your response to the questions. You should make sure you allow adequate time to complete these tasks.

Where the date is relevant, it is given in the task data.
Both minus signs and brackets can be used to indicate negative numbers **unless** task instructions say otherwise.

You must use a full stop to indicate a decimal point. For example, write 100.57 not 100,57 or 100 57

You may use a comma to indicate a number in the thousands, but you don't have to. For example, 10000 and 10,000 are both acceptable.

Task 1 (20 marks)

You are gathering budget information for a company.

(a) Match each item for the budget data below to its appropriate source.
To show each answer, click on a box in the left column then click on a box in the right column.

(3 marks)

Budget data	Appropriate source
	Cash book
Raw material prices	Competitor websites
Advertising costs	Company internet site
Selling prices	Marketing agencies
	Commodity price index

As a budget accountant you require information to complete the tasks shown below.

(b) Match each task to a contact for information required. To show each answer, click on a box in the left column then click on a box in the right column.

(4 marks)

Task	Contact
	Purchasing department
Explain a material price variance	Human resource manager
Prepare a direct labour cost budget	Sales department
Prepare a sales budget	Human resource and production manager
Prepare a production budget	Production manager

(c) Select the appropriate budget for each of the following items

(4 marks)

Purchase of property, pant and equipment for the business	
Raw materials that must be purchased to fulfil the production	
Sales in units as well as the estimated earnings from these sales	
Expected cash receipts and disbursements during the period	
Functional budgets and budgeted financial statements	
Capital expenditure, budgeted financial position and sources of funds	
Production requirements to provide for adequate inventories	
An estimated projection of the company's cash position in the future	

Picklist: Sales revenue budget, Material cost budget, Capital expenditure budget, Cash budget, Master budget, Financial budget.

A manufacturer of ice creams uses time series analysis to help forecast the price per 100 litres of milk.

(d) Complete the table below by entering the missing figures. Use minus signs for any negative figures required.

(3 marks)

20X4 Price per 100 litres	October £	November £	December £
Underlying price per 100 litres		26.00	29.00
Seasonal Variation	3.50		2.50
Seasonally adjusted price per 100 litres	26.50	20.50	

Assuming the trend and seasonal variations continue in part (d) above.

(e) Compete the table below to forecast the price (£) per 100 litres of milk in the last quarter of 20X5. Use minus signs for any negative figures required.

(6 marks)

20X5 Price per 100 litres	October £	November £	December £
Underlying price per 100 litres			
Seasonal Variation			
Seasonally adjusted price per 100 litres			

End of Task

Task 2 (20 marks)

(a) Complete the production budget shown below for product E.
Round up any decimal figures to the nearest whole number of units, if necessary.

(10 marks)

- Closing inventory should be 10% of the following week's sales volume.
- 2% of all production will fail quality control checks and will be rejected.

Production (units)	Week 1	Week 2	Week 3	Week 4	Week 5
Opening inventory	2500				
Good production					
Sales volume	14000	12500	8900	10100	11300
Closing inventory					

Rejected production					
Total manufactured units					

You have the following budgeted information:

- 20 units of product F will be manufactured next week.
- Each unit of product F requires 150 tonnes of raw material.
- 3% of raw materials are wasted during the production process.
- Opening inventory for raw materials is 3300 tonnes.
- Closing inventory for raw materials is 2100 tonnes.

(b) Calculate raw materials usage and purchases for the next week.
Round up any decimal figures to the nearest whole number of units, if necessary.

(i) Tonnes required to be used for production.

(1 mark)

[ ] tonnes

(ii) Tonnes required to be purchased.

(1 mark)

[ ] tonnes

You have the following budgeted information:

- 160 units of product G will be manufactured next week.
- Each unit of product G requires 1.5 hours of labour time.
- Idle (non-productive) labour time is expected to be 10%.

(c) How many total labour hours are required for the next week.
Round up any decimal figures to the nearest whole number of units, if necessary.

(1 mark)

[ ] hours

Standard cost for one unit of product H:

- 55 kilograms of material.
- 10 minutes of direct labour time.
- 45 minutes of machine time.

Budgeted information for product H:

- Maximum sales demand 5000 units.
- 240000 kilograms of material is available.
- 800 hours of direct labour time is available (ignoring overtime).
- 3000 hours of machine time is available.
- The business can sub-contract more machine hours if required.

(d) Calculate the production capacity for product H by completing the table shown below. Round up any decimal figures to the nearest whole number of units, if necessary.

(5 marks)

Production capacity	Units
Materials available are budgeted to manufacture	
Without overtime, direct labour hours available is budgeted to manufacture	
Machine time available is budgeted to manufacture	
Without sub-contracting machine time, the maximum sales volume is	
If sub-contracting further machine time, the maximum sales volume is	

(e) Using your answer shown in (d) above. What would be the maximum sales volume if another 375 machine hours were made available internally.

(2 marks)

	units

End of Task

Task 3 (20 marks)

(a) Complete the three working schedules using the information from the production budget and notes below. Enter all figures as positive values.

Production budget	Units
Opening inventory of finished goods	24000
Production	50000
Sub-total	74000
Sales	60000
Closing inventory of finished goods	14000

Materials	Kg	£
Opening inventory	5000	13,450
Purchases @ £2.75 per kg		
Sub-total		
Used in production		
Closing inventory	5200	

Labour	Hours	£
Basic time @ £11.50 per hour		
Overtime		
Total		

Materials

Each unit produced requires 0.2 kilograms (kg) of material.

Closing inventory is valued at the budgeted purchase price per kg.

Labour

Each item takes 6 minutes to produce.

32 staff work 140 basic hours each in the period.

Overtime is paid at 50% premium above the basic hourly rate.

Production overhead

Variable overhead is recovered using total labour hours.

Production overhead	Hours	£
Variable @ £0.50 per hour		
Fixed		17,800
Total		

(b) Complete the operating budget.
Enter income, costs and inventories as positive figures.

(6 marks)

Closing inventory of finished goods will be valued at the budgeted production cost per unit.

Operating budget	Units	£ per unit	£
Sales revenue		125	
Cost of good sold			**£**
Opening inventory of finished goods			51,120
Cost of production		**£**	
Materials			
Labour			
Production overhead			
Closing inventory of finished goods			
Cost of goods sold			
Gross profit/ (loss)			
Overheads		**£**	
Administration		25,000	
Selling and distribution		15,000	
Operating profit / (loss)			

(c) Complete the cash flow forecast using the budget data that you have calculated in parts (a) and (b) of this task and the additional information below. Enter receipts and payments as positive figures. (5 marks)

The trade receivables balance is expected to increase by £24,000 over the year.

The materials payable balance is expected to decrease by £7,000 over the year.

All other payments are made in the year they are incurred.

Production overheads include depreciation of £20,000.

Cash flow forecast		£
Opening cash balance/ (overdraft)		(30,000)
Sales receipts		
Payments:	£	
Material		
Labour		
Production overheads		
Other overheads		
Capital expenditure	13,000	
Closing cash balance/ (overdraft)		

End of Task

Task 4 (20 marks)

Burger Champion (BC) operates fast food burger restaurants nationwide. The standard cost of its ‘Champion Burger’ for last year is shown below:

Standard cost of One 'Champion Burger'	Units	£
Standard materials:		
Beef	0.30 Kg	0.25
Bun	0.10 Kg	0.04
Cheese	0.02 Kg	0.02
Onion and pickle	0.05 Kg	0.01
Sauces	0.05 litres	0.01
Standard labour:		
Cooking and preparation	0.06 hours	0.54
Customer service	0.03 hours	0.23
Overhead:		
Variable overhead	0.09 hours	0.32
Standard cost of One 'Champion Burger'		1.42

Food wastage has been of major concern to management throughout its chain of fast food restaurants. Management have a ‘zero tolerance’ policy for ingredient and cooked food wastage and this is applied in the calculation of its standard cost shown above. Despite this policy, there was 4.6% of total ingredient wastage across its national chain of food restaurants and 8.2% of total cooked food wastage.

Write an email to the budget committee of Burger Champion, in four sections:

(a) Explain how the use of standard costing for Burger Champion can help with budgetary planning and control.

(5 marks)

(b) Identify appropriate sources of data for Burger Champion, if constructing a new standard for its ingredients and direct labour to make the ‘Champion Burger’.

(5 marks)

(c) Explain to the management of Burger Champion, the advantages and disadvantages of allowing participation by restaurant staff if constructing a new standard cost for the ‘Champion Burger’.

(5 marks)

(d) Provide FIVE examples of performance measures, other than financial, that could be used by Burger Champion to measure the success of their operations.

(5 marks)

To: The budget committee
From: Budget accountant
Subject: Standard costs for next year
Date: XX/XX/XX

(a) Use of standard costing

(b) Appropriate sources of data

(c) Participation by restaurant staff

(d) Examples of performance measures

End of Task

Task 5 (20 marks)

The following details relate to a cost budget for miles driven by a transport company called TX Transport:

Miles Driven	250000	300000
	£	**£**
Staff cost	26,000	28,500
Fuel	137,500	165,000
Servicing and repairs	30,000	36,000
Other costs	3,000	3,000

Assumptions:

- Staff cost is semi-variable. The fixed cost is £13,500. The variable cost is based on miles driven.
- Fuel is a variable cost based on miles driven.
- Servicing and repairs are a stepped fixed cost which rises by £6,000 for every 50000 miles is driven.
- Other costs are fixed.

TX wants the total cost estimated for 400000 miles driven.

Complete the table below by:
(a) Calculating and inserting the following figures for costs and the TOTAL cost for 400000 miles driven for TX Transport. Round all figures to the nearest £.

(8 marks)

Budget (400000 miles driven)	**at 400000 miles driven**
Staff cost	
Fuel	
Servicing and repairs	
Other costs	
Total cost (£)	

You have submitted a draft operating budget shown below to the budget committee. The budget committee has asked you to budget for an alternative scenario and calculate the increase or decrease in expected gross profit.

(b) Complete the alternative scenario column in the operating budget table shown below and calculate the increase or decrease in gross profit.
For the sales price per unit, round your answer to 2 decimal places.
For all other figures, round your answer to the nearest whole number, if necessary. Use negative figures, only to indicate a decrease in gross profit.

(12 marks)

Assumptions in the first scenario:

- Direct materials and direct labour are variable.
- Power costs are a fixed cost, there is an allowance for a power cost price rise of 8%.
- Depreciation is a stepped fixed cost, increasing at every 10000 units.

Alternative scenario:

- Increase the selling price by 6%.
- Reduce the sales volume by 9%.
- Revise the power cost price rise to 10%.

Operating budget	First Scenario	Alternative Scenario
Sales price per unit (£)	5.40	
Sales volume	50000	
	£	**£**
Sales revenue	270000	
Costs:		
Direct materials	22500	
Direct labour	15000	
Power	1620	
Depreciation	36000	
Total	75120	
Gross profit	194,880	
Increase / (Decrease) in gross profit		

End of Task

Task 6 (20 marks)

The production information below relates to ADW Limited, a business that makes prepacked sandwiches.

	Budget	Actual
Production - sandwiches	5000	4500
Ingredients - £	2500	2376
Ingredients - kilograms (kg)	1000	990
Direct labour - hours	500	360
Direct labour - £	4250	3060

Calculate the variances in the table shown below. Enter your answers to the nearest whole pound (£).

(16 marks)

Enter zero if there is no variance. Do not use minus signs or brackets.

Use the drop down boxes to indicate whether each variance you have calculated is adverse, favourable or no variance.

(4 marks)

	£	Adverse/Favourable/ No variance
Ingredients price variance		
Ingredients usage variance		
Direct labour rate variance		
Direct labour efficiency variance		

Picklist: Adverse, Favourable, No variance.

End of Task

Task 7 (20 marks)

BIK manufacturers bicycles for sale to the general public.

For the last month BIK had planned to manufacture 60000 bicycles, however due to a better than expected month BIK sold 70000 bicycles.

(a) Complete the table below to show a flexed budget and the resulting variances against the budget for the last month. Show the variance amount for sales revenue and each cost in the column headed 'Variance'.

Note:

- **Adverse variances must be denoted with a minus sign or brackets.**
- **Enter 0 where any figure is zero.**

(16 marks)

	Original Budget	Flexed Budget	Actual	Variance
Number of units sold	60000		70000	
	£	£	£	£
Sales Revenue	612,000		785,000	
Less costs:				
Direct materials	48,000		49,800	
Direct labour	45,000		45,000	
Variable overheads	75,000		90,000	
Fixed overheads	50,000		51,000	
Profit from operations	394,000		549,200	

(b) Complete the following sentences

(4 marks)

The variance that had the greatest impact in terms of decreasing profits is the

The variance that had the greatest impact in terms of increasing profits is the

Picklist: Sales revenue variance, Direct materials variance, Direct labour variance, Variable overheads variance, Fixed overheads variance.

End of Task

Task 8 (20 marks)

BQ is a business which sells fast food to the general public.

One product is under review by management, the 'XL Burger'. The standard cost of one XL Burger and the variances for this product for the last month are shown below.

Standard cost of one XL Burger

Standard cost XL Burger	£ per burger
Ingredients (burger, bun, onions and sauce)	0.34
Direct labour (cooks, servers and cashiers)	0.15
Variable overhead rate per burger	0.10
Fixed overhead rate per burger	0.18
Total standard cost per burger	0.77

The standard cost shown above has not been updated or revised for many months.

Standard cost variances for the XL Burger for the last month:

	£	Variance
Ingredients price variance	5622	Favourable
Ingredients usage variance	6790	Adverse
Direct labour rate variance	4000	Favourable
Direct labour efficiency variance	13460	Adverse
Variable overhead expenditure variance	5499	Favourable
Fixed overhead expenditure variance	7050	Adverse

Additional information:

- The product design for the XL Burger was changed in the last month to incorporate a bigger bun and burger. This change was necessary due to competitive pressure.
- A new suppler has been used in the last few months and as a result the price of beef and buns have been reduced by 20%.
- Abnormally high incidences of wastage have occurred in the last month due to cooked food being unsold.
- Unexpected national wage decreases due to economic recession have meant that new staff are being recruited at lower hourly rates. Management have also started to recruit more unskilled staff as much of the cooking process has been automated in the last two months.
- A rent increase has occurred, but the standard cost has not been changed to reflect this additional expenditure.
- Milk shake machines have been problematic in the last month, frequent breakdowns occurred due to blockages which cause unproductive time for staff who must get the machines operational again by unclearing blockages.

New policies were introduced by management to reduce costs in the last month:

- Napkins and sauces which customers normally help themselves from a table are now handed out by staff only if requested by a customer.
- The energy efficiency of the cooking process has been improved by the replacement of an existing manual process, with a new automated cooking process. This has improved energy consumption but also increased depreciation charges for each month due to new machines being purchased.

Explain the likely causes of the variances that have been reported this month. Identify whether each variance is controllable or non-controllable. Identify possible actions that can be taken to reduce adverse variances or increase favourable variances.

(20 marks)

End of Task

End of Task

Mock Exam One

Management Accounting: Budgeting

- Solutions

Task 1 (20 marks)

Task 1 of your exam will focus on the following areas and has a 10% exam weighting.

Identify internal and external sources of information used to forecast income and expenditure:

- Select appropriate sources of data to use for forecasting.
- Describe sources of data used for forecasting.

Use statistical techniques to forecast income and expenditure and apply the following techniques:

- Sampling.
- Indices.
- Time series; trends and seasonal variations.

Discuss the purpose of revenue and cost forecasts and their link to budgets:

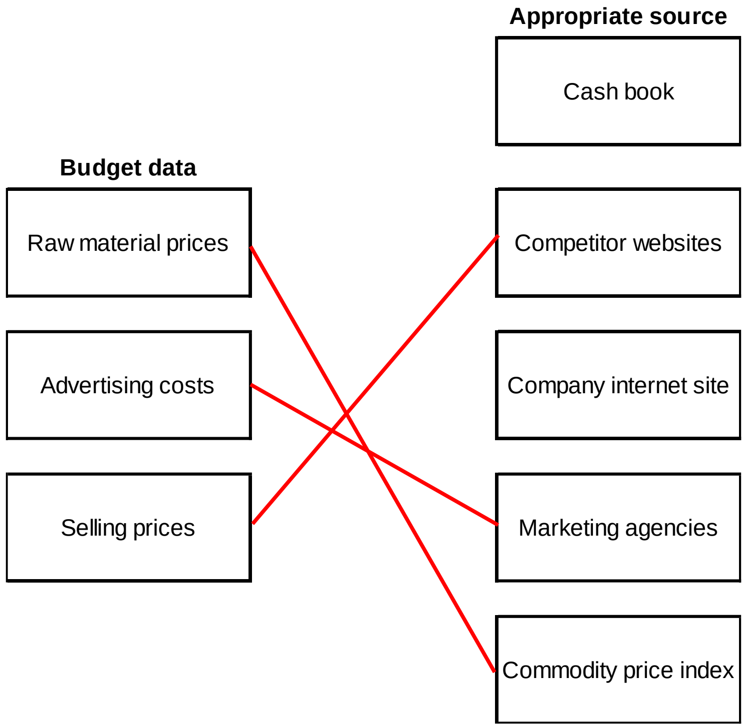
- Differentiate between forecasts and plans.
- Describe how each forecast contributes to the budgeting process.
- Describe the methods of dealing with uncertainty inherent in forecasting (planning models, regular reforecasting, rebudgeting, rolling budgets and budget flexing).

Identify the impact of internal and external factors on income and expenditure forecasts:

- Advise on the reliability of forecasts.
- Describe the stages and features of the product life cycle and their impact on income forecasts.
- Describe market trends and competitive pressures.
- Explain the expected impact of promotional activity.
- Identify and describe external events affecting the reliability of cost forecasts.

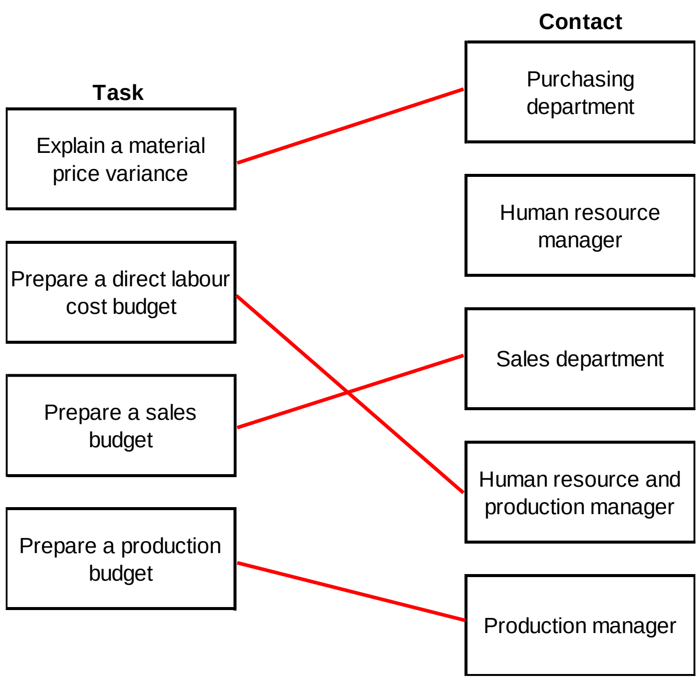
(a) Match each item for the budget data below to its appropriate source. To show each answer, click on a box in the left column then click on a box in the right column.

(3 marks)



(b) Match each task to a contact for information required. To show each answer, click on a box in the left column then click on a box in the right column.

(4 marks)



(c) Select the appropriate budget for each of the following items

(4 marks)

Purchase of property, pant and equipment for the business	Capital expenditure budget
Raw materials that must be purchased to fulfil the production	Material cost budget
Sales in units as well as the estimated earnings from these sales	Sales revenue budget
Expected cash receipts and disbursements during the period	Cash budget
Functional budgets and budgeted financial statements	Master budget
Capital expenditure, budgeted financial position and sources of funds	Financial budget
Production requirements to provide for adequate inventories	Material cost budget
An estimated projection of the company's cash position in the future	Cash budget

The financial budget includes some important data from the operating budgets. It helps management make long-term decisions. The major components of the financial budget is a budgeted financial position (assets, liabilities and equity) and cash flow forecast.

The master budget is a planning document for the business that consolidates all financial and operational budgets.

A cash budget is an estimation for the cash flows of a business over a specific period of time, it is used to assess whether the business has sufficient cash to operate

A capital expenditure budget is a formal plan that states the amounts and timing of non-current asset purchases by a business.

A sales budget estimates the sales in units and sales earnings from units sold.

A materials cost budget is prepared after determining production requirements. It details the raw materials that must be purchased to fulfil current production requirements and provide for adequate raw material inventory levels.

(d) Complete the table below by entering the missing figures. Use minus signs for any negative figures required.

(3 marks)

20X4 Price per 100 litres	October £	November £	December £
Underlying price per 100 litres	23.00	26.00	29.00
Seasonal Variation	3.50	-5.50	2.50
Seasonally adjusted price per 100 litres	26.50	20.50	31.50

Workings:

Additive model
TS = T + SV

October
26.50 = T + 3.50
26.50 - 3.50 = **23.00**

November
20.50 = 26.00 + SV
20.50 - 26.00 = **-5.50**

December
TS = 29.00 + 2.50
TS = **31.50**

(e) Compete the table below to forecast the price (£) per 100 litres of milk in the last quarter of 20X5. Use minus signs for any negative figures required.

(6 marks)

20X5 Price per 100 litres	October £	November £	December £
Underlying price per 100 litres	59.00	62.00	65.00
Seasonal Variation	3.50	-5.50	2.50
Seasonally adjusted price per 100 litr	62.50	56.50	67.50

Workings:

We need the trend starting October 20X5.

From the 20X4 data the price moved from £23 to £29 in two monthly movements.

£29 - £23 = £6 increase per movement (monthly)

Monthly movement (trend) = £6 ÷ 2 months movement = £3 increase per month.

Trend

So for October 20X5 = £29 (Dec 20X4) + £3 x 10 months (Jan 20X5 to Oct 20X5) = £59.

November 20X5 = £59 + £3 = £62.

December 20X5 = £62 + £3 = £65.

Seasonal Variation

These are given in (a) for Oct 20X4 - Dec 20X4.

They would be the same for Oct 20X5 - Dec 20X5.

Time series (forecast)

Additive model

TS = T + SV

October

TS = 59 + 3.50

TS = 62.5

November

TS = 62 - 5.50

TS = 56.5

December

TS = 65 + 2.50

TS = 67.5

Task 2 (20 marks)

Within this exam task you must be able to:

- Identify and calculate the effect of production and sales constraints on an organisation.
- Identify budget limiting factors, for example, a production bottleneck, market share, access to finance, shortages of material, labour, plant capacity, or factory space.
- Calculate the production limit from the examples given above.

Prepare planning schedules for physical production resources:

- Production plan (volumes of inventory, production and sales).
- Material usage and purchases.
- Staffing, labour hours and overtime.
- Plant utilisation.

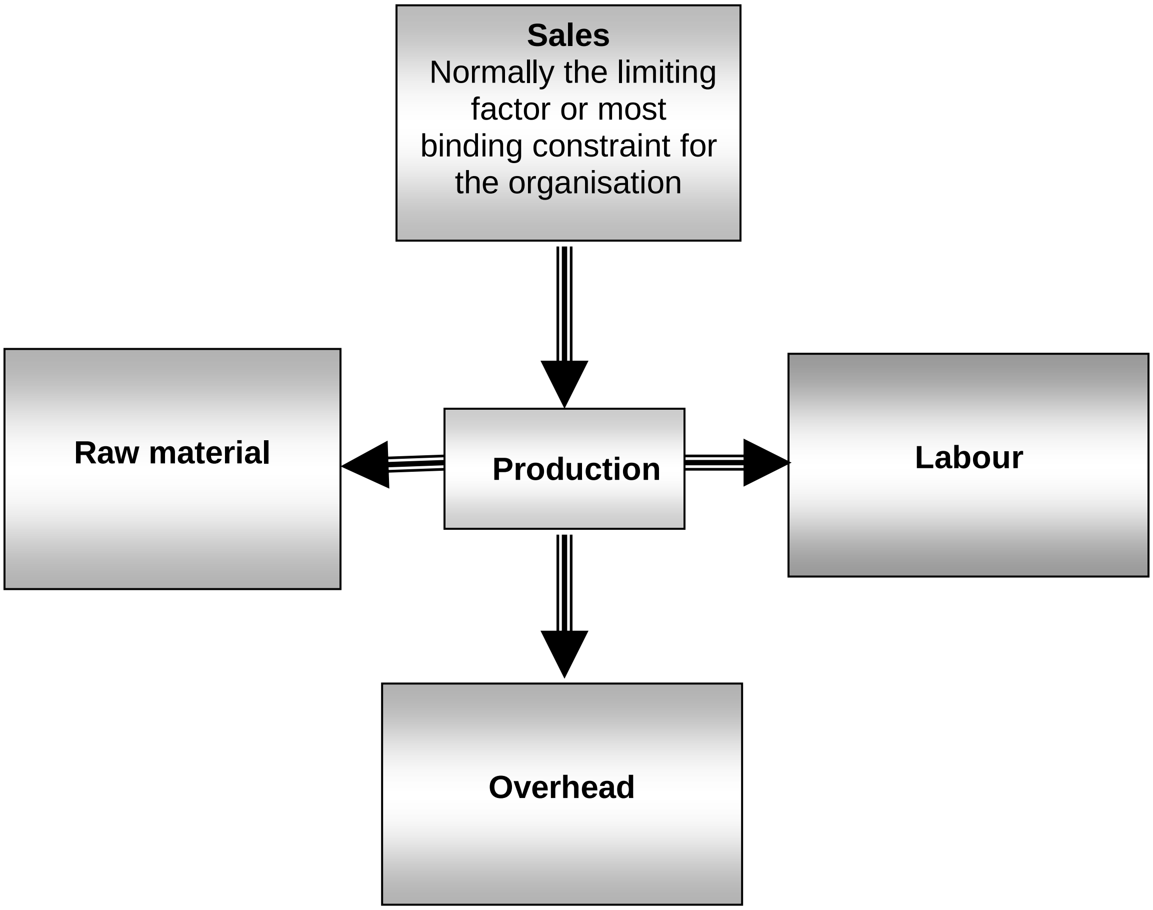
The process of producing operating (functional) budgets

Budgets are normally created by starting with the 'principle' most limiting (or key budget factor) for the organisation. The limiting (or key) budget factor for most organisations is sales demand, so the sales budget is normally produced first.

However other examples of limiting factors could be a limitation of machine hours, labour hours, or raw materials available, so these budgets would need to be constructed before the sales budget, because the business does not have enough of these physical resources in the first place to satisfy sales demand.

All other budgets are constructed e.g. labour, material and overhead, after the production budget because they are driven by the number of units made.

Diagram to show how different budgets are driven



(a) Complete the production budget shown below for product E.
Round up any decimal figures to the nearest whole number of units, if necessary.

(10 marks)

Note: the task instruction is to 'round up' any decimal figures, so for example 261.76 would round up to 262, or 261.13 would round up to 262.

Production (units)	Week 1	Week 2	Week 3	Week 4	Week 5
Opening inventory	2500	1250	890	1010	
Good production	12750	12140	9020	10220	
Sales volume	14000	12500	8900	10100	11300
Closing inventory	1250	890	1010	1130	

Rejected production	261	248	185	209	
Total manufactured units	13011	12388	9205	10429	

1. First calculate closing inventories.

- Week 1 – 10% of next week's sales (week 2) sales 12500 ÷ 100% x 10% = 1250.
- Week 2 – 10% of next week's sales (week 3) sales 8900 ÷ 100% x 10% = 890.
- Week 3 – 10% of next week's sales (week 4) sales 10100 ÷ 100% x 10% = 1010.
- Week 4 – 10% of next week's sales (week 5) sales 11300 ÷ 100% x 10% = 1130.

2. Closing inventories (above) become opening inventories for the following week.

3. Sales, opening and closing inventory figures can now be used to calculate the 'good production' before rejects are considered. Production = Closing inventory + Sales - Opening inventory.

Example week 1:

- CI + Sales - OI = Production.
- 1250 + 14000 - 2500 = 12750.

Good production is what needs to be made and available for sale to achieve the sales budget, for examples week 1 is 12750 units. Good production is after accounting for 2% that has failed quality control checks and has been rejected. So, good production is 98% (100% made - 2% rejected) of total production.

4. The last step would be to work out the number of rejected units (2%) and the total number of units manufactured (100%) before rejects.

Example week 1:

Rejected production
12750 units is 98% (100% made - 2% rejected) of total production.
So, 12750 ÷ 98% x 2% = 260.20 units. Round up 261 units.

Total manufactured units (before any rejects)
12750 units is 98% (100% made - 2% rejected) of total production.
So, 12750 ÷ 98% x 100% = 13010.20 units. Round up 13011 units.

(b) Calculate raw materials usage and purchases for the next week.
Round up any decimal figures to the nearest whole number of units, if necessary.

(i) Tonnes required to be used for production.

(1 mark)

3093 tonnes

(ii) Tonnes required to be purchased.

(1 mark)

1893 tonnes

Workings:

Material budget	Tonnes
Opening inventory for materials	3300
Material purchases	1893
Material usage (97%)	3000
Wastage during usage (3%)	93
Total material usage (100%)	3093
Closing inventory for materials	2100

Note: the task instruction is to 'round up' any decimal figures, so for example 261.76 would round up to 262, or 261.13 would round up to 262.

- First, include all opening and closing inventory levels for materials.
- Second, work out usage, which is 20 units made x 150 tonnes per unit = 3000 tonnes but this would be after 3% of material has been wasted.

- Third, work out total material usage including the 3% wastage, 3000 tonnes is 97% used, after 3% wastage has occurred. 3000 tonnes ÷ 97% x 100% = 3092.78 tonnes total usage for production. Round up to 3093 tonnes.
- Finally, material purchases are found as a balancing figure. Add closing inventory to total usage (100%) and deduct opening inventory. 2100 + 3093 - 3300 = 1893 tonnes required to be purchased.

(c) How many total labour hours are required for the next week.
Round up any decimal figures to the nearest whole number of units, if necessary.

(1 mark)

300 hours

- 160 units of product G will be manufactured x 1.5 hours of productive labour time required per unit = 240 hours required.
- 240 hours required is only 80% of the total time required, the idle time is 20% of total time, so this needs to be added to the 240 hours to estimate total labour hours.
- 240 hours ÷ 80% x 100% = 300 hours total time.

(d) Calculate the production capacity for product H by completing the table shown below. Round up any decimal figures to the nearest whole number of units, if necessary.

(5 marks)

Production capacity	Units
Materials available are budgeted to manufacture	4364
Without overtime, direct labour hours available is budgeted to manufacture	4800
Machine time available is budgeted to manufacture	4000
Without sub-contracting machine time, the maximum sales volume is	4000
If sub-contracting further machine time, the maximum sales volume is	4364

1. Start by calculating how many units of product H you can make with the production constraints available.

- 240000 kilograms of material is available ÷ 55 kilograms of material per unit = 4363.63 units. Round up 4364 units.
- 800 hours of direct labour time available without overtime ÷ 10 minutes of direct labour time per unit (10 minutes ÷ 60 minutes = 0.1666666 hours) = 4800 units.
- 3000 hours of machine time available ÷ 45 minutes of machine time per unit (45 minutes ÷ 60 minutes = 0.75 hours) = 4000 units.

2. Maximum sales demand is 5000 units. You don't want to make any more than this amount regardless of resources available.

3. The most binding constraint should be noted at this stage, machine hours limit production more than any other resource and therefore is the limiting factor identified. You could potentially make more units with the labour time and materials available, but this is impossible in the scenario because you have run out of machine hours at 4000 units made. Without sub-contracting more machine hours, the maximum production is 4000 units.

4. If more machine hours were available (unlimited), production could rise to 4364 units, because the next bottleneck we are restricted by would be materials available. If you obtain more machine hours you can make more units, but eventually given that only 240000 kilograms of material is available, then only 4364 units could be made.

(e) Using your answer shown in (d) above. What would be the maximum sales volume if another 375 machine hours were made available internally.

(2 marks)

4364 units

If another 375 machine hours were made available, we could make another 500 units. 375 machine hours ÷ 0.75 hours (45 minutes) per unit = 500 units. The current number of units made from existing machine time was 4000 units. So, a total of 4000 units + 500 units = 4500 units could now be made with the amount of machine time. However, there would not be enough materials to make this many units, once again, materials become the limiting factor, so only 4364 units could be made because you don't have enough materials to make 4500 units.

Task 3 (20 marks)

Within this exam task you could be expected to complete the following:

Prepare cash flow forecasts

- Prepare a cash flow forecast from budget data, making due allowance for time lags or assumptions about changes in debtor, creditor and inventory balances.
- Analyse a cash flow forecast into shorter control periods, allowing for time lags.

Prepare planning schedules for physical production resources

- Production plan (volumes of inventory, production and sales).
- Material usage and purchases.
- Staffing, labour hours and overtime.

Prepare the following budgets

- Sales revenue.
- Material usage and purchases.
- Labour (employees and other resources).
- Other overheads.
- Operating statement/budget (profit and loss account down to profit from operations).
- Capital expenditure budget.
- Cash Budgets (cash flow forecasts).

(a) Complete the three working schedules using the information from the production budget and notes below. Enter all figures as positive values. (9 marks)

Production budget	Units
Opening inventory of finished goods	24000
Production	50000
Sub-total	74000
Sales	60000
Closing inventory of finished goods	14000

Materials

Each unit produced requires 0.2 kilograms (kg) of material.

Closing inventory is valued at the budgeted purchase price per kg.

Labour

Each item takes 6 minutes to produce.

32 staff work 140 basic hours each in the period.

Overtime is paid at 50% premium above the basic hourly rate.

Production overhead

Variable overhead is recovered on total labour hours.

Materials	Kg	£
Opening inventory	5000	13450
Purchases @ £2.75 per kg	10200	28050
Sub-total	15200	41500
Used in production (balance)	10000	27200
Closing inventory	5200	14300

Labour	Hours	£
Basic time @ £11.50 per hour	4480	51520
Overtime	520	8970
Total	5000	60490

Production overhead	Hours	£
Variable @ £0.50 per hour	5000	2500
Fixed		17800
Total		20300

Workings:

Materials budget

Closing inventory (CI) is valued at the budgeted purchase price per kg. 5200 kg (given in the budget) x £2.75 per kg (given in the budget) = £14,300.

Usage (kg) required for production 50000 units (see production budget) x 0.2 kg per unit required for each unit produced = 10000kg.

Now work the purchases (kg) required which is Closing inventory (kg) + Total usage (kg) – Opening inventory (OI) (kg) = Purchases (kg). 5200 kg + 10000 kg – 5000 kg = Purchases 10200 kg.

Purchases are at budgeted price (see materials budget) £2.75 per kg.

Purchases 10200 kg x £2.75 per kg = £28,050.

The usage of 10000 kg has already been calculated; the cost of this usage needs to be determined as a balancing figure in the materials budget.

Usage (£) = OI (£) + Purchases (£) - CI (£).
Usage (£) = £13,450 + £28,050 - £14,300 = £27,200.

Labour budget

Each item takes 6 minutes to produce (6 mins ÷ 60 mins = 0.1 hours per unit).
Total labour hours required is 50000 units produced (see production budget) x 0.1 hours per unit = 5000 hours required for production.

32 staff x 140 basic hours = 4480 hours @ £11.50 per hour = £51,520.

Overtime hours 5000 hours required less basic hours 4480 hours = 520 hours overtime.
Overtime is paid at 50% premium above the basic hourly rate.
520 hours @ (£11.50 x 150% = £17.25 per hour) = £8,970.

Total labour cost £51,520 + £8,970 = £60,490.

Production overhead budget

Variable overhead is recovered on total labour hours. 5000 hours required for production @ £0.50 per hour = £2,500.

Fixed overhead is given in the budget £17,800.

Total production overhead = £2,500 + £17,800 = £20,300.

(b) Complete the operating budget.
Enter income, costs and inventories as positive figures.

(6 marks)

Closing finished goods inventory will be valued at the budgeted production cost per unit.

Operating budget	Units	£ per unit	£
Sales revenue	60000	12.50	750000
Cost of good sold			£
Opening inventory of finished goods			51120
Cost of production		£	
Materials		27200	
Labour		60490	
Production overhead		20300	107990
Closing inventory of finished goods			30237
Cost of goods sold			128873
Gross profit/ (loss)			621127
Overheads		£	
Administration		25000	
Selling and distribution		15000	40000
Operating profit / (loss)			581127

Workings:

Sales
60000 units sold (see production budget) @ £12.50 each (price in the operating budget) = £750,000.

Materials
This is the cost of materials used in production from the materials budget prepared in part (a).

Labour
This is the total cost of labour for the period from the labour budget prepared in part (a).

Production overhead
This is the total production overhead for the period from the production overhead budget prepared in part (a).

Closing inventory
Closing finished goods inventory will be valued at the budgeted production cost per unit.

Materials	27200
Labour	60490
Production overhead	20300
Cost of production	107990

The cost of production from the operating budget is £107,990, the number of units produced for the period was 50000 units (see production budget).

£107,990 ÷ 50000 units produced = £2.1598 per unit.

Closing inventory (units) is 14000 units at the end of the period (see production budget) x £2.1598 per unit = Closing inventory valuation £30,237.

Cost of goods sold
Cost of goods sold is the cost of production that will be matched against sales for the period. Cost of goods sold = opening inventory (finished goods) + Production cost of finished goods - closing inventory (finished goods)

Opening inventory of finished goods	51120
Cost of production	107990
Closing inventory of finished goods	30237
Cost of goods sold	128873

Gross profit
Sales less cost of goods sold.
£750,000 – £128,873 = £621,127 Gross profit (before non-production overheads).

Operating profit
Administration £25,000 and Selling and distribution £15,000 (total non-production overheads) = £40,000. You need to be deduct these costs from gross profit to calculate the operating profit for the period.

(c) Complete the cash flow forecast using the budget data that you have calculated in parts (a) and (b) of this task and the additional information below. Enter receipts and payments as positive figures. (5 marks)

The trade receivables balance is expected to increase by £24,000 over the year.

The materials payable balance is expected to decrease by £7,000 over the year.

All other payments are made in the year they are incurred.

Production overheads include depreciation of £5,000.

Cash flow forecast		£
Opening cash balance/ (overdraft)		(30,000)
Sales receipts		726000
Payments:	£	
Material	35050	
Labour	60490	
Production overheads	15300	
Other overheads	40000	
Capital expenditure	13000	163840
Closing cash balance/ (overdraft)		532160

Sales receipts

The trade receivables balance is expected to increase by £24,000 over the year. This would mean £24,000 less is received from customers compared with sales for the same period.

Sales (from operating budget)	750000
Increase in trade receivables balance	24000
Cash received from customers	726000

Material

The materials payable balance is expected to decrease by £7,000 over the year. This would mean £7,000 more was paid to suppliers compared with purchases for the same period.

Purchases (from materials budget)	28050
Decrease in materials payable balance	7000
Cash paid to suppliers	35050

Labour
Payments are the same as the labour budgeted cost = £60,490.

Production overheads
All other payments are made in the year they are incurred.
Payments would be the same as the budgeted production overhead = £20,300, however, this figure includes depreciation of £5,000 which is a non-cash item and therefore it should be removed if calculating cash payments.
£20,300 - £5,000 = £15,300 cash paid.

Other overheads
All other payments are made in the year they are incurred.
Administration and selling and distribution expenses (total £40,000) as per the operating budget would have been paid in the period.

Capital expenditure
Given already in the cash flow forecast.

Closing cash balance/ (overdraft)
This would be the opening overdraft -£30,000 + Receipts £726,000 - Payments £163,840 = Positive bank balance forecast £532,160 at the end of the period.

Task 4 (20 marks)

This task will be a written task and would include planning and agreeing draft budgets.

It may also draw from other areas of the syllabus such as:

- Describe the sources of information and the validity of those sources when submitting draft budgets to management.
- Identify the key planning assumptions in a prepared budget.
- Identify the potential threats to budget achievement.
- Identify the responsibilities of relevant managers.
- Quantify the impact of the budget on the organisation.
- Submit the budget for approval.
- Suggest suitable physical and financial performance measures, consistent with key planning assumptions, to aid budgetary control.
- Calculate these measures for budget and for actual performance.
- Provide constructive advice to assist the achievement of targets and budgets.

Tips for effective report writing ('DEPTH')

- **D**iversity (include a good RANGE of answers).
- **E**xamine information and requirements (APPLY (use) the scenario information in the exam task to match to the task requirements), ensure ALL of the requirements are met and the task information is extensively used in your answer.
- **P**lan before you type (in the window answer box in the task, put your headings and key words for answering the requirements) before you begin writing.
- **T**iming (15 or 20 mins per task, so don't over run).
- **H**eadings (include headings for your different answers to provide good structure).

The responses included below cover a range of possible points that you may include in your written response. This example is not intended to be exhaustive and other valid comments may be relevant.

Marking scheme (human not computer marked)

(0 marks). No response worthy of credit.

(33% or less awarded). Answer provides a very brief analysis and points made have little relevance to the scenario and use of supporting evidence is limited. Responses cannot access higher bands if they do not address all task requirements or support answers by evidence drawn from the information in the task scenario.

(33% to 67% awarded). Answer provides a brief analysis for all task requirements. The response makes good use of evidence to support points made. Answer demonstrates a good understanding of the subject matter examined. To achieve the highest marks in this band, the response will address all task requirements.

(67%+ awarded). Answer gives a detailed analysis for all task requirements (nothing left unanswered). Points made will be well supported by evidence drawn from the task scenario. A response that falls in this band will demonstrate a solid understanding of the subject matter and application of the information in the task scenario.

(a) Explain how the use of standard costing for Burger Champion can help with budgetary planning and control.

Standard costing can enable easier preparation of budgets allowing more accurate planning and forecasting. All you need is a volume sold and you can flex up or down budgeted costs.

Standard costing can control performance of BC by ‘exception reporting’ e.g. standard or budgeted costs and revenues, can be compared with actual results and any variances highlighted for investigation. This allows more focused effort in controlling the performance of its chain of restaurants.

Standard costing can motivate staff and give them goals to achieve such as less wastage, greater efficiency when using ingredients and preparing food. It can communicate the time per burger, contents of ingredients and other information for staff to understand as aims of their job performance.

(b) Identify appropriate sources of data for Burger Champion, if constructing a new standard for its ingredients and direct labour to make the ‘Champion Burger’.

Material usage

- Current levels of ingredient wastage (materials usage).
- Current levels of cooked food wastage (production).
- New product design information (if any) since it may affect specified weights of ingredients e.g. burgers if increased in size may need amendment to the standard.

Material price

- Most recent supplier purchase invoices for beef, buns etc.
- Commodity price index for beef, wheat etc.
- Supplier websites, quotes and discount policies.

Labour efficiency

- Payroll information or timesheets may enable management to understand the current length of time for direct labour to cook and supply one burger, for example total hours worked across the chain ÷ total burgers made will give an average time taken.
- Time and motion studies observing the workforce may also give objective information.
- Information about changes in automation or new working practices introduced as this could change the standard time required.

Labour rates

- National minimum wage levels in the country.
- Payroll costs will give a national rate that BC pays its staff e.g. total payroll costs for direct labour ÷ total hours worked will give an average rate of pay for its staff.
- Current or expected pay increases.

(c) Explain to the management of Burger Champion, the advantages and disadvantages of allowing participation by restaurant staff if constructing a new standard cost for the 'Champion Burger'.

Advantages of allowing participation

It will be more interesting and more involving for staff which can increase their job satisfaction. Participation means that the new standard is more likely to be accepted by staff because they are involved in setting targets themselves. Staff maybe more up to date in terms of the current working environment and so information from them could help set more realistic usage and efficiency levels expected.

Disadvantages of allowing participation

A possibility that staff may include "slack" or "padding" within the standard to make it less challenging for them e.g. overestimate time and ingredient wastage, This is the inevitable downside of human behaviour, to underestimate and to avoid blame if they were to under achieve. Participation could also create a slower process to formulate a standard because more consultation time is required, this will inevitably increase the cost and time of formulating budgets, leading to budgets which are late or costly to produce. Staff could be inexperienced financially so they may not be able to contribute effectively in some cases e.g. the price of beef less known by staff than the current level of their food wastage.

(5 marks)

(d) Provide FIVE examples of performance measures, other than financial, that could be used by Burger Champion to measure the success of their operations.

- Measure how fast and efficient customer service is e.g. average time for payment, handling and delivery of food.
- Measure performance for inventory control e.g. inventory days and the number of late deliveries.
- Measure customer surveys e.g. staff friendliness, courteousness and helpfulness towards customers.
- Measure how frequent product innovation occurs for the menu offered to customers.
- Measure the hygiene and safety of food storage, processing and cooking e.g. number of failed inspections, or number of customers complaining of food poisoning.

Task 5 (20 marks)

Within this exam task you will be expected to review and revise budgets to reflect changing circumstances. This would normally involve calculating the impact of changes to planning assumptions and forecasts and recalculating budgets accordingly.

To do this you will need a strong understanding of the following types of cost:

- Direct costs
- Indirect costs
- Fixed (and stepped fixed) costs
- Variable costs
- Semi-variable costs

Tutorial notes for the classification of costs by behaviour

Variable cost (VC)

- If nothing is made (zero production) you incur nothing (zero cost)
- Total VC will rise and fall with units made
- The unit VC (total variable cost ÷ units made) tends to remain constant (does not change) regardless of the number of units made

Fixed Cost (FC)

- If nothing is made (zero production) you will still incur the fixed cost
- Total FC remains constant (fixed) regardless of the number of units made.
- The unit FC (total fixed cost ÷ units made) falls as the number of units made increases (and vice versa)

Semi variable (VC + FC)

- If you make nothing you still incur the fixed cost
- The variable cost will rise and fall with units made

Fixed Cost can also be stepped in nature, when production levels go up, more resources could be required by the business and fixed costs such as rent, depreciation charges, indirect labour cost etc may increase. A stepped fixed cost will increase if you exceed a certain number of units made.

Cost behaviour is useful for budgeting and forecasting costs.

Complete the table below by:

(a) Calculating and inserting the following figures for costs and the TOTAL cost for 400000 miles driven for TX Transport. Round all figures to the nearest £.

(8 marks)

Budget (400000 miles driven)	at 400000 miles driven
Staff cost	33,500
Fuel	220,000
Servicing and repairs	48,000
Other costs	3,000
Total cost (£)	304,500

Workings:

Staff cost
Semi variable cost but told that fixed cost is £13,500.
Based on 250000 miles total cost £26,000 - £13,500 fixed cost = variable cost £12,500.
Variable cost £12,500 / 250000 miles = 5p per mile.
So, 400000 miles would be £13,500 + (£0.05 x 400000 miles) = £33,500.

Fuel
Pure variable cost based on 250000 miles. Cost per mile £137,500 / 250000 miles = £0.55 per mile. So, £0.55 x 400000 miles = 220,000.

Servicing and repairs
Stepped fixed cost.
At 300000 miles the cost was £36,000. Rises by £6,000 for every 50000 miles is driven.

If you drive another 100000 miles (total 400000 miles), then £36,000 + (2 x £6,000 for every 50000 miles) = £48,000.

Other costs
Fixed regardless of miles.

(b) Complete the alternative scenario column in the operating budget table shown below and calculate the increase or decrease in gross profit.
For the sales price per unit, round your answer to 2 decimal places.
For all other figures, round your answer to the nearest whole number, if necessary. Use negative figures, only to indicate a decrease in gross profit.

(12 marks)

Operating budget	First Scenario	Alternative Scenario
Sales price per unit (£)	5.40	**5.72**
Sales volume	50000	**45500**
	£	**£**
Sales revenue	270000	**260260**
Costs:		
Direct materials	22500	**20475**
Direct labour	15000	**13650**
Power	1620	**1650**
Depreciation	36000	**30000**
Total	75120	**65775**
Gross profit	194,880	**194,485**
Increase / (Decrease) in gross profit		**-395**

Workings:

Sales price increase by 6% (£5.40 x 106% or 1.06) = £5.72 (rounded to 2 decimal places). Or alternatively work out 6% of £5.40 and add this to £5.40. £5.40 ÷ 100% x 6% = £0.324. £5.40 + £0.324 = revised price £5.724. Rounded to 2 decimal places would be £5.72.

Sale volume reduce by 9% (you would have left 91% of volume). 50000 units x 91% (or 0.91) = 45500 units.

Or alternatively work out 9% of 50000 units and take this away from 50000 units. 50000 units ÷ 100% x 9% = 4500 units. 50000 unit – 4500 units = revised volume 45500 units.

Sales revenue £5.72 revised price x 45500 revised units = £260,260.

Direct materials are variable, no other details are given. Firstly, work out the existing variable cost per unit for direct materials. £22,500 ÷ 50000 units = £0.45 variable cost per unit. Variable cost rises and falls with the volume sold. Multiply the direct material (variable cost) by the revised volume sold in the budget, £0.45 per unit x 45500 units = £20,475.

Direct labour cost is variable, no other details are given. Firstly, work out the existing variable cost per unit for direct labour. £15,000 ÷ 50000 units = £0.30 variable cost per unit. Variable cost rises and falls with the volume sold. Multiply the direct labour (variable cost) by the revised volume sold in the budget, £0.30 per unit x 45500 units = £13,650.

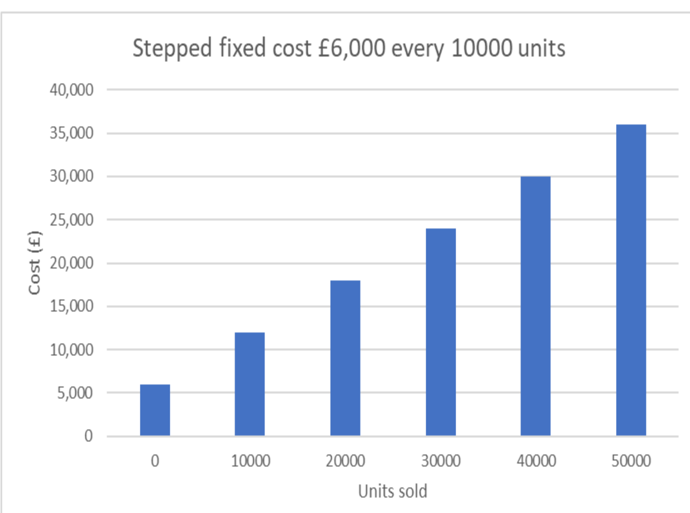
There is already an allowance for a power cost price rise of 8% and we need to revise the power cost price rise to 10% (another 2%).

Quickest way to calculate the new power cost estimate is divide by 108% (or 1.08), since you had 100% and added 8% originally), then multiply by 110% (or 1.1) to add 10% back to the cost. £1,620 ÷ 108% (1.08) x 110% (1.1) = £1,650.

Alternative, £1,620 ÷ 108% (100% + 8%) = £15 every 1%. You need 110% (100% + 10%), so 110% x £15 every 1% = £1,650.

Depreciation is a stepped cost, increasing at every 10000 units. Fixed cost will start at zero units made, it then increases at 10000, 20000, 30000, 40000 and 50000 unit intervals.

Currently the cost is £36,000 for 50000 units sold. Starting at zero, there is 6 movements (changes) in volume. £36,000 ÷ 6 movements = £6,000 per movement. The graph below depicts this relationship.



Volume has dropped below 50000 units to 45500 units in the alternative scenario, a drop of £6,000 because the number of units has now moved below 50000 units but still greater than 40000 units. The forecast cost now would be £36,000 - £6,000 = £30,000.

Gross profit = Sales revenue £260,260 – Total costs £194,485.
Gross profit = £194,485.

Gross profit has decreased when the two scenarios are compared.
Gross profit (before) £194,880 - Gross profit (after) £194,485 = - £395.

Task 6 (20 marks)

This task is likely to examine the following syllabus areas:

- Incorporate standard costs into budget calculations.
- Use standard costing methodology to split the total material and the total labour variances into price and efficiency variances.
- Calculate variances in absolute and percentage terms.
- Calculate backward variances (use variance data to calculate underlying budget or actual performance).
- Identify favourable and adverse variances.
- Calculate backward variances (use variance data to calculate underlying budget or actual performance).
- Identify significant variances.

Calculations to learn (sub-division of variances)

Material price variance	**£**
Did spend (actual quantity purchased x actual average price paid)*	£X
Should spend (actual quantity purchased x standard price)	£X
Material price variance	£X

* This figure would be the actual purchase expenses for the period.

Materials can be purchased and used by the litre, kg, tonne etc.

Material usage variance	
Actual production (units made) did use	X kg
Actual production (units made) should use	X kg
Difference	X kg
x standard price per kg	£ per kg
Material usage variance	£X

Labour rate variance

Did spend (actual hours worked x actual average rate paid)**	£X
Should spend (actual hours worked x standard rate paid)	£X
Labour rate variance	£X

** This figure is the actual wage expenses for the period.

Labour efficiency variance

Hours they did work for actual production (units made)	X hours
Hours they should work for actual production (units made)	X hours
Difference	X hours
x standard rate per hour	£ per hour
Labour efficiency variance	£X

There is also the labour idle time variance to learn if there is a difference between labour hours paid and labour hours worked. Idle time (non-productive time) is always an adverse variance and calculates the cost of production stoppages, machine break downs, 'no work on', or strike action etc. It's an additional variance for labour and you may want to read up on this and its effect on the labour efficiency calculation.

Calculate the variances in the table shown below. Enter your answers to the nearest whole pound (£).

(16 marks)

Enter a zero if there is no variance. Do not use minus signs or brackets.

Use the drop down boxes to indicate whether each variance you have calculated is adverse, favourable or no variance.

(4 marks)

	£	Adverse/Favourable/ No variance
Ingredients price variance	**99**	**Favourable**
Ingredients usage variance	**225**	**Adverse**
Direct labour rate variance	**0**	**No variance**
Direct labour efficiency variance	**765**	**Favourable**

Workings:

Standard costs:

Material price (£2,500 ÷ 1000 kgs)	£2.50	per kg
Material usage (1000 kgs ÷ 5000 sandwiches)	0.2	kgs per unit
0.2 kgs @ £2.50 per kg	£0.50	per unit
Labour rate (£4,250 ÷ 500 hours)	£8.50	per hour
Labour efficiency (500 hours ÷ 5000 sandwiches)	0.1	hours per unit
0.1 hours @ £8.50 per hour	£0.85	per unit

Material (ingredient) price variance

990 kgs did cost	£2,376	
990 kgs should cost (x £2.50 per kg)	£2,475	
	£99	

Material (ingredient) usage variance

4500 sandwiches did use	990	kgs
4500 sandwiches should use (x 0.2 kgs per sandwich)	900	kgs
	90	kgs
x Standard cost per kg	£2.50	per kg
	£225	

Proof:

Flexed material cost (£0.50 x 4500 sandwiches)	£2,250	
Material (ingredient) price variance	£99	Favourable
Material (ingredient) usage variance	£225	Adverse
Actual material cost	£2,376	

Labour rate variance

360 hours did cost	£3,060	
360 hours should cost (x £8.50 per hour)	£3,060	
	£0	

Labour efficiency variance

4500 sandwiches did take	360	hours
4500 sandwiches should take (x 0.1 hours per sandwich)	450	hours
	90	hours
x Standard cost per hour	£8.50	per hour
	£765	

Proof:

Flexed labour cost (£0.85 x 4500 sandwiches)	£3,825	
Labour rate variance	£0	No variance
Labour efficiency variance	£765	Favourable
Actual labour cost	£3,060	

Task 7 (20 marks)

Within this exam task you can be examined on:

- Flexing budgets, adjusting each element of the budget correctly according to the original budget assumptions about cost behaviour.
- Identify favourable and adverse variances.
- Compare like with like and present the results clearly.
- Identify significant variances.
- Calculate variances in absolute and percentage terms.

(a) Complete the table below to show a flexed budget and the resulting variances against the budget for the last month. Show the actual variance amount for sales revenue and each cost in the column headed 'Variance'.

Note:
- **Adverse variances must be denoted with a minus sign or brackets.**
- **Enter 0 where any figure is zero.**

(16 marks)

	Original Budget	Flexed Budget	Actual	Variance
Number of units sold	60000	70000	70000	
	£	£	£	£
Sales Revenue	612,000	714000	785,000	71000
Less costs:				
Direct materials	48,000	56000	49,800	6200
Direct labour	45,000	52500	45,000	7500
Variable overheads	75,000	87500	90,000	-2500
Fixed overheads	50,000	50000	51,000	-1000
Profit from operations	394,000	468000	549,200	

Variance analysis is a process, which compares flexed budgeted costs and revenue to the actual costs and revenue of the organisation. This information will be used to improve operational performance by control action taken by management. Variances can be either zero, adverse or favourable.

Flexed budget (workings)

- Sales revenue £612,000 ÷ 60000 units = £10.20 price per unit. The flexed budget is always based on actual volume (70000 units), so 70000 units x £10.20 = £714,000.
- Direct materials £48,000 ÷ 60000 units = £0.80 cost per unit. The flexed budget is always based on actual volume (70000 units), so 70000 units x £0.80 = £56,000.
- Direct labour £45,000 ÷ 60000 units = £0.75 cost per unit. The flexed budget is always based on actual volume (70000 units), so 70000 units x £0.75 = £52,500.
- Variable overheads £75,000 ÷ 60000 units = £1.25 cost per unit. The flexed budget is always based on actual volume (70000 units), so 70000 units x £1.25 = £87,500.
- Fixed overheads are fixed so would be the same as the budget for 60000 units or 70000 units sold.

Variances (workings)

- Based on the same number of units sold (70000), actual sales revenue (income) exceeds (is more than) flexed budgeted sales revenue by £71,000. Favourable.
- Based on the same number of units sold (70000), actual direct materials (cost) is less than flexed budgeted direct materials by £6,200. Favourable.
- Based on the same number of units sold (70000), actual direct labour (cost) is less than flexed budgeted direct labour by £7,500. Favourable.
- Based on the same number of units sold (70000), actual variable overheads (cost) were more than flexed budgeted overheads by £2,500. Adverse.
- Based on the same number of units sold (70000), actual fixed overheads (cost) were more than flexed budgeted overheads by £1,000. Adverse.

(b) Complete the following sentences

(4 marks)

The variance that had the greatest impact in terms of decreasing profits is the **Variable overheads variance**

The above is the largest adverse variance.

The variance that had the greatest impact in terms of increasing profits is the **Sales revenue variance**

The above is the largest favourable variance.

Task 8 (20 marks)

Within this exam task you are more likely to be:

- Identify significant variances.
- Use operational information provided to explain the likely causes of variances.
- Provide suitable advice to management.
- Explain the impact of variances on overall organisational performance.
- Identify where further investigation is needed.
- Make recommendations to improve operational performance.
- Identify and describe important budgetary planning and control issues.
- Make relevant and focused recommendations to initiate management action.
- Explain how the use of standard costing can complement budgetary control.
- Explain the purpose of budget flexing.
- Discuss the limitations of budget flexing in the context of a given scenario.
- Provide constructive advice to assist in the achievement of targets and budgets.

This task is a written task in the exam where you will need to type your answers. This task will be human not computer marked. It will cover the following syllabus areas:

Tips for effective report writing ('DEPTH')

- **D**iversity (include a good RANGE of answers).
- **E**xamine information and requirements (APPLY (use) the scenario information in the exam task to match to the task requirements), ensure ALL of the requirements are met and the task information is extensively used in your answer.
- **P**lan before you type (in the window answer box in the task, put your headings and key words for answering the requirements) before you begin writing.
- **T**iming (15 or 20 mins per task, so don't over run).
- **H**eadings (include headings for your different answers to provide good structure).

The responses included below cover a range of possible points that you may include in your written response. This example is not intended to be exhaustive and other valid comments may be relevant.

Marking scheme (human not computer marked)

(0 marks). No response worthy of credit.

(33% or less awarded). Answer provides a very brief analysis and points made have little relevance to the scenario and use of supporting evidence is limited. Responses cannot access higher bands if they do not address all task requirements or support answers by evidence drawn from the information in the task scenario.

(33% to 67% awarded). Answer provides a brief analysis for all task requirements. The response makes good use of evidence to support points made. Answer demonstrates a good understanding of the subject matter examined. To achieve the highest marks in this band, the response will address all task requirements.

(67%+ awarded). Answer gives a detailed analysis for all task requirements (nothing left unanswered). Points made will be well supported by evidence drawn from the task scenario. A response that falls in this band will demonstrate a solid understanding of the subject matter and application of the information in the task scenario.

Explain the likely causes of the variances that have been reported this month. Identify whether each variance is controllable or non-controllable. Identify possible actions that can be taken to reduce adverse variances or increase favourable variances.

(20 marks)

Material price variance (favourable)

The new suppler has no doubt contributed to the favourable price variance since the price of beef and buns have been reduced by 20%. This is a controllable factor since management can negotiate and find alternative suppliers that can help reduce the cost of ingredients.

Material usage variance (adverse)

Higher incidence of wastage, due to cooked food being unsold. Wastage is a controllable factor and advising staff about cooking less products during off-peak periods could help reduce some of this wastage.

Alterations to the product design means that bigger burgers will inevitably mean more usage of ingredients. The bigger burger could be necessary to compete and if so, is an uncontrollable factor causing the variance, but regardless the standard may need to be adjusted for the additional cost of more ingredient usage.

Labour rate variance (favourable)

Unexpected national wage decreases and the deskilling of staff have contributed both to the reduction in hourly rates of pay. Economic factors such as national wage levels are not within the control of the business, but it does none the less enjoy the benefit of falling wages cost. The decision to deskill staff is within the control of management. I would recommend the standard be amended to ensure it includes a more up-to-date rate per hour for staff.

Labour efficiency variance (adverse)

Improvements in the efficiency of working methods as well as staff training is required to improve this variance. This variance has the largest impact in terms of poor performance (£13,460 adverse, the largest adverse variance).

The milk shake machine is perhaps slowing the labour process down. The new cooking processes even though automated does effect staff time (efficiency), this variance could be a combination of using unskilled staff who would be generally slower than skilled staff and also the learning processes to adopt new working methods because of the new cooking machines.

Most of the above problems are controllable, the learning rate effect for staff to adjust to new working methods and new equipment should make this variance better in future months. The milk shake machines if replaced could also speed up service and improve this variance. Training of staff or reverting back to using more skilled staff can also have a more positive impact to improve this adverse variance.

Labour idle time variance

The milk shake machine does not work effectively, so customer delivery is probably being delayed as staff need to unclear any blockages. The unproductive time of clearing blockages is wages paid for nothing. As advised above, the milk shake machine if replaced could speed up service and also reduce this non-productive time.

Variable overhead expenditure variance (favourable)

This variance refers to the rate paid for variable overhead currently £0.10 per burger. Given it is favourable it indicates that costs such as napkins, sauces, energy, which tends to rise and fall with burgers made is lower than the standard cost expected.

The energy efficiency of the new cooking process and the policy of handing out on request any napkins etc (a new policy) to customers may also have had an effect on improving this favourable variance. All such factors are controllable by management but the rate used per burger for variable overhead may need to be revised given new policies and processes have been introduced.

Fixed overhead expenditure variance (adverse)

Depreciation for the new ovens installed has risen sharply and this was not reflected in the budget or standard. The new machines were a decision by management and therefore controllable.

Rent increases have also occurred in which case these fixed costs have risen but again the standard has not been changed to reflect this. Economic factors driving up rent cost is uncontrollable, management may want to seek alternative premises in the future to help reduce this variance.

I would recommend the standard cost of the XL Burger is amended for the higher level of fixed overhead expenditure as both increases in fixed expenditure seem permanent and will not reverse for the foreseeable future.