

Question: 1

A company is preparing its annual budget and is estimating the number of units of Product A that it will sell in each quarter of year 2. Past experience has shown that the trend for sales of the product is represented by the following relationship:

$y = a + bx$ where

y = number of sales units in the quarter $a = 10,000$ units $b = 3,000$ units x = the quarter number where 1 = quarter 1 of year 1

Actual sales of Product A in Year 1 were affected by seasonal variations and were as follows:

Quarter 1: 14,000 units Quarter 2: 18,000 units Quarter 3: 18,000 units Quarter 4: 20,000 units

Calculate the expected sales of Product A (in units) for each quarter of year 2, after adjusting for seasonal variations using the additive model.

- A. The expected sales for year 2 Quarter 4 was 32700 units
- B. The expected sales for year 2 Quarter 4 was 32000 units
- C. The expected sales for year 2 Quarter 4 was 33000 units
- D. The expected sales for year 2 Quarter 4 was 40000 units

Answer: B

Question: 2

RT produces two products from different quantities of the same resources using a just-in-time (JIT) production system. The selling price and resource requirements of each of the products are shown below:

Product	R	T
Unit selling price (\$)	130	160
Resources per unit:		
Direct labour (\$8 per hour)	3 hours	5 hours
Material A (\$3 per kg)	5 kgs	4 kgs
Material B (\$7 per litre)	2 litres	1 litre
Machine hours (\$10 per hour)	3 hours	4 hours

Market research shows that the maximum demand for products R and T during June 2010 is 500 units and 800 units respectively. This does not include an order that RT has agreed with a commercial customer for the supply of 250 units of R and 350 units of T at selling prices of \$100 and \$135 per unit respectively. Although the customer will accept part of the order, failure by RT to deliver the order in full by the end of June will cause RT to incur a \$10,000 financial penalty. At a recent meeting of the purchasing and production managers to discuss the production plans of RT for June, the following resource restrictions for June were identified:

Direct labour hours 7,500 hours

Material A 8,500 kgs

Material B 3,000 litres

Machine hours 7,500 hours

Assuming that RT completes the order with the commercial customer, prepare calculations to show, from a financial perspective, the optimum production plan for June 2010 and the contribution that would result from adopting this plan.

The optimum production plan will be:

- A. Contract: R = 250, T = 360 and Market: R = 500 T = 710
- B. Contract: R = 250, T = 360 and Market: R = 600 T = 710
- C. Contract: R = 250, T = 360 and Market: R = 650 T = 710
- D. Contract: R = 250, T = 360 and Market: R = 500 T = 700
- E. Contract: R = 250, T = 360 and Market: R = 660 T = 720

Answer: D

Question: 3

RT produces two products from different quantities of the same resources using a just-in-time (JIT) production system. The selling price and resource requirements of each of the products are shown below:

Product	R	T
Unit selling price (\$)	130	160
Resources per unit:		
Direct labour (\$8 per hour)	3 hours	5 hours
Material A (\$3 per kg)	5 kgs	4 kgs
Material B (\$7 per litre)	2 litres	1 litre
Machine hours (\$10 per hour)	3 hours	4 hours

Market research shows that the maximum demand for products R and T during June 2010 is 500 units and 800 units respectively. This does not include an order that RT has agreed with a commercial customer for the supply of 250 units of R and 350 units of T at selling prices of \$100 and \$135 per unit respectively. Although the customer will accept part of the order, failure by RT to deliver the order in full by the end of June will cause RT to incur a \$10,000 financial penalty. At a recent meeting of the purchasing and production managers to discuss the production plans of RT for June, the following resource restrictions for June were identified: Direct labour hours 7,500 hours

Material A 8,500 kgs

Material B 3,000 litres

Machine hours 7,500 hours

Assuming that RT completes the order with the commercial customer, prepare calculations to show, from a financial perspective, the optimum production plan for June 2010 and the contribution that would result from adopting this plan.

The contribution per unit for R and T will be...?

A. R = \$47 per unit. T = \$61 per unit

B. R = \$51 per unit. T = \$61 per unit

C. R = \$47 per unit. T = \$65 per unit

D. R = \$45 per unit. T = \$66 per unit

Answer: A

Question: 4

RT produces two products from different quantities of the same resources using a just-in-time (JIT) production system. The selling price and resource requirements of each of the products are shown below:

Product	R	T
Unit selling price (\$)	130	160
Resources per unit:		
Direct labour (\$8 per hour)	3 hours	5 hours
Material A (\$3 per kg)	5 kgs	4 kgs
Material B (\$7 per litre)	2 litres	1 litre
Machine hours (\$10 per hour)	3 hours	4 hours

Market research shows that the maximum demand for products R and T during June 2010 is 500 units and 800 units respectively. This does not include an order that RT has agreed with a commercial customer for the supply of 250 units of R and 350 units of T at selling prices of \$100 and \$135 per unit respectively. Although the customer will accept part of the order, failure by RT to deliver the order in full by the end of June will cause RT to incur a \$10,000 financial penalty. At a recent meeting of the purchasing and production managers to discuss the production plans of RT for June, the following resource restrictions for June were identified: Direct labour hours 7,500 hours

Material A 8,500 kgs

Material B 3,000 litres

Machine hours 7,500 hours

(Refer to previous 2 questions.)

You have now presented your optimum production plan to the purchasing and production managers of RT. During your presentation it became clear that the predicted resource restrictions were rather optimistic. In fact, the managers agreed that the availability of all of the resources could be as much as 10% lower than their original predictions.

Assuming that RT completes the order with the commercial customer, and using linear programming, show the optimum production plan for RT for June 2010 on the basis that the availability of all resources is 10% lower than originally predicted.

- A. The optimal plan is to produce 550 units of Product R and 650 units of product T in addition to the contract.
- B. The optimal plan is to produce 520 units of Product R and 620 units of product T in addition to the contract.
- C. The optimal plan is to produce 510 units of Product R and 720 units of product T in addition to the contract.
- D. The optimal plan is to produce 560 units of Product R and 670 units of product T in addition to the contract.
- E. The optimal plan is to produce 450 units of Product R and 690 units of product T in addition to the contract.
- F. The optimal plan is to produce 500 units of Product R and 550 units of product T in addition to the contract.

Answer: F

Question: 5

A company produces three products D, E and F. The statement below shows the selling price and product costs per unit for each product, based on a traditional absorption costing system.

	<i>Product D</i> \$	<i>Product E</i> \$	<i>Product F</i> \$
Selling price per unit	32	28	22
Variable costs per unit			
Direct material	10	8	6
Direct labour	6	4	4
Variable overhead	4	2	2
Fixed cost per unit			
Fixed overhead	<u>9</u>	<u>6</u>	<u>6</u>
Total product cost	<u>29</u>	<u>20</u>	<u>18</u>
Profit per unit	<u>3</u>	<u>8</u>	<u>4</u>
Additional information:			
Demand per period (units)	3,000	4,000	5,000
Time in Process A (minutes)	20	25	15

Each of the products is produced using Process A which has a maximum capacity of 2,500 hours per period.

If a traditional contribution approach is used, the ranking of products, in order of priority, for the profit maximizing product mix will be:

- A. D, E, F
- B. E, D, F
- C. F, D, E
- D. D, E, F

Answer: C

Question: 6

A company produces three products D, E and F. The statement below shows the selling price and product costs per unit for each product, based on a traditional absorption costing system.

	<i>Product D</i>	<i>Product E</i>	<i>Product F</i>
	\$	\$	\$
Selling price per unit	32	28	22
Variable costs per unit			
Direct material	10	8	6
Direct labour	6	4	4
Variable overhead	4	2	2
Fixed cost per unit			
Fixed overhead	<u>9</u>	<u>6</u>	<u>6</u>
Total product cost	<u>29</u>	<u>20</u>	<u>18</u>
Profit per unit	<u>3</u>	<u>8</u>	<u>4</u>
Additional information:			
Demand per period (units)	3,000	4,000	5,000
Time in Process A (minutes)	20	25	15

Each of the products is produced using Process A which has a maximum capacity of 2,500 hours per period.

If a throughput accounting approach is used, the ranking of products, in order of priority, for the profit maximizing product mix will be:

- A. D, E, F
- B. E, D, F
- C. F, D, E
- D. D, F, E

Answer: C

Question: 7

‘A zero-based budgeting system involves establishing decision packages that are then ranked in order of their relative importance in meeting the organization’s objectives’.

Which of the following is true regarding the difficulties that a not-for-profit organization may experience when trying to rank decision packages.

Select ALL true statements.

- A. The activities that are being proposed in a budget are described in variable packages. There will often be more less than one decision package proposed for an activity.
- B. The activities that are being proposed in a budget are described in decision packages. There will often be more than one decision package proposed for an activity.
- C. Some of these packages will be inclusive and will require operations to select the best solution to the issue involved.
- D. Some of these packages will be mutually inclusive and will require management to select the best solution to the issue involved.
- E. Each decision package is evaluated. Its costs are compared to its benefits and net present values or other measures calculated.
- F. Management may decide to reject packages even though the activity was done last year. In this way the organization is said to be starting from a zero base with each package given due consideration.
- G. Management may decide to accept packages even though the activity was done last year. In this way the organization is said to be starting from a 100% cost base with each package given due consideration.
- H. In a public sector body, for example, decision packages will relate profit making activities.
- I. In a public sector body, for example, decision packages will relate to very disparate activities.

Answer: B,D,E,F,I

Question: 8

A company is considering whether to develop an overseas market for its products. The cost of developing the new market is estimated to be \$250,000. There is a 70% probability that the development of the new market will succeed and a 30% probability that the development of the new market will fail and no further expenditure will be incurred.

If the market development is successful, the profit from the new market will depend on prevailing exchange rates. There is a 50% chance that exchange rates will be in line with expectations and a profit of \$500,000 will be made. There is a 20% chance that exchange rates will be favorable and a profit of \$630,000 will be made and a 30% chance that exchange rates will be adverse and a profit of \$100,000 will be made.

The profit figures stated are before taking account of the development costs of \$250,000.

Use a decision tree to decide whether the company should develop an overseas market for its products. Select one correct answer.

- A. There is 70% chance that the project will fail.
- B. There is 65% chance that the project will fail.
- C. The overseas market should not be developed.
- D. The overseas market should be developed.
- E. There is a chance to make \$506 000 profit.
- F. There may be a loss of \$110 000.

Answer: D

Question: 9

JL is preparing its cash budget for the next three quarters. The following data have been extracted from the operational budgets:

Sales revenue	Quarter 1	\$500,000
	Quarter 2	\$450,000
	Quarter 3	\$480,000
Direct material purchases	Quarter 1	\$138,000
	Quarter 2	\$151,200
	Quarter 3	\$115,600

Additional information is available as follows:

- JL sells 20% of its goods for cash. Of the remaining sales value, 70% is received within the same quarter as sale and 30% is received in the following quarter. It is estimated that trade receivables will be \$125,000 at the beginning of Quarter 1. No bad debts are anticipated.
- 50% of payments for direct material purchases are made in the quarter of purchase, with the remaining 50% in the quarter following purchase. It is estimated that the amount owing for direct material purchases will be \$60,000 at the beginning of Quarter 1.
- JL pays labour and overhead costs when they are incurred. It has been estimated that labour and overhead costs in total will be \$303,600 per quarter. This figure includes depreciation of \$19,600.
- JL expects to repay a loan of \$100,000 in Quarter 3.
- The cash balance at the beginning of Quarter 1 is estimated to be \$49,400 positive.

Required:

Prepare a cash budget for each of the THREE quarters.

What will the closing balance of cash flows in quarter THREE be?

- A. \$100 200
- B. \$170 400
- C. \$145 000
- D. \$150 200
- E. \$130 200
- F. \$160 690
- G. \$184 900

Answer: E

Question: 10

Explain why sensitivity analysis is useful when dealing with uncertainty in project appraisal.

Select all the true statements.

- A. Sensitivity analysis enables a company to determine the effect of changes to fixed costs on the planned outcome
- B. Sensitivity analysis enables a company to determine the effect of changes to variables on the planned outcome
- C. In project appraisal, an analysis can be made if all the key variables to ascertain by how much variable would need to change before the net present value (NPV) reaches zero i.e. the indifference point.
- D. In project appraisal, in analysis can be made of all the key variables to ascertain by how much each variable would need to change before the net present value (NPV) reaches 100% i.e. the maximum point.

Answer: B,C
