Answers

Section A

1   C

2   D

3   B

4   B

5   A

6   B

7   C

8   C

9   A

10 C

11 A

12 A

13 D

14 D

15 C

16 C

17 B

18 B

19 A

20 D

Workings to computational MCQs:

3   {[(£55,893 – 48,981) ÷ (35,480 – 29,720 units)] x 29,720 units} – £48,981 = £13,317

5   [(£1,075 ÷ 200 units) x 70 units] = £376·25

7   [(1,600 + 1,400 kg) – (600 kg x 1 week)] = 2,400 kg

8   [1,600 kg – (700 kg x $1\frac{1}{2}$ weeks)] = 550 kg

10 [(£42,000 x 0·6) + (£57,600 x 0·45)] = £51,120

11 {[(£164,000 ÷ 10,000 hrs) x 9,800 hrs] – £158,000} = £2,720 over-absorbed

14 (400 litres ÷ 0·7) = 571·4 (571 litres)

16 {£41,000 ÷ [(£100,800 – 60,480) ÷ £100,800]} = £102,500

17 112,000 units – {£36,000 ÷ [(£100,800 – 60,480) ÷ 112,000 units]} = 12,000 units

19 [(£18,000 x 3·791) – £7,222] = £61,016

Section B

1 (a) Costs of labour turnover:

Replacement costs are the costs incurred in recruiting new employees. These include such things as advertising, interviewing, training and inefficiency of employees while learning a new job.

Preventative costs are the costs incurred in order to try to retain employees. These include such things as employee facilities, working environment, pay and pension schemes.

The labour turnover rate for a period can be calculated as:

$$\frac{\text{Number of employees replaced (or number leaving)}}{\text{Average number of employees}} \times 100\%$$

(b) Production ratios:

Working:

Expected hours of actual output = 16,390 units ÷ 25 units/hr = 655·6 direct labour hours

Efficiency ratio:

$$\frac{\text{Expected hours of actual output}}{\text{Actual hours worked}} \times 100\% = \frac{655·6}{640} \times 100\% = 102·4\%$$

Capacity ratio:

$$\frac{\text{Actual hours worked}}{\text{Budgeted hours}} \times 100\% = \frac{640}{660} \times 100\% = 97·0\%$$

Production volume ratio:

$$\frac{\text{Expected hours of actual output}}{\text{Budgeted hours}} \times 100\% = \frac{655·6}{660} \times 100\% = 99·3\%$$

2 (a) Profit/(loss) in the period:

(£000)	Product A	Product B	Total
Sales	619·2	374·4	993·6
Costs	468·0	312·0	780·0
Profit	151·2	62·4	213·6

Workings:
Sales: Product A 72,000 kg at £8·60/kg = £619,200
Product B 48,000 kg at £7·80/kg = £374,400

Costs: Product A £780,000 x (72,000 ÷ 120,000 kg) = £468,000
Product B £780,000 x (48,000 ÷ 120,000 kg) = £312,000

(b) Further processing (Product B to Product BB):

Incremental sales =	£1·20 per kg	(£9·00 – £7·80)
Incremental costs =	£1·40 per kg	
Incremental loss =	(£0·20) per kg	

Further processing is not worthwhile.

3 (a) Service costing:

Service costing is applied to the provision of services by (or within) an organisation. The main differences, in comparison with costing methods applied to manufactured products, are:

(i)   The cost of direct materials will generally be relatively small compared with the costs of direct labour, direct expenses and overheads.
(ii) Indirect costs (overheads) will generally represent a higher proportion of total cost.
(iii) The output of most service organisations (cost centres) is intangible making it more difficult to establish an appropriate cost unit.
(iv) Services cannot be stored and therefore the requirement to value work-in-progress/finished goods stock does not arise.

(b) Vehicle operating costs:

	Cost per vehicle (£ per annum)
Depreciation [(£46,000 – 4,000) ÷ 4 years]	10,500
Licence and insurance	2,290
Tyres [(80,000 ÷ 40,000 km) x 8/vehicle x £210/tyre]	3,360
Servicing [(80,000 ÷ 16,000 km) x £650/service]	3,250
Fuel [(80,000 ÷ 3·2 km) x £0·80/litre]	20,000
Driver	18,000
	57,400

Vehicle operating costs per km:

= £57,400/vehicle/annum ÷ 80,000 km/vehicle/annum = £0·7175 per km

4 **(a)** Limiting factor – direct labour:

	Product A	Product B	Product C	
Direct labour hours/unit	(2·4 ÷ 8)	(2·4 ÷ 8)	(3·2 ÷ 8)	
	= 0·3	= 0·3	= 0·4	
x Sales demand (units)	x 6,200	x 8,000	x 11,500	
Direct labour hours required	1,860	2,400	4,600	= Total 8,860

Direct labour is a limiting factor i.e. 8,860 > 8,500

(b) Production schedule:

		Product A	Product B	Product C	
(i)	Production priority:				
	Selling price (£/unit)	9·70	11·10	13·80	
	Variable costs (£/unit)	6·10	7·20	9·32	
	Contribution (£/unit)	3·60	3·90	4·48	
	÷ Direct labour hours/unit	÷ 0·3	÷ 0·3	÷ 0·4	
	Contribution (£/dir lab hr)	12·00	13·00	11·20	
	Priority	2	1	3	
(ii)	Production schedule:				
	Direct labour hours:				
	Product B		2,400		
	then Product A	1,860			
	balance to Product C			4,240	[8,500 – (2,400 + 1,860)]
	Production units	6,200	8,000	10,600	(4,240 hrs ÷ 0·4 hrs/unit)

Marks

Section A – 2 marks per question   **40**

Section B:

1	**(a)**	Replacement costs	2	
		Preventative costs	2	
		Labour turnover formula	2	6
	(b)	Efficiency ratio	4	
		Capacity ratio	3	
		Production volume ratio	3	10
				16

2	**(a)**	Sales – 1 for each product	2	
		Costs – 2 for each product	4	
		Profit – $\frac{1}{2}$ for each product	1	
		– total	1	8
	(b)	Incremental sales	2	
		Incremental costs	2	
		Incremental loss	1	
		Not worthwhile	1	6
				14

3	**(a)**	Up to 2 for each		max 6
	(b)	Depreciation	$2\frac{1}{2}$	
		Licence and insurance	$\frac{1}{2}$	
		Tyres	$1\frac{1}{2}$	
		Servicing	$1\frac{1}{2}$	
		Fuel	2	
		Driver	$\frac{1}{2}$	
		Cost per km	$1\frac{1}{2}$	10
				16

4	**(a)**	Direct labour hours required	3	
		Limiting factor	1	4
	(b)	Contribution/unit	3	
		Contribution/direct labour hour	3	
		Priority	1	
		Production schedule	3	10
				14

17