8 Accounting for overheads 58 mins

8.1 The following extract of information is available concerning the four cost centres of EG Limited.

	Production cost centres			*Service cost centre*
	Machinery	*Finishing*	*Packing*	*Canteen*
Number of direct employees	7	6	2	–
Number of indirect employees	3	2	1	4
Overhead allocated and apportioned	$28,500	$18,300	$8,960	$8,400

The overhead cost of the canteen is to be re-apportioned to the production cost centres on the basis of the number of employees in each production cost centre. After the re-apportionment, what is the total overhead cost of the packing department, to the nearest $?

A $1,200
B $9,968
C $10,080
D $10,160 **(2 marks)**

The following information relates to questions 8.2 and 8.3.

Budgeted information relating to two departments in a company for the next period is as follows.

Department	*Production overhead*	*Direct material cost*	*Direct labour cost*	*Direct labour hours*	*Machine hours*
	$	$	$		
1	27,000	67,500	13,500	2,700	45,000
2	18,000	36,000	100,000	25,000	300

Individual direct labour employees within each department earn differing rates of pay, according to their skills, grade and experience.

8.2 What is the most appropriate production overhead absorption rate for department 1?

A 40% of direct material cost
B 200% of direct labour cost
C $10 per direct labour hour
D $0.60 per machine hour **(2 marks)**

8.3 What is the most appropriate production overhead absorption rate for department 2?

A 50% of direct material cost
B 18% of direct labour cost
C $0.72 per direct labour hour
D $60 per machine hour **(2 marks)**

8.4 Which of the following statements about predetermined overhead absorption rates are true?

(i) Using a predetermined absorption rate avoids fluctuations in unit costs caused by abnormally high or low overhead expenditure or activity levels
(ii) Using a predetermined absorption rate offers the administrative convenience of being able to record full production costs sooner
(iii) Using a predetermined absorption rate avoids problems of under/over absorption of overheads because a constant overhead rate is available.

A (i) and (ii) only
B (i) and (iii) only
C (ii) and (iii) only
D All of them **(2 marks)**

8.5 Over-absorbed overheads occur when

A Absorbed overheads exceed actual overheads
B Absorbed overheads exceed budgeted overheads
C Actual overheads exceed absorbed overheads
D Actual overheads exceed budgeted overheads **(2 marks)**

The following information relates to questions 8.6 and 8.7.

A company has the following actual and budgeted data for year 4.

	Budget	*Actual*
Production	8,000 units	9,000 units
Variable production overhead per unit	$3	$3
Fixed production overheads	$360,000	$432,000
Sales	6,000 units	8,000 units

Overheads are absorbed using a rate per unit, based on budgeted output and expenditure.

8.6 What was the fixed production overhead absorbed amount during year 4?

A $384,000
B $405,000
C $432,000
D $459,000 **(2 marks)**

8.7 By how much was the fixed production overhead under or over absorbed?

A under absorbed by $27,000
B under absorbed by $72,000
C under absorbed by $75,000
D over absorbed by $27,000 **(2 marks)**

8.8 Which of the following would be the most appropriate basis for apportioning machinery insurance costs to cost centres within a factory?

A The number of machines in each cost centre
B The floor area occupied by the machinery in each cost centre
C The value of the machinery in each cost centre
D The operating hours of the machinery in each cost centre **(2 marks)**

8.9 Factory overheads can be absorbed by which of the following methods?

(i) Direct labour hours
(ii) Machine hours
(iii) As a percentage of prime cost
(iv) $x per unit

A (i), (ii), (iii) and (iv)
B (i) and (ii) only
C (i), (ii) and (iii) only
D (ii), (iii) and (iv) only **(2 marks)**

8.10 The production overhead control account for R Limited at the end of the period looks like this.

PRODUCTION OVERHEAD CONTROL ACCOUNT

	$		$
Stores control	22,800	Work in progress	404,800
Wages control	180,400	Profit and loss	8,400
Expense creditors	210,000		
	413,200		413,200

Which of the following statements are correct?

(i) Indirect material issued from inventory was $22,800
(ii) Overhead absorbed during the period was $210,000
(iii) Overhead for the period was over absorbed by $8,400
(iv) Indirect wages costs incurred were $180,400

A (i), (ii) and (iii)
B (i), (iii) and (iv)
C (i) and (iv)
D All of them **(2 marks)**

8.11 Which of the following is correct when considering the allocation, apportionment and reapportionment of overheads in an absorption costing situation?

A Only production related costs should be considered
B Allocation is the situation where part of an overhead is assigned to a cost centre
C Costs may only be reapportioned from production centres to service centres
D Any overheads assigned to a single department should be ignored **(2 marks)**

8.12 A company has over-absorbed fixed production overheads for the period by $6,000. The fixed production overhead absorption rate was $8 per unit and is based on the normal level of activity of 5,000 units. Actual production was 4,500 units.

What was the actual fixed production overheads incurred for the period?

A $30,000
B $36,000
C $40,000
D $42,000 **(2 marks)**

8.13 A company manufacturers two products, X and Y, in a factory divided into two production cost centres, Primary and Finishing. The following budgeted data are available:

Cost centre	*Primary*	*Finishing*
Allocated and apportioned fixed overhead costs	$96,000	$82,500
Direct labour minutes per unit:		
– product X	36	25
– product Y	48	35

Budgeted production is 6,000 units of product X and 7,500 units of product Y. Fixed overhead costs are to be absorbed on a direct labour hour basis.

What is the budgeted fixed overhead cost per unit for product Y?

A $11
B $12
C $14
D $15 **(2 marks)**

8.14 A company uses an overhead absorption rate of $3.50 per machine our, based on 32,000 budgeted machine hours for the period. During the same period the actual total overhead expenditure amounted to $108,875 and 30,000 machine hours were recorded on actual production.

By how much was the total overhead under or over absorbed for the period?

A Under absorbed by $3,875
B Under absorbed by $7,000
C Over absorbed by $3,875
D Over absorbed by $7,000 **(2 marks)**

8.15 A factory consists of two production cost centres (P and Q) and two service cost centres (X and Y). The total allocated and apportioned overhead for each is as follows:

P	Q	X	Y
$95,000	$82,000	$46,000	$30,000

It has been estimated that each service cost centre does work for the other cost centres in the following proportions:

	P	Q	X	Y
Percentage of service cost centre X to	40	40	–	20
Percentage of service cost centre Y to	30	60	10	–

After the reapportionment of service cost centre costs has been carried out using a method that fully recognises the reciprocal service arrangements in the factory, what is the total overhead for production cost centre P?

A $122,400
B $124,716
C $126,000
D $127,000 **(2 marks)**

8.16 The following data is available for a paint department for the latest period.

Budgeted production overhead	$150,000
Actual production overhead	$150,000
Budgeted machine hours	60,000
Actual machine hours	55,000

Which of the following statements is correct?

A There was no under or over absorption of overhead
B Overhead was $13,636 over absorbed
C Overhead was $12,500 over absorbed
D Overhead was $12,500 under absorbed **(2 marks)**

8.17

Actual overheads	$496,980
Actual machine hours	16,566
Budgeted overheads	$475,200

Based on the data above, and assuming that the budgeted overhead absorption rate was $32 per hour, what were the budgeted number of hours (to the nearest hour) budgeted to be worked?

A 14,850
B 15,531
C 16,566
D 33,132 **(2 marks)**

8.18

Budgeted overheads	$690,480
Budgeted machine hours	15,344
Actual machine hours	14,128
Actual overheads	$679,550

Based on the data above, what is the machine hour absorption rate (to the nearest $)?

A 44 per machine hour
B 45 per machine hour
C 48 per machine hour
D 49 per machine hour **(2 marks)**

8.19 A company absorbs overheads on machine hours. In a period, actual machine hours were 22,435, actual overheads were $496,500 and there was over absorption of $64,375.

What was the budgeted overhead absorption rate per machine hour (to the nearest $)?

A 19
B 22
C 25
D 27 **(2 marks)**

8.20 A company absorbs fixed production overheads in one of its departments on the basis of machine hours. There were 100,000 budgeted machine hours for the forthcoming period. The fixed production overhead absorption rate was $2.50 per machine hour.

During the period, the following actual results were recorded:

Standard machine hours	110,000
Fixed production overheads	$300,000

What was the fixed production overhead under/over absorption amount?

A Over absorbed by $25,000
B Under absorbed by $50,000
C Over absorbed by $50,000
D Under absorbed by $25,000 **(2 marks)**

8.21 Consider the following statements, regarding the reapportionment of service cost centre overheads to production cost centres, where reciprocal services exist:

1. The direct method results in costs being reapportioned between service cost centres
2. If the direct method is used, the order in which the service cost centre overheads are reapportioned is irrelevant
3. The step down method results in costs being reapportioned between service cost centres
4. If the step down method is used, the order in which the service cost centre overheads are reapportioned is irrelevant

Which statement(s) is/are correct?

A 1, 2 and 4
B 1, 3 and 4
C 2 only
D 2 and 3 **(2 marks)**

8.22 CTF Co has two service centres serving two production departments. Overhead costs apportioned to each department are as follows.

	Production departments		Service centres	
	Mixing	Stirring	Stores	Canteen
	$	$	$	$
Allocated and apportioned overheads	216,400	78,800	181,600	47,200
Estimated work done by the service centres for other departments				
Stores	50%	30%	-	20%
Canteen	45%	40%	15%	-

The business uses the direct method of apportionment.

After the apportionment of the service centres to the production departments, what will the total overhead cost be for the mixing department?

A $328,440
B $342,041
C $351,416
D $354,888 **(2 marks)**

8.23 HMF Co has two service centres serving two production departments. Overhead costs apportioned to each department are as follows.

	Production departments		Service centres	
	Mixing	Stirring	Stores	Canteen
	$	$	$	$
Allocated and apportioned overheads	216,400	78,800	181,600	47,200
Estimated work done by the service centres for other departments				
Stores	50%	30%	-	20%
Canteen	45%	40%	15%	-

The business uses the step down method of apportionment.

After the apportionment of the service centres to the production departments, what will the total overhead cost be for the mixing department?

A $325,968
B $344,784
C $351,416
D $354,888 **(2 marks)**

8.24 **The following question is taken from the June 2012 exam paper**.

A company uses standard absorption costing to value inventory. Its fixed overhead absorption rate is $12 per labour hour and each unit of production should take four hours. In a recent period where there was no opening inventory of finished goods, 20,000 units were produced using 100,000 labour hours. 18,000 units were sold. The actual profit was $464,000.

What profit would have been earned under a standard marginal costing system?

A $368,000
B $440,000
C $344,000
D $560,000 **(2 marks)**

(Total = 48 marks)

9 Absorption and marginal costing 43 mins

9.1 The following data is available for period 9.

Opening inventory	10,000 units
Closing inventory	8,000 units
Absorption costing profit	$280,000

What would be the profit for period 9 using marginal costing?

A $278,000
B $280,000
C $282,000
D Impossible to calculate without more information **(2 marks)**

9.2 The overhead absorption rate for product T is $4 per machine hour. Each unit of T requires 3 machine hours. Inventories of product T last period were:

	Units
Opening inventory	2,400
Closing inventory	2,700

Compared with the marginal costing profit for the period, the absorption costing profit for product T will be which of the following?

A $1,200 higher
B $3,600 higher
C $1,200 lower
D $3,600 lower **(2 marks)**

9.3 In a period where opening inventories were 15,000 units and closing inventories were 20,000 units, a firm had a profit of $130,000 using absorption costing. If the fixed overhead absorption rate was $8 per unit, the profit using marginal costing would be which of the following?

A $90,000
B $130,000
C $170,000
D Impossible to calculate without more information **(2 marks)**

The following information relates to questions 9.4 and 9.5.

Cost and selling price details for product Z are as follows.

	$ per unit
Direct materials	6.00
Direct labour	7.50
Variable overhead	2.50
Fixed overhead absorption rate	5.00
	21.00
Profit	9.00
Selling price	30.00

Budgeted production for the month was 5,000 units although the company managed to produce 5,800 units, selling 5,200 of them and incurring fixed overhead costs of $27,400.

9.4 What is the marginal costing profit for the month?

A $45,400
B $46,800
C $53,800
D $72,800 **(2 marks)**

9.5 What is the absorption costing profit for the month?

A	$45,200	C	$46,800
B	$45,400	D	$48,400

(2 marks)

9.6 In a period, a company had opening inventory of 31,000 units and closing inventory of 34,000 units. Profits based on marginal costing were $850,500 and on absorption costing were $955,500.

If the budgeted total fixed costs for the company was $1,837,500, what was the budgeted level of activity in units?

A	32,500	C	65,000
B	52,500	D	105,000

(2 marks)

9.7 A company had opening inventory of 48,500 units and closing inventory of 45,500 units. Profits based on marginal costing were $315,250 and on absorption costing were $288,250. What is the fixed overhead absorption rate per unit?

A	$5.94	C	$6.50
B	$6.34	D	$9.00

(2 marks)

9.8 Which of the following are acceptable bases for absorbing production overheads?

(i) Direct labour hours
(ii) Machine hours
(iii) As a percentage of the prime cost
(iv) Per unit

A Methods (i) and (ii) only
B Methods (iii) and (iv) only
C Methods (i), (ii), (iii) and (iv)
D Methods (i), (ii) or (iii) only **(2 marks)**

9.9 Absorption costing is concerned with which of the following?

A Direct materials
B Direct labour
C Fixed costs
D Variable and fixed costs **(2 marks)**

9.10 A company has established a marginal costing profit of $72,300. Opening inventory was 300 units and closing inventory is 750 units. The fixed production overhead absorption rate has been calculated as $5/unit.

What was the profit under absorption costing?

A $67,050
B $70,050
C $74,550
D $77,550 **(2 marks)**

9.11 A company produces and sells a single product whose variable cost is $6 per unit.

Fixed costs have been absorbed over the normal level of activity of 200,000 units and have been calculated as $2 per unit.

The current selling price is $10 per unit.

How much profit is made under marginal costing if the company sells 250,000 units?

A $500,000
B $600,000
C $900,000
D $1,000,000 **(2 marks)**

9.12 A company which uses marginal costing has a profit of $37,500 for a period. Opening inventory was 100 units and closing inventory was 350 units.

The fixed production overhead absorption rate is $4 per unit.

What is the profit under absorption costing?

A $35,700
B $35,500
C $38,500
D $39,300 **(2 marks)**

9.13 A company manufactures and sells a single product. For this month the budgeted fixed production overheads are $48,000, budgeted production is 12,000 units and budgeted sales are 11,720 units.

The company currently uses absorption costing.

If the company used marginal costing principles instead of absorption costing for this month, what would be the effect on the budgeted profit?

A $1,120 higher
B $1,120 lower
C $3,920 higher
D $3,920 lower **(2 marks)**

9.14 A company operates a standard marginal costing system. Last month its actual fixed overhead expenditure was 10% above budget resulting in a fixed overhead expenditure variance of $36,000.

What was the actual expenditure on fixed overheads last month?

A $324,000
B $360,000
C $396,000
D $400,000 **(2 marks)**

9.15 Last month, when a company had an opening inventory of 16,500 units and a closing inventory of 18,000 units, the profit using absorption costing was $40,000. The fixed production overhead rate was $10 per unit.

What would the profit for last month have been using marginal costing?

A $15,000
B $25,000
C $55,000
D $65,000 **(2 marks)**

9.16 Last month a manufacturing company's profit was $2,000, calculated using absorption costing principles. If marginal costing principles has been used, a loss of $3,000 would have occurred. The company's fixed production cost is $2 per unit. Sales last month were 10,000 units.

What was last month's production (in units)?

A 7,500 B 9,500 C 10,500 D 12,500 **(2 marks)**

9.17 HMF Co produces a single product. The budgeted fixed production overheads for the period are $500,000. The budgeted output for the period is 2,500 units. Opening inventory at the start of the period consisted of 900 units and closing inventory at the end of the period consisted of 300 units. If absorption costing principles were applied, the profit for the period compared to the marginal costing profit would be which of the following?

A $125,000 higher
B $125,000 lower
C $120,000 higher
D $120,000 lower **(2 marks)**

9.18 **The following question is taken from the June 2013 exam paper**.

A company has the following budgeted costs and revenues:

	$ per unit
Sales price	50
Variable production cost	18
Fixed production cost	10

In the most recent period, 2,000 units were produced and 1,000 units were sold. Actual sales price, variable production cost per unit and total fixed production costs were all as budgeted. Fixed production costs were over-absorbed by $4,000. There was no opening inventory for the period.

What would be the reduction in profit for the period if the company has used marginal costing rather than absorption costing?

A 4,000
B 6,000
C 10,000
D 14,000 **(2 marks)**

(Total = 36 marks)
