ACCA REVISION MOCK

Management Accounting

December 2017

Paper F2 / FMA

Time allowed **2 hours**

This paper is divided into 2 sections:

Section A: All 35 questions are compulsory and MUST be attempted.

Section B: All THREE questions are compulsory and MUST be attempted.

Formulae Sheet is on page 3

Do not open this paper until instructed by the supervisor

This question paper must not be removed from the examination hall

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FORMULAE AND TABLES

Regression analysis

$$y = a + bx$$

$$a = \frac{\sum y}{n} - \frac{b\sum x}{n}$$

$$b = \frac{n\sum xy - \sum x \sum y}{n\sum x^2 - (\sum x)^2}$$

$$r = \frac{n\sum xy - \sum x \sum y}{\sqrt{((n\sum x^2 - (\sum x)^2)(n\sum y^2 - (\sum y)^2)}}$$

Economic order quantity

$$= \sqrt{\frac{2C_oD}{C_h}}$$

Economic batch quantity

$$= \sqrt{\frac{2C_oD}{C_h(1-\frac{D}{R})}}$$

Present value table

Present value of 1, i.e. $(1 + r)^{-n}$

Where r = discount rate

n = number of periods until payment

Periods (n)	Discount rate (r)									
	1%	**2%**	**3%**	**4%**	**5%**	**6%**	**7%**	**8%**	**9%**	**10%**
1	0.990	0.980	0.971	0.962	0.952	0.943	0.935	0.926	0.917	0.909
2	0.980	0.961	0.943	0.925	0.907	0.890	0.873	0.857	0.842	0.826
3	0.971	0.942	0.915	0.889	0.864	0.840	0.816	0.794	0.772	0.751
4	0.961	0.924	0.888	0.855	0.823	0.792	0.763	0.735	0.708	0.683
5	0.951	0.906	0.863	0.822	0.784	0.747	0.713	0.681	0.650	0.621
6	0.942	0.888	0.837	0.790	0.746	0.705	0.666	0.630	0.596	0.564
7	0.933	0.871	0.813	0.760	0.711	0.665	0.623	0.583	0.547	0.513
8	0.923	0.853	0.789	0.731	0.677	0.627	0.582	0.540	0.502	0.467
9	0.914	0.837	0.766	0.703	0.645	0.592	0.544	0.500	0.460	0.424
10	0.905	0.820	0.744	0.676	0.614	0.558	0.508	0.463	0.422	0.386
11	0.896	0.804	0.722	0.650	0.585	0.527	0.475	0.429	0.388	0.350
12	0.887	0.788	0.701	0.625	0.557	0.497	0.444	0.397	0.356	0.319
13	0.879	0.773	0.681	0.601	0.530	0.469	0.415	0.368	0.326	0.290
14	0.870	0.758	0.661	0.577	0.505	0.442	0.388	0.340	0.299	0.263
15	0.861	0.743	0.642	0.555	0.481	0.417	0.362	0.315	0.275	0.239

Periods (n)	Discount rate (r)									
	11%	**12%**	**13%**	**14%**	**15%**	**16%**	**17%**	**18%**	**19%**	**20%**
1	0.901	0.893	0.885	0.877	0.870	0.862	0.855	0.847	0.840	0.833
2	0.812	0.797	0.783	0.769	0.756	0.743	0.731	0.718	0.706	0.694
3	0.731	0.712	0.693	0.675	0.658	0.641	0.624	0.609	0.593	0.579
4	0.659	0.636	0.613	0.592	0.572	0.552	0.534	0.516	0.499	0.482
5	0.593	0.567	0.543	0.519	0.497	0.476	0.456	0.437	0.419	0.402
6	0.535	0.507	0.480	0.456	0.432	0.410	0.390	0.370	0.352	0.335
7	0.482	0.452	0.425	0.400	0.376	0.354	0.333	0.314	0.296	0.279
8	0.434	0.404	0.376	0.351	0.327	0.305	0.285	0.266	0.249	0.233
9	0.391	0.361	0.333	0.308	0.284	0.263	0.243	0.225	0.209	0.194
10	0.352	0.322	0.295	0.270	0.247	0.227	0.208	0.191	0.176	0.162
11	0.317	0.287	0.261	0.237	0.215	0.195	0.178	0.162	0.148	0.135
12	0.286	0.257	0.231	0.208	0.187	0.168	0.152	0.137	0.124	0.112
13	0.258	0.229	0.204	0.182	0.163	0.145	0.130	0.116	0.104	0.093
14	0.232	0.205	0.181	0.160	0.141	0.125	0.111	0.099	0.088	0.078
15	0.209	0.183	0.160	0.140	0.123	0.108	0.095	0.084	0.074	0.065

Annuity table

Present value of an annuity of 1, i.e. $\frac{1-(1+r)^{-n}}{r}$

Where r = discount rate

n = number of periods

Periods (n)	Discount rate (r)									
	1%	**2%**	**3%**	**4%**	**5%**	**6%**	**7%**	**8%**	**9%**	**10%**
1	0.990	0.980	0.971	0.962	0.952	0.943	0.935	0.926	0.917	0.909
2	1.970	1.942	1.913	1.886	1.859	1.833	1.808	1.783	1.759	1.736
3	2.941	2.884	2.829	2.775	2.723	2.673	2.624	2.577	2.531	2.487
4	3.902	3.808	3.717	3.630	3.546	3.465	3.387	3.312	3.240	3.170
5	4.853	4.713	4.580	4.452	4.329	4.212	4.100	3.993	3.890	3.791
6	5.795	5.601	5.417	5.242	5.076	4.917	4.767	4.623	4.486	4.355
7	6.728	6.472	6.230	6.002	5.786	5.582	5.389	5.206	5.033	4.868
8	7.652	7.325	7.020	6.733	6.463	6.210	5.971	5.747	5.535	5.335
9	8.566	8.162	7.786	7.435	7.108	6.802	6.515	6.247	5.995	5.759
10	9.471	8.983	8.530	8.111	7.722	7.360	7.024	6.710	6.418	6.145
11	10.368	9.787	9.253	8.760	8.306	7.887	7.499	7.139	6.805	8.495
12	11.255	10.575	9.954	9.385	8.863	8.384	7.943	7.536	7.161	6.814
13	12.134	11.348	10.635	9.986	9.394	8.853	8.358	7.904	7.487	7.103
14	13.004	12.106	11.296	10.563	9.899	9.295	8.745	8.244	7.786	7.367
15	13.865	12.849	11.938	11.118	10.380	9.712	9.108	8.559	8.061	7.606

Periods (n)	Discount rate (r)									
	11%	**12%**	**13%**	**14%**	**15%**	**16%**	**17%**	**18%**	**19%**	**20%**
1	0.901	0.893	0.885	0.877	0.870	0.862	0.855	0.847	0.840	0.833
2	1.713	1.690	1.668	1.647	1.626	1.605	1.585	1.566	1.547	1.528
3	2.444	2.402	2.361	2.322	2.283	2.246	2.210	2.174	2.140	2.106
4	3.102	3.037	2.974	2.914	2.855	2.798	2.743	2.690	2.639	2.589
5	3.696	3.605	3.517	3.433	3.352	3.274	3.199	3.127	3.058	2.991
6	4.231	4.111	3.998	3.889	3.784	3.685	3.589	3.498	3.410	3.326
7	4.712	4.564	4.423	4.288	4.160	4.039	3.922	3.812	3.706	3.605
8	5.146	4.968	4.799	4.639	4.487	4.344	4.207	4.078	3.954	3.837
9	5.537	5.328	5.132	4.946	4.772	4.607	4.451	4.303	4.163	4.031
10	5.889	5.650	5.426	5.216	5.019	4.833	4.659	4.494	4.339	4.192
11	6.207	5.938	5.687	5.453	5.234	5.029	4.836	4.656	4.486	4.327
12	6.492	6.194	5.918	5.660	5.421	5.197	4.968	4.793	4.611	4.439
13	6.750	6.424	6.122	5.842	5.583	5.342	5.118	4.910	4.715	4.533
14	6.982	6.628	6.302	6.002	5.724	5.468	5.229	5.008	4.802	4.611
15	7.191	6.811	6.462	6.142	5.847	5.575	5.324	5.092	4.876	4.675

SECTION A

ALL 35 QUESTIONS ARE COMPULSORY AND MUST BE ATTEMPTED

Each question is worth 2 marks

1 **Which of the following would generally be produced by a management accountant?**

A Statement of financial position

B Cash flow statement

C Variance report

D Statement of profit or loss

2 The budgeted output for a period is 5,000 units and the budgeted time for production of these units is 2,500 hours.

The actual output in the period is 5,500 units and the actual time worked by the labour force is 2,000 hours.

What is the capacity utilisation ratio?

A 80.0%

B 100.0%

C 110.0%

D 137.5%

3 A manufacturing company makes and sells a single product. The sales budget for the year is 6,000 units. Each unit of the product requires 1.2 kilograms of raw materials. The company has budgeted to reduce inventory of finished goods from 2,000 units at the start of the year to 1,500 units at the end of the year, but it plans to increase inventory of raw material from 1,500 kilograms to 2,400 kilograms.

How many kilograms of raw materials does the company need to purchase?

	kg

4 The budgeted output for a period is 3,000 units and the budgeted time for production of these units is 300 hours.

The actual output in the period is 2,500 units and the actual time worked by the labour force is 200 hours.

What is the efficiency ratio?

A 66.67%

B 83.33%

C 100.00%

D 125.00%

5 The budgeted output for a period is 5,000 units and the budgeted time for production of these units is 2,500 hours.

The actual output in the period is 5,500 units and the actual time worked by the labour force is 2,000 hours.

What is the production volume ratio?

A 80.0%

B 100.0%

C 110.0%

D 137.5%

6 A project, investing in new machinery, has an estimated five year life. It will require an initial investment of $186,000 and should produce constant annual cash inflows of $56,000 per annum. At the end of the project the machine can be sold for $10,000. The cost of capital is 10% per annum.

What is the net present value of the project?

A $11,331

B $20,086

C $32,506

D $39,941

7 A manufacturing organisation incurs costs relating to the following:

1 Wages payable to production line workers.

2 Inspecting all products.

3 Packing the products at the end of the manufacturing process prior to moving them to the warehouse.

Which of these costs are classified as production costs?

A 1 and 2 only

B 1 and 3 only

C 2 and 3 only

D 1, 2 and 3

8 Which of the following best describes a fixed budget?

A A budget which shows fixed production costs only

B A budget which is not changed to reflect the actual output level

C A budget which shows sales revenue and costs at different levels of activity

D A budget that is updated halfway through the year to incorporate the actual results for the first half of the year

9 A business reported an absorption costing profit of $45,000 last period. Its inventory values for the period were as follows:

	$
Opening inventory	28,000
Closing inventory	36,400

If the business had used marginal costing, the inventory values would have been as follows:

	$
Opening inventory	16,000
Closing inventory	20,800

What would have been the reported profit using marginal costing?

$

10 INK operates a process costing system for product W3 and had the following details for December:

- There were no losses or gains during the month.
- There was no opening work-in-progress brought forward.
- 2,500 litres of a raw material were input to the process.
- 2,000 litres of finished product were output from the process.

The stage of completion of the work-in-progress was:

- Materials 100%.
- Labour and other conversion costs 40%.

What were the equivalent units of work in progress in the period?

	Materials	*Conversion costs*
A	2,500	1,000
B	500	200
C	2,000	500
D	2,500	2,200

11 **What is the correct chronological sequence for the following purchase documents?**

Document	**Order (1 to 4)**
Goods received note	
Delivery note	
Invoice	
Purchase order	

12 An employee is paid on a piecework basis. The scheme is as follows:

1 – 100 units per day	$0.25 per unit
101 – 200 units per day	$0.30 per unit
> 200 units per day	$0.35 per unit

Only the additional units qualify for the higher rates. Rejected units do not qualify for payment.

An employee produced 202 units in a day of which 5 were rejected as faulty.

How much did the employee earn for the day?

A $54.10

B $55.00

C $59.10

D $60.60

13 The inventory records for component C24 for the month of June showed the following:

	Receipts (units)	*Cost per unit* ($)	*Issues (units)*
Opening inventory	500	2.00	
4 June	1,000	2.10	
25 June	1,500	2.20	
30 June			1,500

Using the LIFO method of pricing issues, what is the value of inventory at 30 June?

$

14 The following information is available for the raw material requirements:

- Fixed ordering cost £2.50
- Annual holding cost per litre £1.00
- Monthly demand 2,500 litres

What is the Economical Order Quantity for raw material?

A 112

B 45

C 155

D 387

15 Which of the following would be the most appropriate basis for apportioning the IT department costs to cost centres within the factory?

A The number of computers in each cost centre

B The floor area occupied by each cost centre

C The number of IT queries logged by each cost centre

D The number of employees using a computer in each cost centre

16 The data in column C is to be used to create a pie chart in Excel.

	A	B	C	D
1		Age	$	
2		18 – 25	59.3	
3		26 – 35	61.6	
4		36 – 45	10.3	
5		46 – 55	15.8	
6		56 and over	9.9	
7		Total	156.9	

How many degrees should the pie chart use to represent age 26 – 35 (to 1 decimal place)?

	°

17 The management accountant of Gympie Limited has already allocated and apportioned the fixed overheads for the period, although she has yet to reapportion the service centre costs. Information for the period is as follows:

	Production departments		*Service departments*		*Total*
	1	*2*	*Stores*	*Maintenance*	
Allocated and apportioned	$17,500	$32,750	$6,300	$8,450	$65,000
Work done by:					
Stores	60%	30%	–	10%	
Maintenance	75%	20%	5%	–	

What are the total overheads included in production department 1 if the repeated distribution method is used to reapportion service centre costs?

A $27,618

B $28,171

C $28,399

D $28,453

18 Glorious Ltd manufactures a single product and has the following flexible budget for the year.

	Cost behaviour	*Level of activity*	
		70%	*90%*
		$	$
Direct materials	Variable	31,990	41,130
Direct labour	Variable	58,100	74,700
Production overheads	Semi-variable	75,600	79,200
Other overheads	Fixed	60,000	60,000
		225,690	255,030

What is the total cost in a budget that is flexed at 55% level of activity?

A $179,185

B $189,015

C $190,185

D $203,685

19 The overhead absorption rate for Product Y is $2.50 per direct labour hour. Each unit of Y requires three direct labour hours. Inventory of Product Y at the beginning of the month was 200 units and at the end of the month was 250 units.

What is the difference in the profits reported for the month using absorption costing compared with marginal costing?

A The absorption costing profit would be $375 less

B The absorption costing profit would be $125 greater

C The absorption costing profit would be $375 greater

D The absorption costing profit would be $1,875 greater

20 A large retailer with multiple outlets maintains a central warehouse from which the outlets are supplied. The following information is available for Part Number SF525.

Average usage	350 per day
Minimum usage	180 per day
Maximum usage	420 per day
Lead time for replenishment	11–15 days
Re-order quantity	6,500 units
Re-order level	6,300 units

Based on the above data, what is the maximum level of inventory?

A 5,250

B 6,500

C 10,820

D 12,800

21 A process produces two joint products, X and Y, with selling prices of $10 per litre and $20 per litre respectively. In a period, joint costs were $56,000 and finished output was:

Product X 5,000 litres

Product Y 2,000 litres

The sales value method is used to apportion joint costs.

What amount of joint costs should be apportioned to Product Y (to the nearest whole number)?

$

22 Net cash flows, estimated for a capital investment project, have been discounted at four discount rates with the following results:

	Discount rate			
	5%	10%	15%	20%
Net present value ($000)	92.9	39.1	(4.8)	(40.9)

What is the best estimate of the IRR using only the above data as appropriate?

A 13.6%

B 14.5%

C 15.4%

D 15.7%

23 A capital investment project requires an initial investment sum. The investment returns are expected to be a constant amount in each year of the life of the investment.

How is the payback period for the investment calculated?

A Investment sum ÷ net cash inflow per annum

B Investment sum ÷ net profit per annum

C (Investment sum + residual value) ÷ net cash inflow per annum

D (Investment sum + residual value) ÷ net profit per annum

24 In which of the following would job costing be most appropriate?

A College

B Hospital

C Car repairer

D Chemical manufacturer

25 A customer returns a faulty product to a firm for repair under a warranty scheme. The firm operates a total quality management system.

Which of the following best describes the cost of the repair?

A An internal failure cost

B An external failure cost

C An appraisal cost

D A prevention cost

26 Which TWO of the following statements are true of service costing?

A A composite cost unit may be used

B Indirect costs normally represent a large proportion of total costs

C Output is often tangible

D The cost of direct materials tends to be high in relation to other costs

27 Celtic Ltd budgeted to make sales of $1,000, $800 and $1,500 in its first three months of operation.

35% of its sales are expected to be for cash and 15% of total sales will also be collected in the same month by offering a 10% discount; 30% will be collected in the following month, and the remainder the month after that.

How much cash did Celtic Ltd budget to receive in its third month of operation?

A $1,115.00

B $1,167.50

C $1,190.00

D $1,500.00

28 Which TWO of the following would NOT be included in a cash budget?

A Depreciation

B Provisions for doubtful debts

C Wages and salaries

D Cash receipts

29 Which of the following is NOT an advantage of component bar charts?

A The relative importance of each component can be assessed

B The information can be interpreted quickly

C More than one component can be displayed at a time

D The total value can be easily assessed and determined

30 A 'total materials variance' is calculated by comparing which TWO figures?

A Actual cost

B Flexed budget cost

C Original budget cost

D Fixed budget cost

31 Which of the following is least likely to have given rise to an adverse materials price variance?

A An increase in production volumes

B Better quality materials being used

C An increase in inflation

D Poor purchasing

32 Which of the following variances is least likely to have been caused by the use of lower quality materials?

A A favourable materials price variance

B A favourable materials usage variance

C An adverse labour efficiency variance

D An adverse sales price variance

33 The budgeted contribution for last month was $50,000 but the following variances arose:

	$
Sales price variance	3,000 adverse
Sales volume contribution variance	1,000 adverse
Direct material price variance	2,000 favourable
Direct material usage variance	2,500 adverse
Direct labour rate variance	1,000 adverse
Direct labour efficiency variance	550 adverse
Variable overhead expenditure variance	1,200 favourable
Variable overhead efficiency variance	500 adverse

What was the actual contribution last month?

$

34 The Balanced scorecard approach can be used to assess performance both financially and non-financially.

Which TWO of the following statements are true?

A It has 4 perspectives

B Comparisons between businesses can easily be made

C It is harder to distort the performance measures

D It focuses on short term rather than longer term performance

35 A project has a normal pattern of cash flows. If the company's cost of capital decreases what would be the effect on the NPV and the IRR?

	NPV	*IRR*
A	Increase	Decrease
B	Decrease	Stay the same
C	Stay the same	Increase
D	Increase	Stay the same

SECTION B

ALL THREE QUESTIONS ARE COMPULSORY AND MUST BE ATTEMPTED

1 Pixie Co wants to estimating future production using time-series analysis. The following trend equation has been derived from actual production data for Year 1:

$$y = 22{,}000 + 800x$$

where: y is the total production units for the quarter, and

x is the time period (Quarter 1 of Year 1 is time period 1)

The following set of seasonal variation index values has been derived using a multiplicative model and based on Year 1 actual production:

Quarter 1	70
Quarter 2	90
Quarter 3	130
Quarter 4	110

Required:

(a) Using the above multiplicative time series model, what would be the estimated production for Year 2 Quarter 3?

A 35,880 units

B 40,040 units

C 27,600 units

D 27,730 units **(2 marks)**

(b) Using an additive time series model, what would be the amount of the seasonal variation for Quarter 2?

A – 2,680

B – 2,360

C + 2,680

D + 2,360 **(2 marks)**

Additional information

Pixie Co wants to be able to predict labour costs with more accuracy. The company accountant has analysed costs for the past six months:

	Production level ('000 units)	*Labour costs* ($000)
July	10	3,500
August	10.5	3,400
September	10.2	3,800
October	9	3,100
November	9.5	3,300
December	10.3	3,500

Further analysis has revealed:

$\sum x = 59.5$ $\sum y = 20{,}600$ $\sum xy = 204{,}760$ $\sum x^2 = 591.63$

Using regression analysis (answers to the nearest whole number):

(c) What is the variable cost per unit? (2 marks)

(d) What is the total fixed cost? (2 marks)

Additional information

Further analysis has shown that there is a price index applicable to the overhead costs:

	Production level ('000 units)	*Labour costs* ($000)	*Index*
July	10	3,500	100
August	10.5	3,400	101
September	10.2	3,800	102
October	9	3,100	104
November	9.5	3,300	105
December	10.3	3,500	106

(e) Using high low analysis, what is the variable cost per unit in November's prices (to the nearest whole number)? (2 marks)

(Total 10 marks)

2 Runswick Fisheries catch and process crabs.

There are four employees processing and dressing the crabs which are then supplied to local markets.

The time allowed to dress and prepare a crab is 3 standard minutes. Each employee works a standard 35 hour week, although overtime is often worked. The standard labour rate per hour is $6.20.

The standard material cost per crab is $1.30 but not all the crabs processed, i.e. dressed, meet the quality standard as wastage occurs.

The budgeted fixed cost for the month is $3,750. For the month of August 20X1, its budgeted output was 12,000 'dressed crabs', or 3,000 units per week.

During the week ending 18 August 20X1:

- 3,050 crabs were dressed satisfactorily but 3,110 were used.
- The actual cost of the crabs was $4,354.
- The actual hours worked were 162.
- The actual cost of labour for the period was $1,021.
- The fixed overheads incurred were $990.

Required:

Calculate the following for the week ending 18 August 20X1 (assume 4 weeks in a month):

(a) The standard hours (1.5 marks)

(b) The budgeted hours (1.5 marks)

(c) The direct material price variance. (1 mark)

(d) The direct material usage variance (1 mark)

(e) The direct labour rate variance. (1 mark)

(f) The direct labour efficiency variance. (1 mark)

(g) The fixed overhead expenditure variance. (1 mark)

(h) The fixed overhead capacity variance. (1 mark)

(i) The fixed overhead efficiency variance. (1 mark)

(Total 10 marks)

3 LRC is a multi-divisional company. One of the divisions has net assets of $420,000. The profit statement for the division for the latest period is as follows:

	$
Revenue	630,000
Variable costs	390,000
Contribution	240,000
Attributable fixed costs	180,000
Allocated central costs	25,000
Divisional profit	35,000

The divisional manager is considering investing in a machine costing $50,000. The machine would earn annual profits, after depreciation, of $5,500. The company's cost of capital is 10%.

Required:

(a) What is the division's controllable return on investment, without the new machine (to 1 decimal place)? (1 mark)

(b) What is the division's controllable return on investment, with the new machine (to 1 decimal place)? (2 marks)

(c) What is the controllable residual income for the division without the new machine? (1 mark)

(d) What is the controllable residual income for the division with the new machine? (2 marks)

(e) Which TWO of the following are strengths of using Return on Investment as a performance measure for Investment appraisal?

1 It is an absolute measure of increase in shareholder wealth

2 It is commonly used and understood

3 It uses objective profits instead of subjective cash flows

4 It leads to goal congruent decisions

5 It cannot be manipulated

6 It can be used to compare projects of different sizes **(2 marks)**

(f) Which TWO of the following are strengths of using Residual Income as a performance measure for a large organisation/group?

1 It brings home the cost of financing to the divisional manager

2 It is commonly used and understood

3 It uses objective profits instead of subjective cash flows

4 It often leads to goal congruent decisions

5 It cannot be manipulated

6 It can be used to compare divisions of different sizes within the company **(2 marks)**

(Total 10 marks)