Professional Level – Options Module

Advanced Performance Management

Friday 11 June 2010

Time allowed
Reading and planning: 15 minutes
Writing: 3 hours

This paper is divided into two sections:

Section A – BOTH questions are compulsory and MUST be attempted

Section B – TWO questions ONLY to be attempted

Present Value and Annuity Tables are on pages 10 and 11.

Do NOT open this paper until instructed by the supervisor.

During reading and planning time only the question paper may be annotated. You must NOT write in your answer booklet until instructed by the supervisor.

This question paper must not be removed from the examination hall.

The Association of Chartered Certified Accountants

Paper P5

ACCA

Section A – BOTH questions are compulsory and MUST be attempted

1 The Superior Business Consultancy (SBC) which is based in Jayland provides clients with consultancy services in Advertising, Recruitment and IT Support. SBC commenced trading on 1 July 2003 and has grown steadily since then.

The following information, together with that contained in the appendix, is available:

(1) Three types of consultants are employed by SBC on a full-time basis. These are:

Advertising consultants who provide advice regarding advertising and promotional activities

Recruitment consultants who provide advice regarding recruitment and selection of staff, and

IT consultants who provide advice regarding the selection of business software and technical support.

(2) During the year ended 31 May 2010, each full-time consultant was budgeted to work on 200 days. All consultations undertaken by consultants of SBC had a duration of one day.

(3) During their 200 working days per annum, full-time consultants undertake some consultations on a 'no-fee' basis. Such consultations are regarded as Business Development Activity (BDA) by the management of SBC.

(4) SBC also engages the services of subcontract consultants who provide clients with consultancy services in the categories of Advertising, Recruitment and IT Support. All of the subcontract consultants have worked for SBC for at least three years.

(5) During recent years the directors of SBC have become increasingly concerned that SBC's systems are inadequate for the measurement of performance. This concern was further increased after they each read a book entitled '*How to improve business performance measurement*'.

Required:

Prepare a report for the directors of SBC which:

(i) discusses the importance of non-financial performance indicators (NFPIs) and evaluates, giving examples, how a 'balanced scorecard' approach may be used to improve performance within SBC; (13 marks)

(ii) contains a calculation of the actual average cost per chargeable consultation for both full-time consultants and separately for subcontract consultants in respect of each of the three categories of consultancy services during the year ended 31 May 2010; (7 marks)

(iii) suggests reasons for the trends shown by the figures contained in the appendix; (5 marks)

(iv) discusses the potential benefits and potential problems which might arise as a consequence of employing subcontract consultants within SBC. (6 marks)

Professional marks will be awarded in Question 1 for appropriateness of format, style and structure of the report. (4 marks)

(35 marks)

Appendix
SBC – Relevant actual and forecast statistics

	2010 Actual	2011 Forecast	2012 Forecast
Number of full-time consultants by category:			
Advertising	20	20	20
Recruitment	30	25	20
IT Support	50	50	50
Salaries per full-time consultant ($):			
Advertising	40,000	40,800	40,800
Recruitment	35,000	35,700	35,700
IT Support	30,000	30,600	30,600
Number of chargeable consultations (total demand):			
Advertising	4,200	4,100	4,000
Recruitment	6,250	5,750	5,000
IT Support	10,250	10,500	10,000
Per cent of chargeable days spent on Business Development Activity (%):			
Advertising	7	8	10
Recruitment	22	22	25
IT Support	12	13	14
Cost per consultation undertaken by subcontract consultants ($):			
Advertising	300		
Recruitment	220		
IT Support	200		
Other operating costs ($000):			
Full-time consultants	1,075	1,050	1,270
Subcontract consultants	125	270	182

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2 The Equine Management Academy (EMA) which was founded in 1990 is a privately owned organisation located in Hartland, a developing country which has a large agricultural sector and where much transportation is provided by horses. EMA operates an Equine College which provides a range of undergraduate and postgraduate courses for students who wish to pursue a career in one of the following disciplines:

Equine (Horse) Surgery
Equine Dentistry, and
Equine Business Management.

The Equine College which has a maximum capacity of 1,200 students per annum is currently the only equine college in Hartland.

The following information is available:

(1) A total of 1,200 students attended the Equine College during the year ended 31 May 2010. Student mix and fees paid were as per the following table:

Student category	% of total number of students	Fee ($) per student, per annum
Surgery	30	12,000
Dentistry	25	10,000
Business Management	45	6,000

(2) Total operating costs (all fixed) during the year amounted to $6,500,000.

(3) Operating costs of the Equine College are expected to increase by 4% during the year ending 31 May 2011. This led to a decision by the management to increase the fees of all students by 5% with effect from 1 June 2010. The management expect the number of students and the mix of students during the year ending 31 May 2011 to remain unchanged from those of the year ended 31 May 2010.

(4) EMA also operates a Riding School at which 240 horses are stabled. The Riding School is open for business on 360 days per annum. Each horse is available for four horse-riding lessons per day other than on the 40 days per annum that each horse is rested, i.e. not available for the provision of riding lessons. During the year ended 31 May 2010, the Riding School operated at 80% of full capacity.

(5) Horse-riding lessons are provided for riders in three different skill categories. These are 'Beginner', 'Competent' and 'Advanced'.

During the year ended 31 May 2010, the fee per riding lesson was as follows:

Skill category of horse rider	Lesson mix	Fee ($) per lesson
Beginner	50%	15
Competent	25%	30
Advanced	25%	50

(6) Total operating costs of the Riding School (all fixed) amounted to $5,750,000 during the year ended 31 May 2010.

(7) It is anticipated that the operating costs of the Riding School will increase by 6% in the year ending 31 May 2011. The management have decided to increase the charge per lesson, in respect of 'Competent' and 'Advanced' riders by 10% with effect from 1 June 2010. There will be no increase in the charge per lesson for 'Beginner' riders.

(8) The lesson mix and capacity utilisation of the Riding School will remain the same during the year ending 31 May 2011.

Required:

(a) Prepare a statement showing the budgeted net profit or loss for the year ending 31 May 2011. (7 marks)

Some time ago the government of Hartland, which actively promotes environmental initiatives, announced its intention to open an academy comprising an equine college and riding school. The management of EMA are uncertain of the impact that this will have on the budgeted number of students and riders during the year ending 31 May 2011, although they consider that due to the excellent reputation of the instructors at the riding school capacity utilisation could remain unchanged, or even increase, in spite of the opening of the government funded academy. Current estimates of the number of students entering the academy and the average capacity utilisation of the riding school are as follows:

Equine College		Riding School	
Student Fees	Probability	Capacity utilisation	Probability
No change	0·20	90%	0·10
Decrease by 10%	0·60	80%	0·60
Decrease by 20%	0·20	70%	0·30

Required:

(b) (i) Prepare a summary table which shows the possible net profit or loss outcomes, and the combined probability of each potential outcome for the year ending 31 May 2011. The table should also show the expected value of net profit or loss for the year; (9 marks)

(ii) Comment briefly on the use of expected values by the management of EMA; (3 marks)

(iii) Suggest three reasons why the government of Hartland might have decided to open an academy comprising an equine college and a riding school. (6 marks)

(25 marks)

Section B – TWO questions ONLY to be attempted

3 A local government housing department (LGHD) has funds which it is proposing to spend on the upgrading of air conditioning systems in its housing inventory.

It is intended that the upgrading should enhance the quality of living for the occupants of the houses.

Preferred contractors will be identified to carry out the work involved in the upgrading of the air conditioning systems, with each contractor being responsible for upgrading of the systems in a proportion of the houses. Contractors will also be required to provide a maintenance and operational advice service during the first two years of operation of the upgraded systems.

Prior to a decision to implement the proposal, LGHD has decided that it should carry out a value for money (VFM) audit.

You have been given the task of preparing a report for LGHD, to help ensure that it can make an informed decision concerning the proposal.

Required:

Prepare a detailed analysis which will form the basis for the preparation of the final report. The analysis should include a clear explanation of the meaning and relevance of each of (i) to (iii) below:

(i) Value for Money (VFM) audit (including references to the roles of principal and agent). (6 marks)

(ii) Economy, efficiency and effectiveness as part of the VFM audit. (6 marks)

(iii) The extent (if any) to which each of intangibility, heterogeneity, simultaneity and perishability may be seen to relate to the decision concerning the proposal, and any problems that may occur. (8 marks)

Note: Your analysis should incorporate specific references to examples relating to the upgrading proposal.

(20 marks)

4 The Spare for Ships Company (SFS) has a specialist machining facility which serves the shipbuilding components market. The current job-costing system has two categories of direct cost (direct materials and direct manufacturing labour) and a single indirect cost pool (manufacturing overhead which is allocated on the basis of direct labour hours). The indirect cost allocation rate of the existing job-costing system is $120 per direct manufacturing labour-hour.

Recently, the Visibility Consultancy Partnership (VCP) proposed the use of an activity-based approach to redefine the job-costing system of SFS. VCP made a recommendation to retain the two direct cost categories. However, VCP further recommended the replacement of the single indirect-cost pool with five indirect-cost pools.

Each of the five indirect-cost pools represents an activity area at the manufacturing premises of SFS. Each activity area has its own supervisor who is responsible for his/her operating budget.

Relevant data are as follows:

Activity area	Cost driver used as allocation base	Cost allocation rate ($)
Materials handling	Number of components	0·50
Lathe work	Number of cuts	0·70
Milling	Number of machine hours	24·00
Grinding	Number of components	1·50
Inspection	Number of units inspected	20·00

SFS has recently invested in 'state of the art' IT systems which have the capability to automatically collate all of the data necessary for budgeting in each of the five activity areas.

The management accountant of SFS calculated the manufacturing cost per unit of two representative jobs under the two costing systems as follows:

	$ Job order 973	$ Job order 974
Current costing system	1,172·00	620·00
Activity-based costing system	1,612·00	588·89

Required:

(a) (i) Compare the cost figures per unit for Job order 973 and Job order 974 calculated by the management accountant and explain the reasons for, and potential consequences of, the differences in the job cost estimates produced under the two costing systems; (8 marks)

(ii) Explain two potential problems that SFS might have experienced in the successful implementation of an activity-based costing system using its recently acquired 'state of the art' IT systems. (4 marks)

(b) 'The application of Activity Based Management (ABM) requires that the management of SFS focus on each of the following:

(i) Operational ABM;
(ii) Strategic ABM;
(iii) The implicit value of an activity'.

Required:

Critically appraise the above statement and explain the risks attaching to the use of ABM. (8 marks)

(20 marks)

5 The Better Electricals Group (BEG) which commenced trading during 2002 manufactures a range of high quality electrical appliances such as kettles, toasters and steam irons for domestic use which it sells to electrical stores in Voltland.

The directors consider that the existing product range could be extended to include industrial sized products such as high volume water boilers, high volume toasters and large steam irons for the hotel and catering industry. They recently commissioned a highly reputable market research organisation to undertake a market analysis which identified a number of significant competitors within the hotel and catering industry.

At a recent meeting of the board of directors, the marketing director proposed that BEG should make an application to gain 'platinum status' quality certification in respect of their industrial products from the Hotel and Catering Institute of Voltland in order to gain a strong competitive position. He then stressed the need to focus on increasing the effectiveness of all operations from product design to the provision of after sales services.

An analysis of financial and non-financial data relating to the application for 'platinum status' for each of the years 2011, 2012 and 2013 is contained in the appendix.

The managing director of BEG recently returned from a seminar, the subject of which was 'The Use of Cost Targets'. She then requested the management accountant of BEG to prepare a statement of total costs for the application for platinum status for each of years 2011, 2012 and 2013. She further asked that the statement detailed manufacturing cost targets and the costs of quality.

The management accountant produced the following statement of manufacturing cost targets and the costs of quality:

	2011 Forecast $000	2012 Forecast $000	2013 Forecast $000
Variable manufacturing costs	8,400	10,500	12,600
Fixed manufacturing costs	3,000	3,400	3,400
Prevention costs	4,200	2,100	1,320
Appraisal costs	800	700	700
Internal failure costs	2,500	1,800	1,200
External failure costs	3,100	2,000	980
Total costs	22,000	20,500	20,200

Required:

(a) Explain how the use of cost targets could be of assistance to BEG with regard to their application for platinum status. Your answer must include commentary on the items contained in the statement of manufacturing cost targets and the costs of quality prepared by the management accountant. (8 marks)

(b) Assess the forecasted performance of BEG for the period 2011 to 2013 with reference to the application for 'platinum status' quality certification under the following headings:

(i) Financial performance and marketing;
(ii) External effectiveness; and
(iii) Internal efficiency. (12 marks)

(20 marks)

Appendix
'Platinum status' quality certification application – Relevant statistics

	2011 Forecast	2012 Forecast	2013 Forecast
Total market size ($m)	300	320	340
BEG – sales ($m)	24	30	36
BEG – total costs ($m)	22	20·5	20·2
BEG – sundry statistics:			
% of products achieving design quality standards and accepted without further rectification	92	95	99
Rectification claims from customers ($m)	0·96	0·75	0·1
Cost of after sales rectification service ($m)	1·8	1·05	0·8
% of sales meeting planned delivery dates	88·5	95·5	99·5
Average cycle time: customer enquiry to product delivery (days)	49	45	40
Product enquiries not taken up by customers (% of enquiries)	10·5	6	3
Idle capacity of manufacturing staff (%)	12	6	1·5

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Present Value Table

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

Where r = discount rate
n = number of periods until payment

Discount rate (r)

Periods (n)	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	1
2	0·980	0·961	0·943	0·925	0·907	0·890	0·873	0·857	0·842	0·826	2
3	0·971	0·942	0·915	0·889	0·864	0·840	0·816	0·794	0·772	0·751	3
4	0·961	0·924	0·888	0·855	0·823	0·792	0·763	0·735	0·708	0·683	4
5	0·951	0·906	0·863	0·822	0·784	0·747	0·713	0·681	0·650	0·621	5
6	0·942	0·888	0·837	0·790	0·746	0·705	0·666	0·630	0·596	0·564	6
7	0·933	0·871	0·813	0·760	0·711	0·665	0·623	0·583	0·547	0·513	7
8	0·923	0·853	0·789	0·731	0·677	0·627	0·582	0·540	0·502	0·467	8
9	0·941	0·837	0·766	0·703	0·645	0·592	0·544	0·500	0·460	0·424	9
10	0·905	0·820	0·744	0·676	0·614	0·558	0·508	0·463	0·422	0·386	10
11	0·896	0·804	0·722	0·650	0·585	0·527	0·475	0·429	0·388	0·305	11
12	0·887	0·788	0·701	0·625	0·557	0·497	0·444	0·397	0·356	0·319	12
13	0·879	0·773	0·681	0·601	0·530	0·469	0·415	0·368	0·326	0·290	13
14	0·870	0·758	0·661	0·577	0·505	0·442	0·388	0·340	0·299	0·263	14
15	0·861	0·743	0·642	0·555	0·481	0·417	0·362	0·315	0·275	0·239	15

(n)	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	1
2	0·812	0·797	0·783	0·769	0·756	0·743	0·731	0·718	0·706	0·694	2
3	0·731	0·712	0·693	0·675	0·658	0·641	0·624	0·609	0·593	0·579	3
4	0·659	0·636	0·613	0·592	0·572	0·552	0·534	0·516	0·499	0·482	4
5	0·593	0·567	0·543	0·519	0·497	0·476	0·456	0·437	0·419	0·402	5
6	0·535	0·507	0·480	0·456	0·432	0·410	0·390	0·370	0·352	0·335	6
7	0·482	0·452	0·425	0·400	0·376	0·354	0·333	0·314	0·296	0·279	7
8	0·434	0·404	0·376	0·351	0·327	0·305	0·285	0·266	0·249	0·233	8
9	0·391	0·361	0·333	0·308	0·284	0·263	0·243	0·225	0·209	0·194	9
10	0·352	0·322	0·295	0·270	0·247	0·227	0·208	0·191	0·176	0·162	10
11	0·317	0·287	0·261	0·237	0·215	0·195	0·178	0·162	0·148	0·135	11
12	0·286	0·257	0·231	0·208	0·187	0·168	0·152	0·137	0·124	0·112	12
13	0·258	0·229	0·204	0·182	0·163	0·145	0·130	0·116	0·104	0·093	13
14	0·232	0·205	0·181	0·160	0·141	0·125	0·111	0·099	0·088	0·078	14
15	0·209	0·183	0·160	0·140	0·123	0·108	0·095	0·084	0·074	0·065	15

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

Discount rate (r)

Periods (n)	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	1
2	1·970	1·942	1·913	1·886	1·859	1·833	1·808	1·783	1·759	1·736	2
3	2·941	2·884	2·829	2·775	2·723	2·673	2·624	2·577	2·531	2·487	3
4	3·902	3·808	3·717	3·630	3·546	3·465	3·387	3·312	3·240	3·170	4
5	4·853	4·713	4·580	4·452	4·329	4·212	4·100	3·993	3·890	3·791	5
6	5·795	5·601	5·417	5·242	5·076	4·917	4·767	4·623	4·486	4·355	6
7	6·728	6·472	6·230	6·002	5·786	5·582	5·389	5·206	5·033	4·868	7
8	7·652	7·325	7·020	6·733	6·463	6·210	5·971	5·747	5·535	5·335	8
9	8·566	8·162	7·786	7·435	7·108	6·802	6·515	6·247	5·995	5·759	9
10	9·471	8·983	8·530	8·111	7·722	7·360	7·024	6·710	6·418	6·145	10
11	10·37	9·787	9·253	8·760	8·306	7·887	7·499	7·139	6·805	6·495	11
12	11·26	10·58	9·954	9·385	8·863	8·384	7·943	7·536	7·161	6·814	12
13	12·13	11·35	10·63	9·986	9·394	8·853	8·358	7·904	7·487	7·103	13
14	13·00	12·11	11·30	10·56	9·899	9·295	8·745	8·244	7·786	7·367	14
15	13·87	12·85	11·94	11·12	10·38	9·712	9·108	8·559	8·061	7·606	15

(n)	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	1
2	1·713	1·690	1·668	1·647	1·626	1·605	1·585	1·566	1·547	1·528	2
3	2·444	2·402	2·361	2·322	2·283	2·246	2·210	2·174	2·140	2·106	3
4	3·102	3·037	2·974	2·914	2·855	2·798	2·743	2·690	2·639	2·589	4
5	3·696	3·605	3·517	3·433	3·352	3·274	3·199	3·127	3·058	2·991	5
6	4·231	4·111	3·998	3·889	3·784	3·685	3·589	3·498	3·410	3·326	6
7	4·712	4·564	4·423	4·288	4·160	4·039	3·922	3·812	3·706	3·605	7
8	5·146	4·968	4·799	4·639	4·487	4·344	4·207	4·078	3·954	3·837	8
9	5·537	5·328	5·132	4·946	4·772	4·607	4·451	4·303	4·163	4·031	9
10	5·889	5·650	5·426	5·216	5·019	4·833	4·659	4·494	4·339	4·192	10
11	6·207	5·938	5·687	5·453	5·234	5·029	4·836	4·656	4·486	4·327	11
12	6·492	6·194	5·918	5·660	5·421	5·197	4·988	4·793	4·611	4·439	12
13	6·750	6·424	6·122	5·842	5·583	5·342	5·118	4·910	4·715	4·533	13
14	6·982	6·628	6·302	6·002	5·724	5·468	5·229	5·008	4·802	4·611	14
15	7·191	6·811	6·462	6·142	5·847	5·575	5·324	5·092	4·876	4·675	15

End of Question Paper