

**BERJAYA BUSINESS SCHOOL**

**FINAL EXAMINATION**

Student ID (in Figures) : 

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Student ID (in Words) : \_\_\_\_\_  
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Subject Code & Name : **MBA5405 MANAGEMENT CONTROL & COSTING SYSTEM**  
Semester & Year : JANUARY – APRIL 2017  
Lecturer/Examiner : JAMES LIOW  
Duration : 3 Hours

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**INSTRUCTIONS TO CANDIDATES**

1. This question paper consists of 2 parts:  
PART A (70 marks) : Answer ONE (1) mini case study. Answers are to be written in the Answer Booklet provided.  
PART B (30 marks) : Answer THREE (3) out of FIVE (5) short answer questions. Answers are to be written in the Answer Booklet provided.
2. Candidates are not allowed to bring any unauthorized materials except writing equipment and calculator into the Examination Hall. Electronic dictionaries are strictly prohibited.
3. This question paper must be submitted along with all used and/or unused rough papers and/or graph paper (if any). Candidates are NOT allowed to take any examination materials out of the examination hall.
4. Only ballpoint pens are allowed to be used in answering the questions, with the exception of multiple choice questions, where 2B pencils are to be used.

**WARNING:** The University Examination Board (UEB) of BERJAYA University College of Hospitality regards cheating as a most serious offence and will not hesitate to mete out the appropriate punitive actions according to the severity of the offence committed, and in accordance with the clauses stipulated in the Students' Handbook, up to and including expulsion from BERJAYA University College of Hospitality.

**PART A : CASE STUDY (70 MARKS)**

**INSTRUCTION (S)** : Part A consists of ONE (1) mini case study. You are required to answer ALL questions in the Answer Booklet provided. All workings are to be shown in the Answer Booklet.

Kolbec Community College (KCC) has 4,000 full-time students and offers a variety of academic programmes in three areas: professional studies, arts, and technology. The professional studies programmes prepare students for administrative and clerical jobs in a variety of professional settings, including accounting, medicine, and law. The arts programme's offerings are wide ranging and include graphic design, digital animation, culinary arts, cosmetology, and music arts. The technology programmes are also varied, including information technology, medical laboratory technology, electrical engineering technology, pharmacy technology, and natural resources technology.

The chief financial officer of KCC, Lynn Jones, has consistently emphasized to other members of the senior management team the importance of understanding the costs of delivering the various academic programmes. To that end, the costing system used at KCC tracks the direct costs of each programme, which are shown below on an annual basis, along with the number of full-time students:

| <b>Item</b>                   | <b>Professional Studies</b> | <b>Arts</b>      | <b>Technology</b> | <b>Total</b>     |
|-------------------------------|-----------------------------|------------------|-------------------|------------------|
| Full-time students            | 2,000                       | 1,000            | 1,000             | 4,000            |
| Professors' salaries (\$)     | 1,260,000                   | 650,000          | 780,000           | 2,690,000        |
| Administrative salaries (\$)  | 105,000                     | 70,000           | 70,000            | 245,000          |
| Supplies (\$)                 | 40,000                      | 150,000          | 50,000            | 240,000          |
| Teaching support (\$)         | 160,000                     | 100,000          | 80,000            | 340,000          |
| Facilities (\$)               | 275,000                     | 150,000          | 175,000           | 600,000          |
| <b>Total direct cost (\$)</b> | <b>1,840,000</b>            | <b>1,120,000</b> | <b>1,155,000</b>  | <b>4,115,000</b> |

It is very important to understand the overhead costs consumed by each academic programme at KCC in determining the full cost of operating the programmes. Central administration at KCC allocates financial resources to academic programs based on the estimated full cost per student of delivering the programme. The overhead costs at KCC are significant, totalling over 60% of direct costs. Total annual overhead costs at KCC are as follows:

| <b>Annual Overheads</b>     | <b>\$</b>        |
|-----------------------------|------------------|
| Administrative salaries     | 900,000          |
| Facility costs              | 1,300,000        |
| Office expenses             | 300,000          |
| <b>Total overhead costs</b> | <b>2,500,000</b> |

Traditionally, KCC has allocated overhead costs to academic programmes on the basis of the number of full-time students in each programme. This approach was deemed appropriate since Jones reasoned that increasing the number of students at KCC would result in higher overhead costs (e.g., more facilities would be needed, more indirect support costs would be incurred, etc.). However, Jones is beginning to question the accuracy of the traditional approach since it results in a similar full cost per student for the arts and technology programmes, which she feels does not make sense. Based on her knowledge of the programmes, Jones feels that the technology programme is probably more expensive to deliver than the arts programme, but this does not come through in the traditional costing approach.

Jones recently attended a seminar on management techniques being used by leading educational institutions that, among other topics, covered the basics of the Activity Based Costing (ABC) approach. She likes the idea of being able to assign indirect costs to academic programmes on the basis of how much of the support activity resources are consumed by each programme. If Jones’s instincts are correct in that some programmes consume more resources of certain activities than others, this could have a significant impact on the overhead costs assigned to each under the ABC approach.

Upon returning to KCC, Jones decides to implement ABC. She, along with Assistant CFO James West, begins by identifying the key activities used to support the teaching programmes. Rather than getting too detailed with respect to identifying activities in the initial implementation, Jones decides to keep the process manageable and comes up with six key activities. Next, based on a series of interviews with various KCC employees who work in the departments covered by the identified activities, Jones and West estimate the percentage of the total administrative, facility, and office expense resources consumed by each activity. Again, to keep the process efficient, Jones rounds all percentages to the nearest 5%, figuring that a “close enough” approach will suffice for this initial implementation and recognising that the estimates are subjective to begin with. The results are shown below:

| Activity                       | Resources distribution across activities |             |             |
|--------------------------------|--|-------------|-------------|
|                                | Administrative                           | Facilities  | Office      |
| Central administration         | 20%                                      | 5%          | 15%         |
| Information systems technology | 20%                                      | 15%         | 15%         |
| Student counselling            | 5%                                       | 5%          | 10%         |
| Human resources                | 10%                                      | 5%          | 10%         |
| Library operations             | 20%                                      | 60%         | 30%         |
| Registrar's office             | 25%                                      | 10%         | 20%         |
| <b>Total</b>                   | <b>100%</b>                              | <b>100%</b> | <b>100%</b> |

Working with key personnel from each of the six activities shown above, Jones and West then identify the activity measure and the quantity of that measure used for each teaching programme. Fortunately, KCC implemented an enterprise resource planning system a few years ago, which is already tracking much of the information needed regarding the activity measures and the specific quantities for each academic programme:

| Activity                       | Measure                       | Professional Studies | Arts  | Technology |
|--------------------------------|-------------------------------|----------------------|-------|------------|
| Central administration         | Hours spent on programme      | 6,000                | 7,000 | 7,000      |
| Information systems technology | Processing hours              | 6,000                | 3,000 | 12,000     |
| Student counselling            | No. of students counselled    | 180                  | 115   | 205        |
| Human resources                | No of admin & faculty members | 21                   | 15    | 14         |
| Library operations             | No. of library circulations   | 6,000                | 3,000 | 3,000      |
| Registrar's office             | Full time students            | 2,000                | 1,000 | 1,000      |

**Required**

1. Using the traditional approach to assigning overhead costs to academic programmes:
  - a. Calculate the predetermined overhead rate. (2 marks)
  - b. Assign the overhead costs to each academic programme using the predetermined rate. (6 marks)
  - c. Calculate the total cost per student (direct costs plus overhead) of operating each academic programme. (6 marks)
  
2. Using ABC, complete the following requirements:
  - a. Complete the first-stage allocation of overhead costs to academic programmes. (9 marks)
  - b. Calculate the activity rates for each of the activity cost pools. (12 marks)
  - c. Using the activity rates calculated in (2b), complete the second-stage allocation of overhead to academic programmes. (9 marks)
  - d. Based on the results of (2c), calculate the total cost per student (direct costs plus overhead) of operating each academic programme. (6 marks)
  
3. Explain the key reasons for differences in the total cost per student of operating each academic programme that arise between the traditional costing approach and ABC. (10 marks)
  
4. Describe any of the **FOUR (4)** limitations in implementing the activity based costing. (10 marks)

**[Total 70 marks]**

**END OF PART A**

**PART B : SHORT ANSWER QUESTIONS (30 MARKS)**

**INSTRUCTION (S)** : There are **FIVE (5)** questions in this section, answer only **THREE (3)** questions. Write your answers in the Answer Booklet(s) provided. The total marks allocated for each of the questions are shown within brackets.

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**QUESTION 1**

Networks Company manufactures wireless routers. The company's contribution format income statement for the most recent year is given below:

|                         | <b>Total (\$)</b> | <b>\$ per unit</b> |
|-------------------------|-------------------|--------------------|
| Sales (25,000 units)    | 2,500,000         | 100                |
| Less variable expenses  | 1,500,000         | 60                 |
| Contribution margin     | 1,000,000         | 40                 |
| Less fixed expenses     | 800,000           |                    |
| <b>Operating income</b> | <b>200,000</b>    |                    |

Management believes operating income can be further improved and would like you to prepare the following analysis.

**Required**

- a) Compute the company's contribution margin ratio. (2 marks)
- b) Compute the company's break-even point in both units and sales dollars. (2 marks)
- c) Assume that sales increase by \$600,000 next year. If cost behaviour patterns remain unchanged, by how much will the company's operating income increase? (4 marks)
- d) List any **TWO (2)** of the limiting assumptions of cost-volume-profit analysis. (2 marks)

**[Total 10 marks]**

**QUESTION 2**

Last year, James Ingram established a gourmet food business and to date has achieved good sales and a small profit. While attending a recent business networking event, James was advised to consider employing a management accountant to enhance and improve his business. James has asked you for advice. He would like to understand why management accounting has become so important to achieving business success and how it differs from financial accounting. James is also keen to know how employing a management accountant could improve his business.

**Required**

Prepare a briefing note for James Ingram which:

- a) Differentiates **FIVE (5)** between financial accounting and management accounting. (5 marks)
- b) Describes how the employment of a management accountant could enhance and improve a business. (5 marks)

**[Total 10 marks]**

### QUESTION 3

The managing director of Philip Moore Limited has asked you to prepare a report suitable for senior management, to assist in its understanding of management accounting. He has suggested that senior management need clarification on the topic of cost terms and their importance and application in management accounting

#### **Required**

Explains the following commonly used cost terms in management accounting:

- a) Cost object
- b) Direct and indirect costs
- c) Variable and fixed costs
- d) Product and period costs

Illustrate your answer with an example.

**[Total 10 marks]**

### QUESTION 4

Currently, Trump, the CEO of South Virgin Limited faces a tough competitive environment with all the major players in its market trying to secure their positions. Poor economic conditions worldwide have significantly affected the company. Consumer spending is falling throughout the economy and there is no immediate likelihood of a resumption of growth.

Trump as recently conducted a strategic review of the business in the context of the current economic recession and he has been advised on the use of the balanced scorecard to assess its strategic performance. He highlighted the following areas of concern:

- Profits have significantly declined over last years' performance.
- No analysis of customer demographics.
- Non added value internal processes that need to be eliminated.
- Lack of employee participation in decision making.

#### **Required**

Describe the **FOUR (4)** perspectives of the balanced scorecard showing how the new strategy of the business links to the different perspectives. Illustrate your answer by suggesting appropriate performance measures for each of the perspective.

**[Total 10 marks]**

### **QUESTION 5**

Decision making is a critical aspect of managing an organisation. Managers must constantly decide which products or services to offer, which production methods to use, whether to make or buy component parts, what prices to charge, whether to accept special orders at special prices, how to allocate limited resources, and so on. In order to comprehend further, one has to understand the importance of relevant cost in making those decisions.

#### ***Required***

Define the following terms used in relevant costs:

- a) Incremental costs
- b) Avoidable costs and unavoidable costs
- c) Opportunity costs
- d) Sunk costs
- e) Committed costs

**[Total 10 marks]**

**END OF QUESTION PAPER**