The Co-operative University of Kenya

END OF SEMESTER EXAMINATION – DECEMBER 2016

EXAMINATION FOR THE BACHELOR OF CO-OPERATIVE BUSINESS (BCOB YR IV SEM I/ YR III SEM I)

UNIT CODE: HCOB 2409

UNIT TITLE: FINANCIAL INFORMATION SYSTEMS

DATE: 19TH DECEMBER, 2016 **TIME: 9:00 AM – 11:00 AM**

INSTRUCTIONS:

- Answer question **ONE (compulsory)** and any other **TWO** questions

QUESTION ONE

a) Distinguish between controlled and non-controlled variables as used in financial information systems (6 Marks)

b) Explain the process of activating data analysis for solving financial information systems problems (6 Marks)

c) Describe **Clearly** how to generate random numbers between 115 and 215 using advanced excel for a frequency of 15 random numbers (6 Marks)

d) The computer output data below is from a bakery that bakes cakes under the brand name 'super cakes'.

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.88
R Square	0.77
Adjusted R Square	0.74
Standard Error	1.58
Observations	10

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	65.74	65.74	26.24	0.00
Residual	8	20.04	2.51		
Total	9	85.79			

	Coefficients	*Standard Error*	*t Stat*	*P-value*
Intercept	7.92	2.94	2.70	0.03
X Variable 1	0.65	0.13	5.12	0.00

Required:

i) Estimate the total cost function using the above computer output results state the fixed cost and unit cost. (9 Marks)

ii) If each cake is sold at Sh.10, determine the break-even number of cakes. (3 Marks)

QUESTION TWO

a) Explain the role of computer in simulation and then discuss the merits and demerits of simulation in inventory models (12 Marks)

b) Consider the linear problem below and draw an excel worksheet and show how it can be used to solve the problem below, showing the following

i) The target cell

ii) The changing cells

iii) The constraint cells

$$\begin{aligned} \text{Maximize} \quad & 45x_1 + 80x_2 \\ \text{Subject to} \quad & 5x_1 + 20x_2 \le 400 \\ & 10x_1 + 15x_2 \le 450 \\ & x_1 \ge 0, x_2 \ge 0 \end{aligned}$$

(8 Marks)

QUESTION THREE

a) A baker makes two products; large loaves and small round loaves. He can sell up to 280 of the large loaves and up to 400 small round loaves per day. Each large loaf occupies $0.01m^3$ of shelf space, each small loaf occupies $0.008m^3$ of space, and there is $4m^3$ of shelf space available. There are 8 hours available each night for baking, and he can produce large loaves at the rate of 40 per hour, and small loaves at the rate of 80 per hour. The profit on each large loaf is Sh.5.00 and Sh.3.00 profit on the small round loaf.

Required: In order to maximize profits, how many large and small round loaves should he produce?

b) Summarize the procedure for solving the kind of quantitative technique you have used to solve part (a) above.

QUESTION FOUR

The Consolidated Cashflow Statement for Mentor Sacco Ltd for the year ended 30 April 2015 is shown below

MENTOR SACCO LTD
CONSOLIDATED CASHFLOW STATEMENT AS AT 30TH APRIL 2015

	A	B	C	
1	**OPERATING ACTIVITIES**	**Sh.million**	**Sh.million**	
2	Profit before tax	417		
3	***Adjustments for:***			
4	Depreciation	265		
5	Profit on sale of property, plant and equipment	(17)		
6	Amortization of goodwill	13		
7	Interest paid	8		
8	Share of result of associate	(50)		
9		**???**		
10	***Changes in working capital:***			
11	Increase in inventory	(98)		
12	Decrease in receivables	16		
13	Increase in payables	131		
14	Cash generated from operations	685		
15	Interest paid	(8)		
16	Tax paid	(120		
17	**Net cash from operating activities**		**???**	
18	**INVESTING ACTIVITIES**			
19	Purchase of property, plant and equipment	(163)		
20	Proceeds from sale of property, plant and equipment	70		
21	Dividends received	18		
22	**Net cash used in investing activities**		**???**	
23	**FINANCING ACTIVITIES**			
24	Borrowings repaid	(90)		
25	***Dividends paid:***			
26	To members of holding	(150)		
27	To minority interest	(40)		
28	**Net cash used in financing**		(280)	
29	Increase in cash and cash equivalents		**???**	
30	Cash and cash equivalents at start:			
31	Cash and cash equivalents	71		
32	Bank overdraft	(188)	**???**	
33	***Cash and cash equivalents at end:***			
34	Cash and cash equivalents	93		
35	Bank overdraft	(8)		
36			**???**	

a) Derive the formulas that you can use to get the relevant missing figures in the above spread sheet of the statement of financial (12 Marks)

b) From the above extract the statement of financial of Mentor Sacco Ltd (8 Marks)

QUESTION FIVE

a) Differentiate between additive model and the multiplicative model as used in time series analysis. (4 Marks)

b) The sales data of Nduti Tea Factory wish to make a serious study of the heating costs (in millions of shillings) for the years 2012 and 2015 inclusive are as given below:

	Quarter			
Year	**1**	**2**	**3**	**4**
2012	40	64	124	58
2013	42	84	150	62
2014	46	78	154	96
2015	54	78	184	106

Required:

i) The trend in the data using the least squares method. (8 Marks)
ii) The estimated sales for each quarter of year 2017. (4 Marks)
iii) The percentage variation of each quarter's actual sales for year 2017. (4 Marks)