(*Knowledge for Development*)

KIBABII UNIVERSITY

UNIVERSITY EXAMINATIONS
2015/2016 ACADEMIC YEAR

SECOND YEAR 2ND SEMESTER
MAIN EXAMINATION

FOR THE DEGREE OF BACHELOR OF SCIENCE IN AGRICULTURAL ECONOMICS & RESOURCE MANAGEMENT

COURSE CODE: **IAE 289**
COURSE TITLE: **FARM BUSINESS MANAGEMENT 1 (PRINCIPLES)**

DATE: **9TH MAY 2016** **TIME: 9AM – 11AM**

INSTRUCTIONS TO CANDIDATES

Answer all Questions in section A and any other two (2) Questions in section B.

TIME: 2 Hours

This paper consists of 4 printed pages. Please Turn Over

SECTION A = 30 MARKS

1. a) Name any E**ight** objectives that farmers pursue. (4 Marks)

   b) Distinguish between the following terminologies used in Farm Management:

      i. **"Farm Budget**" and **"Farm Plan"** (2 Marks)

      ii. "**Common Costs**" and "**Variable Costs**" (2 Marks)

   c) Suppose Ms. Waithera has hired you to start a mixed farm. Identify the steps you will go through to arrive at Complete Budget for the farm. (4 Marks)

   d) Kamau has been a Management Trainee with Hustler's Farm Ltd. for the last twelve months. Suppose Kangogo is a member of a panel to Kamau's appointment to the post of Farm Manager. List any **Six Personal** characteristics of the candidate that Kangogo should consider when making the decision. (3 Marks)

   e) Explain any FOUR limitations of Farm Budgeting. (4 Marks)

   f) i) Identify any **Four Desirable** qualities of farm plans. (2 Marks)

   ii) How can a Manager ensure the implementation of a Farm Plan? (4 Marks)

   g) Outline the linear decision-making model. (3 Marks)

   h) Define the terminology "**Margin of Safety**" as used in Break-Even Budgeting (2 Marks)

SECTION B = 40 MARKS

2. (a) Describe how can farmers use Gross Margins as criteria in decision-making (3 Marks)

   (b) Mr. Mapesa has a two and half hectare farm in Bungoma County. He has 1 ha under Maize, 0.4 ha under Tomatoes, 0.5 ha under beans and 0.6 ha under Dairy enterprises. The dairy enterprise consists of 10 lactating cows, 3 dry cows and 5 heifers.

   He has provided you with the following information:

Enterprise	**Gross Output**	**Price (Kshs. Per unit)**	**Total Variable Costs (Kshs. per ha or L.U)**
Maize	30 bags/ha	2,700	24,960
Tomatoes	650 crates / ha	850	64,100
Beans	10 bags/ha	5, 200	19,310
Dairy	3,050 litres per 305 day lactation per cow	45	100,000
Total			**208,370**

From the above information:

(i) Calculate the Gross margin of each his enterprises. (14 Marks)

(ii) Compute his farm's total Gross Margin. (3 Marks)

3. Mr Hamid has a farm of 7 ha, 2 ha of which are fenced grazing land unsuitable for cropping. Assisted by his local agricultural extension worker, he has calculated his expected enterprise gross margins to be as follows in the average season:

Enterprise	**Gross margins/ha ($)**
Hybrid Maize	560
Composite Maize	450 (Yield: 2,700 kg/ha)
Groundnuts	740
Tobacco	1,320 (Yield: 1,120 kg/ha)
Beef Grazing	590

He has a tobacco quota of 900 kg and insists on not growing tobacco on the same piece of land more than once in four years or groundnuts more than once every three years. He also insists on producing enough composite maize for his family's subsistence needs. Hybrid maize will be sold at harvest because he finds it to be susceptible to storage pests.

Mr Hamid, his second wife and two children work full-time on the farm. His first wife runs a store on the farm. He works 25 days each month. His second wife's work output each month is equivalent to his output in 17 days and each child's output is equivalent to his in 8 days. The following labour use and grain consumption of 300 kg an adult and 150 kg a child each year are available.

Labour Use per Hectare in the Peak Months			
	Maize	**Groundnuts**	**Tobacco**
Nov.	12	30	45
Dec.	25	25	35
Jan.	22	22	27
Feb.	10	20	17
Mar.	7	27	35
Apr.	15	37	72
May	12	30	45

Devise a plan to maximise whole farm gross margin. (20 Marks)

4. As a dairy section manager, you wish to raise the mean annual milk yield of each cow from 2,460 litres to 3,000 litres. The present feeding system is based on natural grazing with bought concentrate feeds. You believe that by supplementing this with high-quality maize silage, average annual yield will rise to 3,000 litres.

   Given the following information:

Herd size:	75 cows
Mean annual yield: Milk price:	2,460 per cow
Quality premium:	Kes 0.306 /litre for each percent rise in SNF over 8%
Present solids-not-fat:	8.5%
Expected solids-not-fat with silage:	10.5%
Silage needed:	18 kg/cow/day for 301 days each year
Silage yield:	16.8 tonnes per ha
Silage variable costs:	Kes 17,340/ha
Concentrates fed	5.4 kg/cow/day at Kes 10,506 per tonne
Labour needed to feed silage:	2 workers at kes 35,496
Dairy Manager's Salary	Kes 255,000 p.a
Crop Manager's salary	Kes 318,750 p.a

New capital equipment needed

Item	**Capital Cost (Kes)**	**Straight line depreciation (Kes)**	**Annual repairs and maintenance (Kes)**
Forage Chopper	459,000	3,060	43,860
Trailer	204,000	1,530	20,400
Silo	63,750	510	

Determine

(a) Whether it is financially feasible to introduce maize silage into the daily ration.

(15 Marks)

(b) Determine the minimum number of cows that make it financially feasible to introduce silage into the daily ration. (5 Marks)