CHUKA  **UNIVERSITY**

UNIVERSITY EXAMINATIONS

EXAMINATION FOR THE AWARD OF DEGREE OF MASTER OF SCIENCE IN

MSEC 804: PROJECT PLANNING AND EVALUATION

STREAMS: **TIME: 3 HOURS**

DAY/DATE: MONDAY 09/04/2018 **2.30 P.M – 5.30 P.M**

INSTRUCTION:

- **The exam is worth 60 marks in total**
- **Question one is compulsory and it carries 25 marks]**
- **Answer question one and any other three questions**

1. (a) Using a hypothetical education project, distinguish between the following

   (i) Real benefits and pecuniary benefits. [4marks]

   (ii) Project costs and project associated costs. [4marks]

   (iii) Tangible and intangible benefits. [4marks]

   (b) Solve the following assuming an interest rate of 5% per annum.

   (i) A present debt of how much will ksh 1000 at the end of each year for 10 years repay. [6marks]

   (ii) A payment of how much now is acceptable in place of a payment of ksh 3000 ten years hence. [7marks]

2. Assume that you are a planning officer with a local NGO . You have asked to evaluate a five year agricultural project where the yield is sensitive to rainfall and operating costs depend on the performance of a new agricultural harvesting machine. You are supplied with the following information;

   - The initial cost of the project is ksh 30,000
   - The price of the output is fixed for the next five years at ksh 100 per ton

- The expected annual rainfall and yields are described by the following

Rainfall (mm)	Probability (%)	Yield (tons)
50	5	300
150	10	700
300	25	800
500	30	1200
700	15	900
850	10	400
1000	5	200

- Annual operating costs are expected to be ksh 5000 but the machine supplier has indicated that depending on the machines performance; these be as low as ksh 2000 per annum or high as 8000

Required :

Assuming no salvage value after five years agricultural project where the yield is sensitive to rainfall and operating cost and depend on the performance of the new agricultural harvesting machine.

Additional information;

(i) Project involves an outlay of $ 2000
(ii) Price of output is fixed for the next 5 years at $10 per ton.
(iii) Expected annual rainfall is described by the following probability distribution.

Rainfall (cm)	Pr	Expected Annual yield (ton)
5	0%	25
15	15%	75
30	20%	90
50	35%	100
70	15%	80
85	10%	50
100	5%	10

The expected annual yields from different levels of annual rainfall (cm) are given above (column 3)

(iv) Annual operating costs are expected to be $300 per annum but the machine suppliers has indicated that depending on the machine's performance, this might be as low as $200 p.a (optimistic) or as high as $350 p.a.(pessimisti).

Required :

Assuming no salvage value after 5 years and rate of 4% per annum, show how you would evaluate this project and reach a decision. [7marks]

(b) You have been given the following information about various projects.

Project	Year				
	0	1	2	3	4
A	(1000)	1200	0	0	0
B	(1361.1)	500	500	500	500
C	(1000)	1200	1500	0	0
D	(2000)	1000	0	0	0

Required;

Assuming an interest rate of 10%, evaluate the above projects using NPV . [8marks]

4. (a) Explain the conditions which make CBA desirable in less developed countries (LDCs) . [6marks]

(b) Using the following pay off matrix, explain the decision making criteria appropriate to uncertainty as listed below the matrix.

N / S	1	2	3	4
1	2	2	0	0
2	1	1	1	1
3	0	4	0	0
4	0	3	0	0

(ii) Thewald criterion. [3marks]

(iii) The minimum regret criterion [3marks]

(iv)The index of pessimism criterion. [3marks]

5. (a) You work for an International NGO and you have the following information at your disposal.

Good	Units Imported/exported	Domestic price per unit	Accounting ration
Tea (export)	2000	200	1.00
Coffee (export)	500	250	1.00
Machinery (import)	750	400	0.75
Perfumes(import)	300	200	0.50
Pagers (import)	250	100	0.80

The official exchange rate (OER) is $1 = ksh 100

Required :

(i) Calculate the border price of foreign exchange equivalent for each good expressed in domestic currency. [2marks]

(ii) The total value of exports minus imports at border prices expressed in.

(a) Foreign currency [1mark]

(b) Domestic currency [1mark]

(iii)The shadow exchange rate (SER) for the economy. [2marks]

(iii) The total value of export minus imports using domestic consumption as a numeraire. [2marks]

(iv) The summary conversion factor and interpret it. [2marks]

(b)Explain the strengths and limitations of cost benefit analysis (CBA). [5marks]
