

CHUKA



UNIVERSITY

## UNIVERSITY EXAMINATIONS

**FOURTH YEAR EXAMINATION FOR THE AWARD OF DEGREE OF  
BACHELOR OF COMMERCE**

**AGBM 302: AGRICULTURAL INSURANCE****STREAMS: BCOM Y4S1 (ODEL)****TIME: 2 HOURS****DAY/DATE: FRIDAY 12/4/2024****8.30 A.M. –10.30 A.M.****INSTRUCTIONS:**

- Answer question one and any other two questions
- Do not write on the question paper
- Show all your workings

**QUESTION ONE**

- (a) George believes that all agricultural risks are insurable, while Jocelyn believes otherwise. Discuss this statement in the light of insurance mechanism giving the right position.

(10 marks)

- (b) A barley farmer in Meru County arranged for a yield index based (crop protection) insurance with one of the agricultural insurance companies in Kenya. The farm area (FA) is 200 acres, the guaranteed yield (GY) per acre is 3 tons and the minimum guaranteed price (GP) is Kshs. 150 per Kg. Assume the following:

On harvesting, the farmer realized a yield (AY) of 2.5 tons per acre

The level of indemnity is 90%

The rate of premium charged by the insurer was 4.5%

An excess of Kshs.10, 000/= is applicable.

Government subsidy 35%

Required:

- i) Determine the total sum insured. (3 marks)
- ii) Show the premium paid under the policy. (3 marks)

- iii) Calculate the claim payable under the policy. (4 marks)
- (c) Evaluate the objectives of actuarial premium rating in crop insurance. (10 marks)

**QUESTION TWO**

- (a) Demonstrate on how a reasonable underwriter can identify cattle for purposes of effective underwriting. (10marks)
- (b) Discuss in detail the scope of agricultural insurance. (10 marks)

**QUESTION THREE**

- (a) A group of farmers from the coast region have been experiencing serious losses from their farming activities as a result various threats. They approach you as an expert to enlighten them on the possible types of risks they could be exposed to. (10 marks)
- (b) Explain the conditions a prudent underwriter could introduce in a poultry insurance policy to ensure underwriting profit. (10 marks)

**QUESTION FOUR**

- (a) A wheat farmer effected a weather based index insurance. The normal rainfall for wheat is 800mm and the sum insured is Kshs. 80, 000/= per hectare and the premium payable per hectare is Ksh.975/=. The farm area is 50 hectares. The payout structure (Per hectare compensation at various levels of deviations) is as follows:

Rainfall range (mm)	Payout (Kshs./mm)
640-682	10.77
597-639	11.99
554-596	13.32
512-553	14.80

Required:

- i) Calculate the premium payable assuming a government subsidy of 35%. (4 marks)
- ii) Show how the claim will be paid assuming actual rainfall of 650mm. (4 marks)
- iii) Explain the advantages and disadvantages of weather based index insurance. (12 marks)