



**The Co-operative University of Kenya**  
**END OF SEMESTER EXAMINATION APRIL -2019**

**EXAMINATION FOR THE DEGREE OF BACHELOR OF DISASTER RISK  
MANAGEMENT**

**UNIT CODE: CODM 2410**

**UNIT TITLE: SIMULATION AND MODELLING IN DISASTER PREPAREDNESS**

**DATE: 26<sup>TH</sup> APRIL, 2019**

**TIME: 9:00 AM – 11:00 AM**

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**INSTRUCTIONS:**

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

**QUESTION ONE**

- (a) Discuss FOUR objectives of table top simulation during disaster preparedness (8 marks)
- (b) How can risk be assessed deterministically and probabilistically (4 marks)
- (c) Discuss FOUR features of drills during disaster preparedness simulation exercises (8 marks)
- (d) Difference between qualitative and quantitative risk analysis. (4 marks)
- (e) Explain advantages to using simulations for disaster preparedness and response (6 marks)

**QUESTION TWO**

- (a) Explain FOUR types of common probability distributions (8 marks)
- (b) Discuss THREE advantages of Monte Carlo probability model over deterministic model (6 marks)
- (c) Discuss THREE shortcomings of deterministic models (6 marks)

**QUESTION THREE**

- (a) Discuss value table top simulations in disaster preparedness (10 marks)
- (b) Explain why organizations should conduct regular disaster drills (10 marks)

**QUESTION FOUR**

- (a) Discuss SIX differences between table top simulations and drills (12 marks)
- (b) What are FOUR similarities between table top simulations and drills (8 marks)

**QUESTION FIVE**

- (a) Discuss TEN key components that are addressed in the simulation scenario development (10 marks)
- (b) Explain TEN features that are considered during the “development of the situation” when conducting simulation exercise (10 marks)