CM615: Climate Change Impacts & Adaptation

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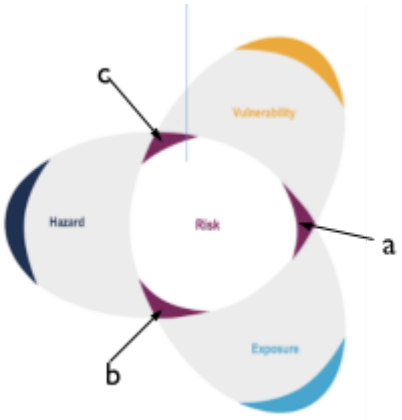
Quiz 2

Note: Total marks is **22**. Duration: **20 minutes**. Do not describe in more than 2-3 sentences in answering the questions where you have to explain or state reasons or define. Please be strictly precise and brief in explaining.
Please put your name and roll number in the answer scripts.

1. Which of the following best describes the difference between mitigation and adaptation? [1]
   A) Mitigation reduces vulnerability; adaptation reduces emissions
   B) Mitigation addresses causes; adaptation addresses impact
   C) Mitigation increases resilience; adaptation increases risks
   D) Mitigation is reactive; adaptation is proactive

2. Explain the a,b,c region from the figure below. [3]



3. In your opinion, which plays a more crucial role in addressing climate change: mitigation or adaptation? Briefly explain your reasoning. [2]

4. What does the term “coping range” refer to in climate adaptation? [1]

A. The range of economic losses a community can endure without external aid
B. The range of climate variability a community is adapted to
C. The extent of environmental change anticipated in climate projections
D. The degree of flexibility governments have in adjusting climate policy

5. What is the key objective of planned adaptation? [1]

A. To understand the role of projected policies in the adaptation practices
B. To maintain the status quo in policies
C. To modify practices using observed and anticipated climate information
D. To adapt only under extreme climate conditions

6. Explain potential and "residual impacts" in the context of climate adaptation. [2]

7. Mention any two pre-conditions for effective planned adaptation. [2]

8. How does the integrative approach to adaptation differ from the linear hazard approach? [1]

A. It relies on current climate data without considering future climate projections or past experiences

B. It integrates climate data with social and economic factors, focusing on future risks and projections

C. It incorporates both climate and non-climate factors, using lessons from past experiences to guide future decisions

D. It combines climate and non-climate factors but focuses mainly on future climate projections and planning for unknown risks

9. Which of the following statements best differentiates the AR5 vulnerability framework from AR4? [1]

A. AR5 treats vulnerability as the only factor influencing climate risk.

B. AR5 defines risk as a function of hazard, exposure, and vulnerability

C. AR4 explicitly separates hazard, exposure, and vulnerability in its risk assessment.

D. AR5 does not consider exposure in the assessment of climate risk.

10. Mention three sources of uncertainties in the risk assessment. [1]

11. Resilience is best described as: [1]

A. The ability to resist all climate hazards through technological solutions
B. The capacity of systems to cope with a hazard, maintain their core function, identity, and structure, and continue adapting, learning, and transforming
C. A fixed state where systems avoid change under any kind of stress
D. The process of recovering losses after a climate disaster has occurred

12. Which of the following best represents the IPCC's AR5 framing of risk? [1]

A. Risk = Hazard + Exposure + Resilience
B. Risk = Exposure × Adaptation
C. Risk = Hazard × Exposure × Vulnerability
D. Risk = Hazard – Vulnerability

13. As discussed in the lecture, second-generation vulnerability assessments differ from first-generation by focusing more on: [1]

A. The evaluation of potential future emissions scenarios
B. The assessment of climate impacts on physical infrastructure
C. A more thorough evaluation of adaptive capacity and the shift from potential to feasible adaptation
D. The projection of regional temperature extremes

14. What are compound climate events? Why is it important to study them rather than individual extreme events in isolation? [1]

15. What are the main approaches to defining extreme events? [1]

16. What is a concurrent extreme? Why does studying these types of extremes become important in the context of climate change? [2]