

TRIBHUVAN UNIVERSITY  
INSTITUTE OF ENGINEERING  
**Examination Control Division**  
2082 Chaitra

| Exam.       | Regular |            |        |
|-------------|---------|------------|--------|
| Level       | BE      | Full Marks | 80     |
| Programme   | BCE     | Pass Marks | 32     |
| Year / Part | IV/ II  | Time       | 3 hrs. |

**Subject: - Disaster Risk Management (Elective III) (CE 78506)**

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt **All** questions.
- ✓ The figures in the margin indicate **Full Marks**.
- ✓ Assume suitable data if necessary.



1. a) Explain about the paradigm shift (evolution) in disaster risk management world widely. Explain in shortly the disaster profile of Nepal. [4+4]  
 b) Define the terminologies: 'Hazard', 'Risk', and 'Coping Capacity'. Write down the physical, social and economic dimensions while assessing the vulnerability of any disaster in a community. [3+5]
2. a) Differentiate pre and post disaster risk management with suitable examples. [6]  
 b) Illustrate with suitable neat and clean diagram about the "disaster management cycle" emphasis on "The end of one phase of Disaster is the beginning of another phase". [10]
3. a) List out the UN Clusters. "Implementing cluster approach will be effective tool for better management during disaster". Justify with your answer. [3+5]  
 b) Write an objective of assessment tools. Explain briefly about pre-disaster assessment tools. [2+6]
4. a) What are the aspects of disaster risk reduction? Highlight disaster risk management practice and explain legal polices for disaster response in Nepal. [2+6]  
 b) Explain briefly minimum four types of risk analysis techniques. [8]
5. Write short notes on: (Any Four) [4×4]
  - a) Sendai Framework for Action
  - b) Sphere Humanitarian Charter: Common Standard.
  - c) RADIUS tools for earthquake risk analysis
  - d) RAPID Visual Assessment of Buildings
  - e) Recovery, Reconstruction and Rehabilitation

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TRIBHUVAN UNIVERSITY  
INSTITUTE OF ENGINEERING  
**Examination Control Division**  
2082 Shrawan

| Exam.       | Back    |            |        |
|-------------|---------|------------|--------|
| Level       | BE      | Full Marks | 80     |
| Programme   | BCE     | Pass Marks | 32     |
| Year / Part | IV / II | Time       | 3 hrs. |

**Subject:** - Disaster Risk Management (Elective III) (CE 78506)

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ The figures in the margin indicate Full Marks.
- ✓ Assume suitable data if necessary.

1. a) Do you agree with the statement "Disasters are increasing with development"? How can we bridge the gap between disaster risk and development? [6]  
b) Why is the cluster approach adopted in Disaster Risk Management (DRM)? Provide one example of its implementation. [6]
2. a) List the precautionary measures that have been adopted in search and rescue operations. Explain how search and rescue efforts were carried out during the 2015 Gorkha Nepal Earthquake. [6]  
b) What were the key considerations for resettlement and reconstruction following the 7.8 Mw 2015 Gorkha Nepal Earthquake? [6]
3. a) Discuss the effectiveness of early warning systems for earthquakes, GLOFs (Glacial Lake Outburst Floods), floods, and landslides. If you were appointed as the site in charge for a disaster site, what would your immediate work plan be? [6]  
b) On what basis would you suggest which building should be repaired, retrofitted, or demolished in the context of the 7.8 Mw 2015 Gorkha Nepal Earthquake? [6]
4. a) As a DRM student, what mitigation measures would you suggest for the Kathmandu Valley Floods of 2024? How would these measures differ from those for the 2021 Melamchi flood? [8]  
b) Describe the implementation of the Multi-Cluster/Sector Initial Rapid Assessment (MIRA) tool in disaster risk management. [6]
5. a) What do you know about the Sphere Humanitarian Charter and its common standers? [6]  
b) Explain the use of the Sendai Framework in disaster risk management from a Nepalese perspective. [8]
6. Write short notes on: [4×4]
  - a) Use of RADIUS tool for seismic risk assessment
  - b) Preparation of Risk matrix
  - c) Explain the paradigm shift (evolution) in disaster risk management
  - d) DRRAP-flagship program in Nepal
  - e) Hyogo framework for DRR

TRIBHUVAN UNIVERSITY  
INSTITUTE OF ENGINEERING  
**Examination Control Division**  
**2081 Chaitra**

| Exam.       | Regular |            |        |
|-------------|---------|------------|--------|
| Level       | BE      | Full Marks | 80     |
| Programme   | BCE     | Pass Marks | 32     |
| Year / Part | IV/ II  | Time       | 3 hrs. |

**Subject: - Disaster Risk Management (Elective III) (CE 78506)**

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ The figures in the margin indicate **Full Marks**.
- ✓ Assume suitable data if necessary.



1. a) What are the objectives of disaster risk management? Explain this equation "Disaster = Natural hazard x Vulnerability" with examples. [5]
- b) What do you understand by the vulnerability and risk? Explain with suitable examples. [5]
2. a) Where and when cluster approach was first applied in asian country? How cluster approach is effectively implemented in Nepal during earthquake disaster? [5]
- b) What are the minimum standard of relief in term of "Sphere Humanitarian Charter : Common Standard 2" ? [10]
- c) Who are most vulnerable people during disaster and it's level of impact? How do you take care of them during disaster? [5]
3. If you are appointed as a "Disaster Risk Chief Officer" for recent earthquake of 6.8 magnitude occurred in Sindhupalchowk district of North-East Nepal. UN office is ready to help for medical facilities and others. How do you handle the situation in terms of "Emergency Response" and "Risk reduction strategy"? [10]
4. Explain clearly with proper diagram that Disaster Risk Management Cycle emphasis on that it consists of "sum of total of all activities" in terms of preparedness, response, recovery, prevention and mitigation. [10]
5. Explain tool application, software purpose and input datas of RADIUS Tool. What are the four priorities of "Sendai frame work for disaster risk reduction 2015 ~2030"? [10]
6. What are the objectives of risk reduction policies in Nepal? Explain national strategies for disaster response in Nepal. [5]
7. Explain how risk analysis technique deals with risk matrix and risk curve. How SWOT analysis can be explained as risk assessment technique? [15]

OR

8. Write Short Notes on: (Any Three) [3×5]
  - a) Principle of disaster risk management
  - b) Five phases of disaster
  - c) Hyogo framework for action and flagship program in Nepal
  - d) Role of ministry of home affair and Nepal Red Cross Society and during disaster in Nepal
  - e) CAPRA Tool for evaluating disaster risk or PDNA Tool for post disaster recovery needs assessment

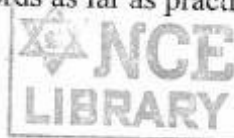
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TRIBHUVAN UNIVERSITY  
INSTITUTE OF ENGINEERING  
**Examination Control Division**  
2080 Chaitra

| Exam.       | Regular |            |        |
|-------------|---------|------------|--------|
| Level       | BE      | Full Marks | 80     |
| Programme   | BCE     | Pass Marks | 32     |
| Year / Part | IV / II | Time       | 3 hrs. |

**Subject:** - Disaster Risk management (Elective III) (CE 78506)

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt **All** questions.
- ✓ The figures in the margin indicate **Full Marks**.
- ✓ Assume suitable data if necessary.



1. Recently there was a big earthquake in Jajarkot district of Nepal. Many people were victimized / injured due to the earthquake and lots of properties were also damaged. If you are appointed as a "Disaster Risk Manager, how do you handle the situation in terms of : Emergency Response and Risk reduction strategy, including "Cluster Approach" & "Sphere Standard" for the disaster victims ? [15]
  2. a) Define disaster, risk and vulnerability with suitable example. [5]  
b) Explain Paradigm Shift (Evolution) in Disaster Risk Management. [5]
  3. a) Explain about minimum standard for relief as per Sphere Humanitarian Charter : Common standard as per Sphere Project. [5]  
b) Why elder people, differently-abled people, women and children are most vulnerable during disaster ? In your opinion which vulnerability dimensions have played more roles for losses faced by country during the recent Jajarkot Earthquake. [10]
  4. List out the different phases of DRM cycles with neat sketch. [5]
  5. a) What do you understand by cluster approach? State the importance of Cluster approach. What are the aims of Cluster Approach and how UN clusters and Clusters in Nepal activated during disaster in Nepal ? [10]  
b) Explain the priorities in Hyogo and Sendai Framework for Action. [5]  
c) Explain National Strategies and Legal policies for Disaster Response in Central Level and Provincial Level in Nepal. [5]
  6. Explain Risk Analysis Technique in term of Risk Matrix, Risk Curve. How do you calculate the quantitative level of risk in terms of the Monte Carlo Method ? [15]
- OR
7. Write Short Notes on: (Any Three) [3×5]
    - a) Disaster Risk Reduction (DRR)
    - b) Structural and non-structural mitigation
    - c) RADIUS and MIRA tools for earthquake risk analysis
    - d) Disaster and Emergency - Its Types and level of Impact
    - e) Quantitative and qualitative analysis

TRIBHUVAN UNIVERSITY  
INSTITUTE OF ENGINEERING  
**Examination Control Division**  
2079 Chaitra

| Exam.       | Regular |            |        |
|-------------|---------|------------|--------|
| Level       | BE      | Full Marks | 80     |
| Programme   | BCE     | Pass Marks | 32     |
| Year / Part | IV / II | Time       | 3 hrs. |

**Subject: - Disaster Risk Management (Elective III)(CE 78506)**

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ The figures in the margin indicate Full Marks.
- ✓ Assume suitable data if necessary.



1. a) How do you define Disaster as per "United Nations International Strategy for Disaster Reduction" (UNISDR). What is Disaster Risk Reduction? [10]
- b) What are the different phases of disaster? Explain the principle of Disaster Risk Management. [8]
2. If you are appointed as a "Disaster Risk Manager for recent big earthquake occurred at Bajura District of Western Nepal, how do you handle the situation in terms of : Emergency Response and Risk reduction strategy? [10]
3. a) When and how does the cluster gets activated? Also mention how they can get de-activated. [8]
- b) List the post-disaster assessment and pre-disaster assessment tools used in the assessment of disaster. Explain Radius and Capra tools in detail. [8]
4. a) State the priorities of the Hyogo Framework for action. Also mentioned the priorities of National strategies for disaster risk management in Nepal (NSDRMN) action with its objectives. [10]
- b) Differentiate the quantitative and qualitative risk assessment tools. [6]
5. a) How do you ensure the stability of the moraine dam and minimize the risk of GLOF in the higher Himalaya? What exactly do you know about the climate change issue and its impact in Nepal Himalaya? [5]
- b) What exactly do you know about extreme weather events? List out the possible extreme weather effects from the Global perspective. [5]
6. Write short notes on: (Any Two) [2×5]
  - a) Sendai Framework
  - b) Role of Red cross society during a disaster in Nepal
  - c) Recovery, reconstruction and Rehabilitation

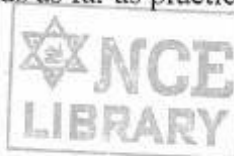
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TRIBHUVAN UNIVERSITY  
INSTITUTE OF ENGINEERING  
**Examination Control Division**  
2078 Chaitra

| Exam.       | Regular |            |        |
|-------------|---------|------------|--------|
| Level       | BE      | Full Marks | 80     |
| Programme   | BCE     | Pass Marks | 32     |
| Year / Part | IV / II | Time       | 3 hrs. |

**Subject:** - Disaster Risk Management (Elective III) (CE78506)

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt **All** questions.
- ✓ The figures in the margin indicate **Full Marks**.
- ✓ Assume suitable data if necessary.



1. a) What do you mean by Disaster Risk Management (DRM)? Classify the disaster in terms of natural and human induced. [8]  
b) What do you understand by the vulnerability? Describe different types of vulnerability with illustrations. [8]
2. a) Describe the pre-disaster and post-disaster phases of DRM cycles with a neat DRM cycles sketch. Write about structural and non-structural mitigation measures. [8+4]  
b) What is cluster approaches in DRM? [4]
3. a) What is participatory disaster risk assessment? Write in detail its silent features. [8]  
b) Describe in detail the RADIUS risk assessment tools. [8]
4. a) Risk reduction is considered as the function of Hazard, vulnerability and coping capacity. If so, describe it with an example. [8]  
b) Explain organizational policies of Disaster Risk Management in National level and province level in Nepal. [8]
5. Write short notes on: (Any Four) [4×4]
  - a) Residual Risk
  - b) Hyogo framework
  - c) SWOT Analysis
  - d) Early warning System
  - e) Quantitative analysis

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TRIBHUVAN UNIVERSITY  
INSTITUTE OF ENGINEERING  
**Examination Control Division**  
2077 Chaitra

| Exam.       | Regular |            |        |
|-------------|---------|------------|--------|
| Level       | BE      | Full Marks | 80     |
| Programme   | BCE     | Pass Marks | 32     |
| Year / Part | IV / II | Time       | 3 hrs. |

**Subject: - Disaster Risk Management (Elective III) (CE78506)**

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ The figures in the margin indicate Full Marks.
- ✓ Assume suitable data if necessary.

1. a) How do you define a Disaster and Risk? Explain Disaster Risk Reduction. What's rank of Nepal in terms of earthquake, flood and climatic change according to BCPR (UN Bureau of Crisis Prevention Report)? [10]  
b) Write down the physical, social and economic factors (dimensions) while assessing the vulnerability of any disaster in a community. [6]
2. Elderly, people, Disable people, Women and Children are most vulnerable groups during any disaster. Justify your answer ensuring securities of them. [10]
3. Illustrate "Disaster Management Cycle" emphasis on "The end of one phase of disaster is the beginning of another phase", with suitable neat and clean diagram. [10]
4. What is the Cluster Approach? How UN clusters and Clusters in Nepal activated during Gorkha Earthquake-2072? [10]
5. Recently there was a sudden earthquake in Kathmandu Valley. Many people were injured / casualties due to earthquake. Lots of infrastructures including world heritage sites were also damaged so Nepal Government sought for International help. How do you handle the situation if you are appointed as "Officer incharge" to cope the situation for early recovery, prevention and mitigation. [10]
6. Describe organization policies of disaster management system in Nepal. Explain the Role of "Ministry of Home Affair" and "Nepal Red Cross Society" during the disaster in Nepal. [8]
7. What do you mean by Risk analysis technique? Write down five types of Risk analysis Techniques with brief description. [8]
8. Write short notes on: (Any Two) [2×4]
  - a) Sphere project in DRM
  - b) Contingency plan
  - c) Post Disaster need assessment

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TRIBHUVAN UNIVERSITY  
INSTITUTE OF ENGINEERING  
**Examination Control Division**  
2076 Bhadra

| Exam.       | Regular / Back |            |        |
|-------------|----------------|------------|--------|
| Level       | BE             | Full Marks | 80     |
| Programme   | BCE            | Pass Marks | 32     |
| Year / Part | IV / II        | Time       | 3 hrs. |

***Subject: - Disaster Risk Management (Elective III) (CE 78506)***

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ The figures in the margin indicate Full Marks.
- ✓ Assume suitable data if necessary.

1. a) Differentiate Hazard and Disaster with examples? "Pre-disaster management is better than Post-disaster management". Are you agree? Justify. [2+6]
- b) Define "copying capacity", Element at Risk and "Vulnerability". Write about search and rescue activities that would be done in post Disaster management. [4+4]
2. a) What are the main factors that should be considered while assessing the vulnerability of any upcoming Disaster? [8]
- b) What do you understand about rehabilitation and reconstruction? [4]
3. What do you mean by disaster risk management cycle? Explain in details with examples. [10]
4. Why cluster approaches is important in DRM? Write different types of clusters activated in Nepal. [8]
5. Let us suppose that there will be a big flooding in Terai, write the post disaster risk management considering that flooding scenario. [8]
6. What is the main purpose of assessment in DRM? Explain the MIRA tools for Disaster Risk Management. [3+7]
7. State and brief explain the Risk analysis techniques. [8]
8. Write short notes on: (*Any Two*) [4×2]
  - i) Risk reduction polices
  - ii) Disaster profile of Nepal
  - iii) Sendai frame work

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**Examination Control Division**  
**2075 Bhadra**

| Exam.       | Regular |            |        |
|-------------|---------|------------|--------|
| Level       | BE      | Full Marks | 80     |
| Programme   | BCE     | Pass Marks | 32     |
| Year / Part | IV / II | Time       | 3 hrs. |

**Subject: - Disaster Risk Management (Elective III) (CE78506)**

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ The figures in the margin indicate Full Marks.
- ✓ Assume suitable data if necessary.

1. a) How can Hazard become Disaster? "Disaster is in increasing with the development". Are you agreeing? Justify. [8]  
b) What do you mean by "Hazard", "Vulnerability" and "Risk"? Illustrate with examples. Write different types of Disasters that may occur in Nepal. [8]
2. Explain the paradigm shift (evolution) in disaster Risk Management? What is Nepal's rank globally in terms of climate change, earthquake and flood risk? [8]
3. a) What do you mean by Physical, Social and Economic factor (Dimensions) in disaster risk management? [8]  
b) What is DRR? Write about Disaster Risk Management System in Nepal. [8]
4. a) What are the main elements of Disaster Risk Management cycle? Explain in details with examples of each? [10]  
b) What do you mean by Cluster approaches in DRM? Write different types of clusters activated in Nepal. [6]
5. Explain Radius tools for Seismic Risk Assessment. What are the roles of the Local bodies during disaster? [8]
6. Write short notes on: (Any four) [4×4]
  - a) Resilience
  - b) Risk Reduction Approaches
  - c) Residual Risk
  - d) MIRA Tools of assessment
  - e) Recovery, reconstruction and Rehabilitation

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06F TRIBHUVAN UNIVERSITY  
INSTITUTE OF ENGINEERING  
**Examination Control Division**  
2074 Bhadra

| Exam.       | Regular |            |        |
|-------------|---------|------------|--------|
| Level       | BE      | Full Marks | 80     |
| Programme   | BCE     | Pass Marks | 32     |
| Year / Part | IV / II | Time       | 3 hrs. |

**Subject:** - Disaster Risk Management (*Elective III*) (CE78506)

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ The figures in the margin indicate Full Marks.
- ✓ Assume suitable data if necessary.

1. a. What is disaster Risk management? Explain with its dimensions. (5)  
b. Differentiate between Hazard and disaster with suitable examples (7)
2. a. Discuss about social, physical and economic dimensions in the context of Hazard, risk and vulnerability. (10)  
b. What is disaster management cycle? Discuss the importance of pre-disaster management for post-disaster response and recovery. (10)
3. Describe the initiatives taken from Nepalese government for recovery and reconstruction in the context of Gorkha Earthquake-2015, Nepal. (10)
4. What is cluster approach? Describe how this cluster approach applied in Nepal during Gorkha Earthquake-2015, Nepal. (5)
5. Write down the types of risk assessment and describe the detailed assessment in detail. (7)
6. What are the aspects of disaster Risk reduction and describe how these things are incorporated in the national strategy for disaster risk management in Nepal. (10)
7. What is risk analysis? Describe the qualitative and quantitative risk analysis method. (6)
8. Write Short notes on: (any two) (5\*2=)
  - a. Sphere standards
  - b. Sendai Framework
  - c. Disaster and emergency

6 F TRIBHUVAN UNIVERSITY  
INSTITUTE OF ENGINEERING  
**Examination Control Division**  
2073 Bhadra

| Exam.       | Regular |            |        |
|-------------|---------|------------|--------|
| Level       | BE      | Full Marks | 80     |
| Programme   | BCE     | Pass Marks | 32     |
| Year / Part | IV / II | Time       | 3 hrs. |

**Subject: - Disaster Risk Management (Elective III) (CE78506)**

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ The figures in the margin indicate Full Marks.
- ✓ Assume suitable data if necessary.

1. Recently there was a big earthquake in Nepal. Many people are victimized / injured due to the earthquake and lots of properties were also damaged. The affected people needed medical help, emergency relief materials food, water etc. Nepal Army and Nepal Red Cross Society doing their best for rescue to the victims. Nepal government sought for International helps so UNOCHA, WHO, WFP etc. are sending relief material, medicines, food etc. Many foreign delegates including rescue and medical team also arriving very soon. If you are appointed as "Official in charge" to work at the catastrophic area:
  - a) What are the role of different agency in such disaster and explain how you will carry out rescue to the victim, medical care and emergency response to minimize the casualties? [8]
  - b) What is recovery and DRR? How to handle the situation for early recovery, risk reduction approach and Post disaster management? [8]
2. a) Explain types and level of impact in terms of Disaster and Emergency. Differentiate between Hazard and Disaster. [6]
- b) Discuss the principle of Disaster. What's situation may arise to the most vulnerable groups and explain following (i) Women and Children (ii) Elder and Disable people (iii) Aid workers and foreign volunteer, in times of disasters? How do you make safety and care for them during disaster? [10]
3. a) What are the UN Clusters and Clusters in Nepal? Implementing Cluster Approach will be effective tool for better management during disaster, Justify. [6]
- b) Explain clearly the "Disaster Management Cycle" in terms of Pre, During and Post disaster with suitable diagram. [10]
4. a) What is "Sphere Humanitarian Charter: Common Standard 2"? What are the minimum standard for relief operation to the victims as per Sphere Standard? [8]
- b) Explain organization policies of disaster management in (i) Central Level (ii) Regional Level (iii) District and (iv) Local level relief committee in Nepal. [8]
5. Explain Risk Analysis Technique it's types and Risk Matrix approach. How to calculate the level of risk as per the Monte Carlo Method? [16]

**OR**

Write short notes on: (any two)

[2×8]

- a) RADIUS tools for Seismic Risk Assessment
- b) Disaster risk reduction action plan (flagship Program)

06F TRIBHUVAN UNIVERSITY  
INSTITUTE OF ENGINEERING  
**Examination Control Division**  
2072 Ashwin

| Exam.       | Regular |            |        |
|-------------|---------|------------|--------|
| Level       | BE      | Full Marks | 80     |
| Programme   | BCE     | Pass Marks | 32     |
| Year / Part | IV / II | Time       | 3 hrs. |

**Subject: - Disaster Risk Management (Elective III) (CE78506)**

- ✓ Candidates are required to give their answers in their own words as far as practicable.
  - ✓ Attempt All questions.
  - ✓ All questions carry equal marks.
  - ✓ Assume suitable data if necessary.
1. What are the key factors to be considered while planning the rehabilitation and reconstruction works after a major disaster, refer EQ 2015 of Nepal. Mention the different phases of disaster management.
  2. Explain how search and rescue operation have to be carried out in the case of collapse of buildings due to earthquake and landslide. What precautionary measures have to be taken in the search and rescue schemes in case of structural damages and mass movements?
  3. What kinds of natural disasters are common to Nepal which poses the greatest threat to life and property?
  4. Explain cluster approach for disaster risk management. List out the assessment types and techniques to mitigate the disasters.
  5. How do you protect human rights in disaster situation? How do you protect the rights of vulnerable groups and the children? Explain the managerial aspect of land and property in disaster situation. Also explain the possible risk to corruptions in the disaster risk reduction activities.
  6. What is disaster risk management? Differentiate DRR and DRM.
  7. Define hazard risk vulnerabilities and mitigation.
  8. Distinguish disaster with emergencies. Explain the role of social economic dimension in vulnerability.
  9. List the disaster management circle. Describe the pre disaster activities.
  10. What is Risk assessment and risk analysis? Describe the different types of risk analysis method.

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06F TRIBHUVAN UNIVERSITY  
INSTITUTE OF ENGINEERING  
Examination Control Division  
2071 Bhadra

| Exam.       | Regular / Back |            |        |
|-------------|----------------|------------|--------|
| Level       | BE             | Full Marks | 80     |
| Programme   | BCE            | Pass Marks | 32     |
| Year / Part | IV / II        | Time       | 3 hrs. |

**Subject:** - Disaster Risk Management (Elective III) (CE78506)

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt any Five questions. Question No. 5 is compulsory.
- ✓ The figures in the margin indicate Full Marks.
- ✓ Assume suitable data if necessary.

1. A. Define the terms Hazard, Vulnerability and Disaster. Write down the importance of hazard mapping for Municipality and VDC levels. Mention the different techniques and tools that are practiced in hazard assessment and mapping (3+2+3)

B. What is the recovery and what it covers? Write down the important lessons from past disasters in Nepal. What would be your proposed principles, approaches and strategies of disaster recovery plan for future disasters in Nepal? (2+2+4)

2. A. Explain with examples the statement "Earthquakes do not kill people, buildings do". Mention the necessary steps to avoid such killings. Which option do you prefer in damaged structures during earthquakes 1) repair, 2) retrofitting and 3) reconstruction and why? (2+3+3)

B. What do you understand about emergency exercises and disaster drills? Mention the current status of Nepal's disaster preparedness for natural hazards. Why local knowledge is important for disaster preparedness? (3+3+2)

3. A. What do you understand about glacial lakes and 2012 glacial lake outburst floods in Pokhara? How do you manage the flash flood risk? How do you interpret dozens of sinkhole formation in the Armala Kaski? (3+2+3)

Or,

What do you understand the humanitarian assistance and disaster response. Write down the readiness support, contracting and field support along with general contingency engineering practices (4+4)

B. Give your opinion on local responses to too much and too little water in the Greater Himalayan Region. What would be the possible reasons of such situations? Explain the structural and nonstructural flood control measures that are practiced in Nepal (3+2+3)

4. A. What is the action plan for disaster? How do you prepare an action plan if you are appointed as a disaster manager for urban earthquake risk management? Write down the major concerns of your planning (2+3+3)

B. How do natural disasters affect the environment and development? Give your opinion whether development increases or decreases the disaster risk. How do you implement your knowledge of Disaster Risk Management for sustainable development? (2+3+3)

5. A. How do you explain the Sindhupalchowk Jure landslide and Sunkoshi River blockage as a student of Disaster Risk Management? Give your opinions on 1) upstream and downstream threats in case of back water flow and flash floods, 2) use of the landslide dam for hydropower generation and 3) mitigation measures (2+2+2+2)

B. What do you understand about the early warning system? Was it useful for Sindhupalchowk Jure landslide? Explain the importance of instrumentation and long term monitoring system in the context of creeping/slow moving landslide. Write down the probable techniques and tools that are practiced for early warning system (2+2+2+2)

6. Write short notes any *FOUR* (4+4+4+4)

- A. Media control in disaster management/disability issues in disaster management
- B. Community resilience and vulnerability reduction
- C. Road extension and its impact on existing infrastructures in urban areas
- D. Earthquake risk reduction and recovery preparedness
- E. Cluster approach for Disaster Risk Management
- F. Traffic risk reduction/fire risk reduction assessment in the Kathmandu valley
- G. Pre-disaster initiatives and post-disaster management on earthquake disaster
- H. Role of engineer's training on earthquake resistant design of buildings/Role of mason's training on earthquake resistant building construction
- I. Disaster risk management cycle/integrated disaster risk management
- J. Seismic vulnerability evaluation guideline for private and public buildings

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06F TRIBHUVAN UNIVERSITY  
INSTITUTE OF ENGINEERING  
**Examination Control Division**  
2071 Magh

| Exam.       | New Back (2066 & Later Batch) |            |        |
|-------------|-------------------------------|------------|--------|
| Level       | BE                            | Full Marks | 80     |
| Programme   | BCE                           | Pass Marks | 32     |
| Year / Part | IV / II                       | Time       | 3 hrs. |

**Subject:** - Disaster Risk Management (*Elective III*) (CE78506)

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
- ✓ The figures in the margin indicate Full Marks.
- ✓ Assume suitable data if necessary.

1. a) What is disaster? Explain clearly the five phases of natural disaster. What is acceptable risk? [8]  
b) What do you understand by "Social Dimension" of hazard, risk and vulnerabilities? [10]
2. a) What is disaster management cycle? In terms of pre and post disaster management, explain the "Disaster Management Cycle" with suitable sketch. [12]  
b) Explain emergency response in post disaster management? [8]
3. a) What is cluster approach? What are the aims of cluster approach? Write UN clusters and clusters in Nepal. [10]  
b) What is the disaster management practice and explain Organization policies of disaster management system in Nepal? [8]
4. A huge land mass slide down, causing blockage of Sunkoshi river at upper Itani of Ramche VDC recently. After that, big flash flood took place causing many people were victimized / injured and lots of properties were damaged. The victimized people badly needed, medical help, food and shelters. If you are appointed to help the affected people, how do you handle the situation, in terms of disaster risk management? [16]
5. What is risk analysis? Explain objectives of Risk Analysis Technique? What are the type of losses in Risk Analysis technique? [8]

OR

Write short notes on: (any two)

- a) Assessment Tools
- b) Sphere Humanitarian Charter : Common Standard
- c) Disaster and Emergency : Its types and level of impact

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06F

TRIBHUVAN UNIVERSITY

INSTITUTE OF ENGINEERING

Examination Control Division

2070 Bhadra

| Exam.       | Regular |            |        |
|-------------|---------|------------|--------|
| Level       | BE      | Full Marks | 80     |
| Programme   | BCE     | Pass Marks | 32     |
| Year / Part | IV / II | Time       | 3 hrs. |

**Subject: - Disaster Risk Management (Elective III) (CE78506)**

- ✓ Candidates are required to give their answers in their own words as far as practicable.
- ✓ Attempt All questions.
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1. a) What is mean by Disaster? Classify the disaster in terms of natural and human induced. [8]
- b) What is DRR? Explain clearly the phases of Disasters. [8]
2. a) How Hazard, Risk and vulnerability are explained in terms of social dimension? [8]
- b) Who are the most vulnerable groups in times of disasters and why? How security of women and children can be achieved during disaster? [8]
3. "Disaster management is a cyclical process; the end of one phase is the beginning of another" explain it in terms of "Disaster Management Cycle" with proper diagram. [16]
4. a) Recently there is big sudden flash flood in the far eastern part of Nepal. Many people were injured due to flood and lots of properties were damaged. How do you handle the situation for early recovery, prevention and mitigation in terms of disaster risk management? [10]
- b) Explain organization policies of disaster management system in Nepal. [6]
5. a) What is Risk? What is Risk Analysis Technique? Explain Qualitative and Quantitative technique of risk assessment. [8]
- b) Write short notes on: (any two) [8]
  - i) Cluster Approach
  - ii) Risk Assessment Tools
  - iii) Sphere Standard
  - iv) Hyogo Framework for Action and Flagship Program in Nepal

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