

MOHAMED SATHAK A J COLLEGE OF ENGINEERING
ACADEMIC YEAR 2022 – 2023 ODD SEM
EPC QUESTIONS
GE8071-DISASTER MANAGEMENT (Common to CIVIL & EEE)

UNIT1 INTRODUCTION TO DISASTERS

PART A

1. Define Disaster.

Disaster may be defined as realization of a hazard that inversely impacts things of human value.

2. Name the categories of disasters

Natural disaster and manmade disaster.

3. List the types of natural disaster

Rapid onset natural disaster and

Slow onset natural disaster.

4. What are the examples of rapid onset disaster?

Earth quake, Cyclone, Flood and Landslide.

5. What is disaster preparedness?

It is based on the root causes of the event and a sustainable approach towards relief

And rehabilitation.

6. Differentiate between hazard and risk.

Hazard: something that could potentially cause harm. Risk: the degree of likelihood that harm will be caused

7. Define avalanche.

Terrain. Avalanche formation requires a slope shallow enough for snow to accumulate but steep enough for the snow to accelerate once set in motion by the combination of mechanical failure (of the snowpack) and gravity

8. Compare hazards and vulnerability.

Hazard: the probability of occurrence of a potentially damaging phenomenon, vulnerability: the degree of loss resulting from the occurrence of the phenomenon.

9. Compile about drought.

Drought is characterized by a lack of precipitation—such as rain, snow, or sleet resulting in a water shortage.

10. Define Earthquake

a sudden violent shaking of the ground, typically causing great destruction, as a result of movements within the earth's crust or volcanic action

11. Define Seismic waves

Seismic waves are caused by the sudden movement of materials within the Earth, such as slip along a fault during an earthquake

12. What is mean by flash flood?

A flood caused by heavy or excessive rainfall in a short period of time, generally less than 6 hours

PART B

1. Describe various disaster preparedness strategies. (8) ii.Explain the development plans adopted in disaster management(5)

2 .What are the different types of natural disasters? Explain in detail.

3. Draw the disaster management cycle and explain every stage in it.

4. What are the different types of natural disasters? Explain in detail

5. Disaster impacts differential groups at various levels. Justify

6. Describe flood and explain the causes of flood.

7. Explain the types of drought and drought preparedness with Mitigation.

UNIT 2 APPROACHES TO DISASTER RISK REDUCTION (DRR)

PART A

1 .What is a disaster management cycle?

The disaster management cycle is a series of steps that organizations and individuals use to prepare, contain and mitigate unexpected events

2. Define disaster risk reduction.

The Disaster Risk Reduction (DRR) Programme assists Members in developing and delivering services that are directed at protecting lives, livelihoods and property from natural hazard in a cost-effective, systematic, and sustainable manner.

3. What is mitigation?

Mitigation means reducing risk of loss from the occurrence of any undesirable event. This is an important element for any insurance business so as to avoid unnecessary losses

4. Illustrate the goals of preparedness activities.

Disaster preparedness consists of a set of measures undertaken in advance by governments, organisations, communities, or individuals to better respond and cope with the immediate aftermath of a disaster

5. Build the structure of Pachayati Raj system

This led to the establishment of a three-tier Panchayati Raj system: Gram Panchayat at the village level, Panchayat Samiti at the block level, and Zila Parishad at the district level.

6. Discuss the stages in disaster risk reduction.

1) mitigation; 2) preparedness; 3) response; and 4) recovery. The model helps frame issues related to disaster preparedness as well as economic and business recovery after a disaster

7. Discuss the roles and responsibilities of NDMA.

Under the Disaster Management Act 2005, NIDM has been assigned nodal responsibilities for human resource development, capacity building, training, research, documentation and policy advocacy in the field of disaster management

8. Develop the term culture of safety

A safety culture is an organisational culture that places a high level of importance on safety beliefs, values and attitudes

9. Explain recovery with its types.

Disaster recovery is an organization's method of regaining access and functionality to its IT infrastructure after events like a natural disaster, cyber attack, or even business disruptions

10. Write down the types of Urban local bodies.

After the 74th Amendment was enacted there are only three categories of urban local bodies: Mahanagar Nigam (Municipal Corporation) , Nagar Palika (Municipality), Nagar Panchayat

11. Conclude on International Strategy for disaster management

The International Strategy for Disaster Reduction (ISDR) is a global framework established within the United Nations for the promotion of action to reduce social vulnerability and risks of natural hazards

12. List the phases of disaster life cycle.

Prevention, mitigation, preparedness, response and recovery are the five steps of Emergency Management.

- Prevention. Actions taken to avoid an incident. ...
- Mitigation. ...
- Preparedness. ...
- Response. ...
- Recovery

PART B

1. What are the key components of disaster management? Explain in detail.

2. Write a brief note on cultural safety in disaster risk reduction

3. Write a brief note on cultural safety in disaster risk reduction

4. Explain the roles and responsibilities of Panchayati Raj Institution

5. Develop the stages of disaster risk reduction and explain in detail

6. Write a case study on disaster risk reduction in India

7. Consider Bhopal gas disaster as a case study. Explain the applicable principles of disaster management to mitigate the effect of such disaster in future

UNIT 3 INTER-RELATIONSHIP BETWEEN DISASTERS AND DEVELOPMENT

Part A

1. List down the factors that increase the intensity of disasters

- Climate change.
- Environmental degradation.
- Globalized economic development.
- Poverty and inequality.
- Poorly planned urban development.
- Weak governance

2. Explain the term “Displaced persons”

a person expelled, deported, or impelled to flee from his or her country of nationality or habitual residence by the forces or consequences of war or oppression

3. Describe about Land use change

Eight types of land use changed (deforestation, afforestation, intensification of agriculture, extensification of agriculture, urbanisation, de-urbanisation, ingrowths, flooding

4. Justify how climate changes affect the environment.

The consequences of climate change now include, among others, intense droughts, water scarcity, severe fires, rising sea levels, flooding, melting polar ice, catastrophic storms and declining biodiversity.

5. How does a development activity create a disaster?

Development can create disaster risks through making environmental degradation, exploit & deplete natural resources, use more fossil fuels, raise sea level.

6. Define vulnerability in disaster management.

Vulnerability is the inability to resist a hazard or to respond when a disaster has occurred. For instance, people who live on plains are more vulnerable to floods than people who live higher up

7. Define climate change adaptation

Climate change adaptation refers to actions that reduce the negative impact of climate change, while taking advantage of potential new opportunities. It involves adjusting policies and actions because of observed or expected changes in climate.

8. Expand and explain the term IPCC.

IPCC stands for Intergovernmental Panel on Climate Change. The IPCC is the scientific group assembled by the United Nations to monitor and assess all global science related to climate change.

9. List down 3 factors that determine the vulnerability to climate changes as per IPCC.

Vulnerability is higher in locations with "poverty, governance challenges and limited access to basic services and resources, violent conflict and high levels of climate-sensitive livelihoods

10. How will you describe about the negative consequences of building a new dam?

Dam construction could affect the biodiversity of microorganisms, benthos, plankton, and fish. Displacement of people during construction Reservoirs often emits a high percentage of greenhouse gases. Often disrupts local ecosystems. It disrupts the groundwater table.

11. What is environment protection act?

The purpose of the Environmental Protection Act (EPA) is to support and promote the management, protection, enhancement and wise use of the environment, while recognizing the following: Preventing, mitigating and remediating environmental impacts is important in making decisions and taking actions.

12. Write down the needs of community.

Community participation has been recognized as the additional element in disaster management necessary to reverse the worldwide trend of increasing frequency and loss from disasters, build a culture of safety and disaster resilient communities, and ensure sustainable development for all.

PART B

1. Critically examine the various factors affecting vulnerability in disaster management

2. When can developmental activities become the cause of disasters?

3. Explain and list the impact of development projects and embankments.

4. Can you explain what happens in climate change adaptation?

5. Brief about 5 assessment cycles and assessment reports delivered by IPCC.

6. Write in short about the effects of climate change on: i. Weather, (5) ii. Agriculture and Forest, (4) iii. Human Health.(4)

UNIT 4 DISASTER RISK MANAGEMENT IN INDIA

PART A

1. What is disaster relief?

The disaster relief phase involves providing direct assistance through measures to alleviate suffering and often by providing financial assistance to people. financial or physical help provided to people or areas hit by a disaster

2. Tell in short about any one of technical disasters occurred in India

Bhopal disaster was essentially a chemical leak which occurred in 1984 in the city of Bhopal the capital city of Madhya Pradesh, About 45 tons of the dangerous gas *methyl isocyanate* escaped from an insecticide plant.

3. Discuss the major earthquake hazard zones in India.

The regions of Kashmir, the Western and Central Himalayas, North and Middle Bihar, the North-East Indian region, the Rann of Kutch and the Andaman and Nicobar group of islands fall in this zone.

4. What do you mean by the terms DANA and DALA?

Damage Assessment and Needs Analysis (DANA) and. Damage and Loss Assessment (DALA)

5. What do you mean by “capacity building”?

Capacity building is an ongoing process that equips officials, stakeholders and the community to perform their functions in a better manner during a crisis/disaster.

6. Indicate the guidelines needed for Preparedness in case of any disaster

- Prevention. Actions taken to avoid an incident.
- Mitigation.
- Preparedness.
- Response.
- Recovery

7. Mention about Disaster Management Act

The National Disaster Management Authority (NDMA), headed by the Prime Minister of India, is the apex body for Disaster Management in India. Setting up of NDMA and the creation of an

enabling environment for institutional mechanisms at the State and District levels is mandated by the Disaster Management Act, 2005.

8. What are the steps involved in GIS for disaster management?

GIS is useful for hazard zone mapping and during emergency conditions mitigation of people can easily possible using these maps.

1. Planning and Analysis
2. Situational Awareness
3. Data Management
4. Field Operations

9. Define the term Risk Assessment

A risk assessment is a process to identify potential hazards and analyze what could happen if a hazard occurs.

10. Give the facts on the functions of National Authority of NDMA.

Its primary purpose is to coordinate the response to natural or man-made disasters and for capacity-building in disaster resiliency and crisis response . he primary function of the NDMA is to lay down policies on disaster management. NDMA is responsible for approving the National Plan.

11. Figure out the benefits of GIS in disaster management

GIS is useful for hazard zone mapping and during emergency conditions mitigation of people can easily possible using these maps. GIS and RS are much beneficial in mitigation strategies and preparedness plans. Real-time geographic data can improve the allocation of resources for response

12. Write a note on vulnerability profile on India.

- India is vulnerable, in varying degrees, to a large number of disasters. ...
- About 12% (over 40 million hectares) of its land is prone to floods and river erosion.
- Close to 5,700 kms, out of the 7,516 kms long coastline is prone to cyclones and tsunamis.

PART B

1. Identify the Landslide-prone regions of India and suggest some measures to mitigate the disasters caused by these.

2. Illustrate how the following facilities - Water, Food, Sanitation, Shelter, Health, and Waste Management could be arranged aftermath of a disaster
3. State the constitution and role of National Disaster Response Force (NDRF) as per DM Act, 2005.
4. Brief about the roles and functions of i. National Authority of NDMA. (7) ii. State Authority of SDMA.(6)
5. What is GIS? How this application helps in disaster management process?
6. Summarize the risk assessment types and steps involved in it.

UNIT 5 DISASTER MANAGEMENT: APPLICATIONS AND CASE STUDIES AND FIELD WORKS

Part A

1. What is a fluvial flood?

This takes place when the water level in a river, lake or stream increases and overflows onto the sides of shores, banks and neighboring land

2. List out the examples of man-made disaster?

arson, civil disorder, terrorism, war, biological/chemical threat, cyber-attacks

3. What are the steps to be taken by the residents during an earthquake in a residential building?

Drop to the ground and seek cover under a sturdy table or any heavy furniture. Hold your position until the trembling stops. If there is no such furniture around you, protect your head and face by covering it with your arms and sit tight in an inside corner of your building

4. List out the different types of floods?

There are three types of floods- flash floods, river floods, and coastal floods

5. Define pluvial flood?

A pluvial flood occurs when an extreme rainfall event creates a flood independent of an overflowing water body.

6. List out any two recent natural disasters?

A 6.4 magnitude earthquake jolted Assam on April 28, 2021. The natural disaster resulted in 2 deaths and injuries of 12-13 people.

Cyclone Gulab was a storm that impacted eastern India on September 24, 2021, in the Bay of Bengal.

7. Explain landslide hazard zonation?

Landslide-zone maps depict areas with a higher probability of landsliding, within which specific actions are mandated by California law prior to any development. These maps typically are binary in nature

8. Summarize factors causing landslide?

The primary external factors that can trigger a landslide include: (1) weathering of rock strata; (2) increased pore water pressure, such as the infiltration of rainwater or rise of groundwater surface; (3) increased loading

9. List out the method of LHZ?

There are several methods of Landslide Hazard Zonation (LHZ) viz. heuristic, semi quantitative, quantitative, probabilistic and multi-criteria decision making process.

10. What are the roles of media during disaster?

The media assists in the management of disasters by educating the public about disasters; warning of hazards; gathering and transmitting information about affected areas; alerting government officials, relief organizations and the public to specific needs

11. What are the Causes of Forest Fire?

Many forest fires start from natural causes such as lightning which set trees on fire.

Man-made causes - Fire is caused when a source of fire like naked flame, cigarette or bidi, electric spark or any source of ignition comes into contact with inflammable material.

12. Define Chernobyl Disaster

The Chernobyl disaster was caused by a nuclear accident that occurred on Saturday 26 April 1986, at the No. 4 reactor in the Chernobyl Nuclear Power Plant, near the city of Pripyat in the north of the Ukrainian SSR.

PART B

1. Describe any flooding disaster that occurred in India and write the various lessons that you have learned from it?

2. Explain in detail about methodology used in coastal flooding?
3. Write in detail about earthquake vulnerability assessment and building and infrastructure?
- 4 .Brief about analysis for landslide hazard zonation
5. Explain the role of GIS in LHZ
6. Elaborate in detail about case study of storm surge

