

Disaster Management

EXERCISE [PAGE 66]

Exercise | Q 1.1 | Page 66

Answer the following in your own words.

Explain the relation between continuous rains and landslide. Give reasons.

Solution: Due to continuous rain in a region,

1. the plants and small trees of that region are uprooted from the soil.
2. the water enters the cracks and fissures present in hard rocks causing their weathering.

Due to these factors, soil and rocks run off on a slopy region. This running of soil, rocks along with other debris is nothing but landslide. Hence, there is a strong relation between continuous rains and landslide.

Exercise | Q 1.2 | Page 66

Answer the following in your own words.

Prepare a chart showing 'Do's' and 'don'ts' at the time of earthquake.

Solution: Do's' and don'ts' during earthquake are:

Location	Do's'	Don'ts'
At home	Stand still near the corners of the house and sit under the table or any wooden furniture. Cut off the power supply at the time of an earthquake.	Do not run here and there and create chaos. Do not stand below heavy objects such as wall clocks, decoration pieces, photo frames etc.
In a vehicle or outside the house	Park the car in an open area and sit inside it. Find an open area away from tall building, trees or electric poles.	Do not stand near tall buildings, trees or electric pole.

Exercise | Q 1.3 | Page 66

Answer the following in your own words.

What are the specifications of an earthquake proof building ?



Solution: Earthquake proof building has the following specifications:

1. It is constructed as per IS 456, the code of conduct given for building constructions by 'Indian Standard Institute'.
2. Earthquake resistant constructions are performed as per IS 1893 which gives the criteria for earthquake resistant design structure.
3. The constructions also follow the code IS 13920 which gives ductile detailing of reinforced concrete structures subjected to seismic forces.

Exercise | Q 1.4 | Page 66

Answer the following in your own words.

Explain the effects of landslide.

Solution: Effects of landslides are:

- Rivers change their course of flow
- Formation of artificial water reservoirs
- Huge traffic is build in the affected area
- Loss of life and property

Exercise | Q 1.5 | Page 66

Answer the following in your own words.

Is there any relations between dam and earthquake? Explain.

Solution: The construction of dams creates a huge water reservoir in which a large portion of land is submerged. Thus, these dams cause excess water pressure in the micro-cracks and fissures in the ground near or under the reservoir. Due to this excess pressure, the water seeps into the ground and lubricates the rocks. In the worst scenario, when the water pressure is very high, the water reaches the fault planes and lubricates them. This lubrication reduces friction between the tectonic plates, thereby causing the slipping of plates over one another. Hence, in this way dams construction can trigger an earthquake.

Exercise | Q 2.1 | Page 66

Give scientific reasons.

It is safer to find shelter under things like a bed, table at the time of earthquake.

Solution: In an earthquake, most of the injuries occur because of falling or toppling over of heavy things from above. Furnitures like bed, table will protect you from these things falling from above. Also, it becomes very difficult to maintain one's balance in a

quake. The crouched position under these furnitures will reduce the chances of a fall. If there is complete structural collapse, it is hoped that these furnitures increase the likelihood of a safe pocket from which you can be rescued.

Exercise | Q 2.2 | Page 66

Give scientific reasons.

In Monsoons, don't take shelter near hillside.

Solution: In monsoon, there is chance of heavy rainfall. The hillsides are prone to landslide in heavy rainfall i.e. monsoon. So, it is never advisable to take shelter near hillsides during monsoon as your life will be at risk as well as you may face problems such as heavy traffic etc.

Exercise | Q 2.3 | Page 66

Give scientific reasons.

Don't use lifts at the time of earthquakes.

Solution: During an earthquake, the power supplies are cut off and you may get stuck in the elevator for long time. Also, if the intensity of earthquake is very high, there is chance of lift car falling to the bottom causing you severe damage, but this is very rare. So, it is advised not to use lifts at the time of earthquake.

Exercise | Q 2.4 | Page 66

Give scientific reasons.

The foundation of earthquake-proof building is separated from other land.

Solution: Note: The question language is not comprehensible. It seems like the question is about giving reasons why the foundation of earthquake building is seperated from the ground

A seismic wave absorber layer is laid between the ground and the foundation of earthquake resistant building. This layer absorbs the pressure exerted by the earthquake tremors on the side walls of the building. Due to this, the building does not shake with the same intensity as the earth is shaking. Thus, the foundation of earthquake building is separated from the ground so that it can withstand the high pressure (load) exerted by the seismic waves on its sidewalls.



Exercise | Q 3 | Page 66

If a crowd gathers at the place of earthquake, what would be the difficulties in relief work?

Solution: If a crowd gathers at the place of earthquake, following are the difficulties faced during relief work:

- Hindrance to the clearance of debris
- Hindrance to the passage of ambulance carrying earthquake victims
- Aggravation of fear and panic in victims
- Chances of stampede and theft
- Quarrels amongst people for food and other resources

Exercise | Q 4 | Page 66

Make a list of the institutes and organizations who provide help for disaster management. Collect more information about their work.

Solution: International government organisations working for disaster management are:

(a) The United Nations and its organisations:

- The Food and Agricultural Organisation of the UN (FAO): It gives early warning of impending food crises, and keep tracks of global food supply problems.
- The United Nations Development Programme (UNDP): It helps disaster-prone countries with disaster mitigation, prevention and preparedness measures.
- The World Food Programme (WFP): It is the main supplier of relief food aid.
- The World Health Organisation (WHO): It gives global public health leadership by setting standards, monitoring health trends, and providing direction on emergency health issues. WHO's role is to reduce avoidable loss of life and the burden of disease and disability.

(b) The International Committee of the Red Cross (ICRC): It gives physical rehabilitation to people injured by explosive weapons or other types of incident.



(c) The International Federation of Red Cross and Red Crescent Societies (IFRC): It coordinates and gives international help to victims of natural and technological disasters, to refugees and in health emergencies.

International non-governmental agencies working for disaster management are:

(a) International Rescue Committee (IRC): It provides lifesaving care and life-changing help to refugees forced to flee from war or disaster.

(b) IMA World Health: It, in collaboration with USAID, the World Bank and many other organisations, builds sustainable health care systems.

(c) CARE: It is an organisation fighting global poverty. It works for women and puts efforts to improve their basic education, prevent the spread of HIV by providing awareness among them, give them increase access to clean water and sanitation, expand economic opportunity for them. It provides emergency aid to survivors of war and natural disasters, and helps people rebuild their lives.

Indian organisations and institutes working for disaster management are:

(a) National Disaster Response Force (NDRF): The multi-disciplinary, multi-skilled, high-tech force of the NDMA are capable of dealing with all types of natural and man-made disasters.

(b) National Disaster Management Authority (NDMA): It lay down the policies, plans and guidelines for Disaster Management to ensure timely and effective response to disasters.

(C) National Institute of Disaster Management (NIDM): It has been given the responsibilities for human resource development, capacity building, training, research, documentation and policy advocacy in the field of disaster management.

Exercise | Q 5 | Page 66



Make a survey of your school according to the plan of disaster management and write the pointwise information.

Solution: This is an activity based question. Kindly do it yourself. But make sure to involve the following points in your survey:

- Primary information of the school: It should include information such as name and address of the school and Head Master, total number of school staff and name and phone numbers of school management members.
- School disaster management committee: Get the information of the members involved in disaster management committee.
- Detailed information about school building: Note the number of rooms, classroom, age of the building, types of roofs under this point.
- Information about school ground: It should include information like distance of ground from the main road, types of play grounds.
- Daily routine of the school: It should include information like working time of the school, lunch break time for the school.
- Possible hazards in the school: It should include information such as record of past disaster happened in school, current planning for overcoming disasters.
- Disaster management map of the school: It should have information regarding all the buildings of the school, entrances and exit gates, place of probable danger, safer place at the time of disaster.

Exercise | Q 6 | Page 66

Are there any possible places of landslide in your area? Collect information from experts.

Solution: This is an activity based question. kindly do it yourself.

Exercise | Q 7 | Page 66

With the help of following pictures, explain your role in the disaster management.



Solution: It seems like the person is texting us that he is at risk. Since the type of risk or disaster is not mentioned, we can make possible guesses and give him following support:

- First of tell him to calm down and ask him what type of risk is he facing and his location.
- If he has faced man made calamities like theft, abduction, then call the nearest police station. Give the police his picture, phone number, address and other details so that they can track him down. We should also try to reach the place as soon as possible.
- If he has faced some road accident, then call the ambulance and police to reach there as soon as possible. We should be also there as soon as possible to give him support.
- In case of fire, call the fire brigade, ambulance and police giving them all the information and urge them to reach there as early as possible.