



প্ৰাগজ্যোতিষ মহাবিদ্যালয়  
**PRAGJYOTISH COLLEGE**

# Disaster Management and Emergency Plan

**DISASTER MANAGEMENT CELL**

**DEPARTMENT OF GEOGRAPHY, PRAGJYOTISH COLLEGE, GUWAHATI 781009**

This document has been prepared by the Disaster Management Cell, Department of Geography, Pragjyotish College, Guwahati 781009 with support from independent environment and safeguard consultant Dr. Tanvi Hussain, Environment Specialist based in Guwahati 781029

## Contents

1	About the College .....	3
2	Conceptual Understanding .....	3
2.1	Hazard .....	3
2.2	Disaster .....	4
2.3	Risk .....	4
2.4	Emergency.....	4
2.5	Vulnerability.....	4
3	Understanding the Hazard and Risk scenario of Assam and Guwahati city .....	4
3.1	Earthquake .....	4
3.2	Floods.....	5
3.3	Landslide .....	5
3.4	Climate Change .....	6
3.5	Droughts.....	6
3.6	Lightening.....	6
3.7	Urban and Industrial Risks .....	6
4	Disaster Management and Emergency Action Plan.....	7
5	Significance of College Disaster Management and Emergency Action Plan.....	7
5.1	Objective of the College Disaster Management and Emergency Action Plan .....	8
6	Hazard, Risk and Vulnerability (HRV) Profile of Pragjyotish College.....	8
6.1	Physical Vulnerability .....	9
6.2	Social Vulnerability.....	9
6.3	Disability Support.....	10
6.4	Risk Prioritization .....	10
6.5	Earthquake Risk.....	11
6.6	Flood Risk .....	12
6.7	Landslide .....	13
6.8	Lightning.....	14
6.9	Fire Risk.....	15
7	Disaster Management and Emergency Response .....	16
7.1	Preparedness .....	16
7.2	College Disaster Management Cell .....	17
7.3	Response and Recovery Teams.....	18
7.4	Resource Management.....	18

7.5	Capacity Building and Awareness Programs.....	18
7.6	Pragjyotish College Campus Layout and Emergency Route Plan.....	20
7.7	Mock Drills .....	23
8	Disaster Mitigation and Risk Reduction .....	24
8.1	Key Activities for Mitigation.....	24
9	Response.....	24
10	Recovery.....	25

### List of Figures

Figure 1	Flood Hazard Map of Guwahati city (old GMC area).....	12
Figure 2	Landslide Hazard Map of Guwahati city (old GMC area).....	13
Figure 3	Early Streamer Emission (ESE) Lightning Conductors Test Report .....	15
Figure 4	Pragjyotish College campus layout .....	20
Figure 5	Disaster and Emergency Action Plan - Zone outlay with Block description .....	21
Figure 6	Disaster and Emergency Action Plan - Zone outlay .....	21
Figure 7	Disaster and Emergency Action Plan - Route outlay with Block description .....	22
Figure 8	Disaster and Emergency Action Plan - Route outlay .....	23

### List of Tables

Table 1	Number of Students in different course levels in Pragjyotish College .....	9
Table 2	Number of Teaching, Non-teaching and Support Staff in Pragjyotish College.....	10
Table 3	Risk Prioritization Matrix.....	11
Table 4	Earthquake Risk Matrix of Pragjyotish Collge .....	12
Table 5	Flood Risk Matrix of Pragjyotish College.....	13
Table 6	Landslide Risk Matrix of Pragjyotish College .....	14
Table 7	Lightning Risk Matrix of Pragjyotish College.....	15
Table 8	Fire Risk Matrix of Pragjyotish College.....	16

## **1 About the College**

Pragjyotish College was established on 1<sup>st</sup> September 1954. It is the first college established after Independence in Guwahati. At present, the institution is a well-known premier postgraduate college imparting higher education in as many as 27 departments which includes 7 postgraduate programmes and has around 4000 regular students making it one of the largest educational institutes of the region in terms of number of admissions. The college believes in all-round development of its students. Apart from excellent academic pursuits, great emphasis is also laid on a range of co-curricular activities, discipline and character building of the students. Pragjyotish College has a unique distinction of having a full-fledged NCC unit with three wings – Army (both boys and girls’ units), Navy and Air. In addition, the NSS, Red Ribbon Club, Bharat Scouts and Guides and the Youth Red Cross of the college provides our students a platform and ample opportunities for social involvement. Over the years, with the active involvement of IQAC, the college has also signed a number of MoUs with national and international institutes resulting in different types of collaborative activities for the ultimate benefit of the students. Students from all over the Northeastern states flock to this institute. In its glorious existence of seven decades, the college, as alma mater, has produced a galaxy of eminent personalities from all walks of life. The college celebrated its Diamond Jubilee in 2014. The institute is recognised under Sections 2(f) and 12(B) of UGC and has been accredited by NAAC (2004-09, 2011-16, 2021-26).

## **2 Conceptual Understanding**

### **2.1 Hazard**

United Nations Disaster Risk Reduction (UNDRR) defines Hazard as “a process, phenomenon or human activity that may cause loss of life, injury or other health impacts, property damage, social and economic disruption or environmental degradation”. Hazards may be natural or anthropogenic in origin. Natural hazards are predominantly associated with natural processes and phenomena. Whereas, anthropogenic hazards or human induced hazards are induced entirely or predominantly by human activities and choices.

## **2.2 Disaster**

The Sendai Framework for Disaster Risk Reduction (2015-2030), defines disaster as “a serious disruption of the functioning of a community or a society at any scale due to hazardous events interacting with conditions of exposure, vulnerability and capacity, leading to one or more of the following: human, material, economic and environmental losses and impacts”.

## **2.3 Risk**

UNDRR defines risk as the probability of an outcome having a negative effect on people, systems or assets. Risk is typically depicted as being a function of the combined effects of hazards, the assets or people exposed to hazard and the vulnerability of those exposed elements. Understanding the basis, the composition and what can be done to change risk is Priority 1 of the Sendai Framework for Disaster Risk Reduction.

## **2.4 Emergency**

The term “emergency” is sometimes used interchangeably with the term “disaster” for example, in the context of biological and technological hazards or health emergencies, which, however, can also relate to hazardous events that do not result in the serious disruption of the functioning of a community or society.

## **2.5 Vulnerability**

Vulnerability is defined as the conditions determined by physical, social, economic and environmental factors or processes which increase the susceptibility of an individual, a community, assets or systems to the impacts of hazards.

# **3 Understanding the Hazard and Risk scenario of Assam and Guwahati city**

The hazard and risk scenario of Assam and Guwahati is as follow:

## **3.1 Earthquake**

Assam lies in Seismic Zone V, the highest risk zone in India, due to the tectonic activity of the Himalayan range. The state has experienced major earthquakes in the past, notably in 1897 and 1950, both of which caused significant destruction. The north-eastern region of India is prone to moderate to high seismic activity. Similarly, Guwahati city is vulnerable to earthquake due to its location within the same seismic zone. High population density and

rapid urban development have increased the risk for widespread damage in case of an earthquake.

### **3.2 Floods**

Assam is highly prone to annual floods due to its proximity to the Brahmaputra and Barak River systems. Over 40% of the state's total area is prone to flooding. The Brahmaputra River, is a highly braided with dynamic shifting channels, causing severe inundation during the monsoon. Due to the braided nature of the Brahmaputra River, Assam also faces acute riverbank erosion issues, leading to the loss of land and displacement of communities. Flash floods, resulting from heavy downpour in upstream areas like Arunachal Pradesh, Meghalaya, and Nagaland are quite common. Guwahati city, located along the Brahmaputra River, is vulnerable to urban flooding owing to bowl-shaped topography, terrain as well as insufficient storm water management infrastructure, poor drainage systems. Unplanned rapid urbanization, population pressure on the city and expansion of human settlement on floodplains, wetlands and hills of the city has exacerbated the issue.

### **3.3 Landslide**

In the state landslides are common in the hilly areas particularly in the hill districts viz., Dima Hasao, Karbi Anglong, West Karbi Anglong. The problem is worsened by deforestation, shifting cultivation, and heavy monsoon rains. Certain areas of Guwahati, particularly in the foothills of the Shillong Plateau, are prone to landslides. The risk of landslides in Guwahati increases during the monsoon due to decreasing tree cover of the city, population density in the hills, construction activities etc., which weakens the slope stability.

The state experiences occasionally cyclonic storms, particularly during the pre-monsoon (April-May) locally known as "*Bordoichila*" and post-monsoon (October-November) periods. These storms can cause localized damage to infrastructure, crops, and homes. While Guwahati city is to some extent shielded from the full force of cyclones, strong winds due to the presence of hills in the city and Khasi Hills along the Assam - Meghalaya state border but the storms can still disrupt normal life and cause structural damage.

### **3.4 Climate Change**

Assam is highly vulnerable to the impacts of climate change or climate variability, which has increased the frequency and severity of extreme weather events, including floods, droughts, and storms. Climate change is also believed to exacerbate the problem of riverbank erosion. In Guwahati, rising temperatures, urban heat island effect, unpredictable rainfall patterns and cloudbursts have contributed to more frequent urban flooding and heat stress. The city's expanding population and strained resources make it more susceptible to climate change impacts and micro-climatic effects.

### **3.5 Droughts**

Although the state is known for heavy rainfall, annual floods yet certain areas, especially in the northwestern parts i.e., the BTAD districts lying in the Bhabar zone are vulnerable to droughts during periods of low monsoon rainfall. These droughts have significant implications for agriculture, which is a primary source of livelihood for the majority of the population. Guwahati is less affected by droughts directly, but it is still vulnerable to the resulting agricultural impacts and water shortages that can occur in its hinterlands.

### **3.6 Lightning**

Lightning is a significant natural hazard in Assam, particularly during the pre-monsoon and monsoon seasons (April to September). The state experiences frequent lightning strikes due to its humid subtropical climate and geographical features that promote thunderstorm development.

### **3.7 Urban and Industrial Risks**

The petroleum and chemical industries of the state viz., oil refineries, fertilizer plant, thermal power plant etc., possess risks of industrial accidents, environmental hazards like oil spills, chemical leaks, or fires. Being the urban epicenter of Assam, Guwahati faces risks related to unplanned urban growth, traffic congestion, pollution, and industrial hazards. The city's rapid growth has put pressure on its infrastructure, increasing the risk of disasters, especially man-made ones like fires or accidents in industrial areas.

#### **4 Disaster Management and Emergency Action Plan**

The term “Disaster Management” refers to the preparedness through organization, planning and application of measures, preparing for response and recover from disasters. Disaster management may not completely avert or eliminate the threats, but it focuses on creating and implementing preparedness and other plans to decrease the impact of disasters and “build back better”. Failure to create and apply a plan could lead to damage to life, assets and lost revenue. The term “Emergency Management” is also used, sometimes interchangeably, with the term disaster management, particularly in the context of biological and technological hazards and for health emergencies. While there is a large degree of overlap, an emergency can also relate to hazardous events that do not result in the serious disruption of the functioning of a community or society.

This is the first-ever Disaster Management and Emergency Action Plan made for Pragjyotish College, Guwahati. Guwahati city is located in Kamrup Metropolitan District, the most densely populated district of Assam. Guwahati city and Kamrup metro is vulnerable to earthquake, flash floods, waterlogging, climate change induced extreme weather events like heat stress, cloudburst, slope failure in the hilly localities, fire and other human-induced disasters. Therefore, there is a urgent need to have a Disaster Management and Emergency Action Plan at the college-level. Although, Pragjyotish College does not have a notable history of disasters or and Major emergency situations, the risk of several natural hazards and other man-made hazards is always prevalent in and around the college premises. Considering the current and future impacts of climate change, which often manifest in the form of extreme weather events, planning for disaster management through action plan, preparedness and response becomes an essential part of the college administration and management.

#### **5 Significance of College Disaster Management and Emergency Action Plan**

A disaster or any such episode is a serious disruption of the functioning of a community or a society at any scale due to hazardous events interacting with conditions of exposure, vulnerability and capacity, leading to damage to infrastructure, property, other materials, injury or loss of human life or lives, economic loss and environmental loss and other societal impacts. Considering the hazard and risk profile of the state, district, city as well as other



isolated phenomena, the possible disasters or emergency situations occurring in and around the college premises could range from a high-intensity earthquake to a major fire outbreak.

The College Disaster Management and Emergency Action Plan aims to effectively prepare for, respond to and recover from unplanned events or incident that can shut down or drastically hamper the operations of the institute, can cause physical damage to the buildings or assets, significant injury or death to students, college staff, visitors or the public.

### **5.1 Objective of the College Disaster Management and Emergency Action Plan**

The objectives of this plan are as follows –

- To protect and secure the lives and property of the college community (students, teachers, staff etc.) against any risk and in all types of potentially-disastrous events or emergency situations.
- To make disaster preparedness a regular practice and capacity building of the college community for effective disaster response.
- To coordinate decision-making and effective use of available resources and manpower at the time of a disaster or emergency situation.
- To timely restore the orderly functioning of the college after any disaster.
- To establish coordination among various departments, units of the college, and also with the District Disaster Management Authority (DDMA), Kamrup Metro District, State Disaster Response Force (SDRF) and various emergency services located in Guwahati city and Kamrup Metro District.

## **6 Hazard, Risk and Vulnerability (HRV) Profile of Pragjyotish College**

In the Disaster Management and Emergency Plan of Pragjyotish College, two types of vulnerabilities have been analyzed viz., physical vulnerability which is attributed to poor design and construction of buildings and critical infrastructure, unregulated land use planning of the surroundings; and social vulnerability which is attributed to physical disability, gender and age.

## 6.1 Physical Vulnerability

The physical vulnerability of a building is determined based on its structure, presence of foundation, strength of the columns, regular horizontal bands, retrofitting etc. It also includes the susceptibility of the building to the impacts of any external factors capable of causing damage. Lack of planning for hazard-resistant construction is one of the most common factors which results in the form of weak structures causing building collapses. Although modern construction methods have produced buildings that are known to endure natural disasters. RCC is one of the predominant construction materials that are used in almost all the new constructions as well as execution and construction of buildings as per the National Building Codes. Pragjyotish College constitutes of several building blocks constructed in different years.

## 6.2 Social Vulnerability

Generally, social vulnerability is linked to the level of well-being of individuals, communities and societies, literacy and education level, existence of harmony and social security, access to basic human rights, systems of good governance, social equity, traditional values and ideological beliefs and overall the collective organizational systems. When any sort of disaster occurs the socially vulnerable groups such as, children, elderly and differently-abled, may be unable to protect themselves or evacuate properly and timely if necessary. In order to understand the social vulnerability in the Pragjyotish College campus, the demographic information of the students and teaching and non-teaching staff have been analyzed. The information about the number the students and teaching and non-teaching staff of the college and their social vulnerability are as follows:

*Table 1 Number of Students in different course levels in Pragjyotish College*

Level	No. of Students			Total	No. of Differently-able Students			Total
	Male	Female	Others		Male	Female	Others	
HS	855	558	NA	1413	1	NA	NA	01
UG	1657	1226	NA	2883	1	NA	NA	01
PG	63	255	NA	318	NA	NA	NA	00
<b>Total Students</b>				4614	<b>Total (Differently-able Students)</b>			02

Table 2 Number of Teaching, Non-teaching and Support Staff in Pragjyotish College

Types of Employees	No. of Employees			Total	No. of Differently-able Employees			Total
	Male	Female	Others		Male	Female	Others	
Teaching Staff	37	45	NA	82	NA	01	NA	01
Non-Teaching Staff	28	04	NA	32	NA	NA	NA	NA
Support Staff and Security	20	02	NA	22	NA	NA	NA	NA
<b>Total Employees-</b>				136	<b>Total Differently-able Employees</b>			01

### 6.3 Disability Support

Pragjyotish College is committed to providing a truly inclusive environment where every student, teacher, non-teaching and support staff, regardless of physical ability, can pursue higher education and work without barriers. In line with this principle, the college has developed comprehensive infrastructural support for students and employees with disabilities, ensuring they have equal access to all facilities and opportunities on campus. The college campus is equipped with:

- i. Ramps that provide easy access to classrooms, libraries, and other key areas of the college.
- ii. Tactile paths to assist visually impaired students in navigating the campus safely and independently.
- iii. Separate toilets designed for the comfort and convenience of students with disabilities.

Pragjyotish College strives to create an inclusive, accessible, and welcoming environment for all, so that students and employees with disabilities can focus on achieving their academic and career goals without any physical hindrance.

### 6.4 Risk Prioritization

For effective disaster management it is required that the risk of various hazards in the college campus is prioritized. Risk prioritization also helps in decision support for preparedness, mitigation and investments related to Hazard, Risk and Vulnerability (HRV)

reduction. The level of risk is colour coded for understanding the severity of risk at the College campus.

*Table 3 Risk Prioritization Matrix*

<b>Risk Prioritization Matrix</b>		
<b>Colour</b>	<b>Level of Risk</b>	<b>Scale</b>
	Very High	5
	High	4
	Moderate	3
	Minor	2
	Insignificant	1

Pragjyotish College is located in the north-western side of the Guwahati city where the micro-climate is warm and sub-humid. It receives the plentiful rains during the monsoon season. The summer the days are hot and at present experiencing extreme heat. The likelihood of the hazard is based not only on the past occurrences in the college premises, but also on the basis of their occurrence in the state. The consequences are assessed on the basis of underlying physical vulnerabilities found in the built environment within and around the college as well as in the social conditions. The HRV profile of the colleges is as follows:

## **6.5 Earthquake Risk**

As per the Vulnerability Atlas of India, the state Assam lies in Seismic Zone V, the highest risk zone in India. Based on the history of powerful and devastating earthquakes in the state, the possibility of a major earthquake hitting Pragjyotish College situated in Guwahati in the future cannot be ignored. Therefore, earthquake is a major hazard for the college which requires structural and non-structural risk mitigation measures as well as preparedness in the form of mock drills, response and recovery.

Table 4 Earthquake Risk Matrix of Pragjyotish Collge

Earthquake Risk						
Consequences	5	Very High				
	4	High				
	3	Moderate				
	2	Minor				
	1	Insignificant				
Likelihood		Rare	Unlikely	Possible	Likely	Certain
Scale		1	2	3	4	5

### 6.6 Flood Risk

As per the flood zonation of the Assam State Disaster Management Authority, Govt. of Assam, Pragjyotish College falls in the 'No Hazard' zone. The college has two large water bodies, enough soil space and green space to intercept and absorb moderate to high rainfall. The flood risk of Pragjyotish College can be categorized as Minor Possible in case of unprecedented heavy downpour or cloudburst.

Figure 1 Flood Hazard Map of Guwahati city (old GMC area)

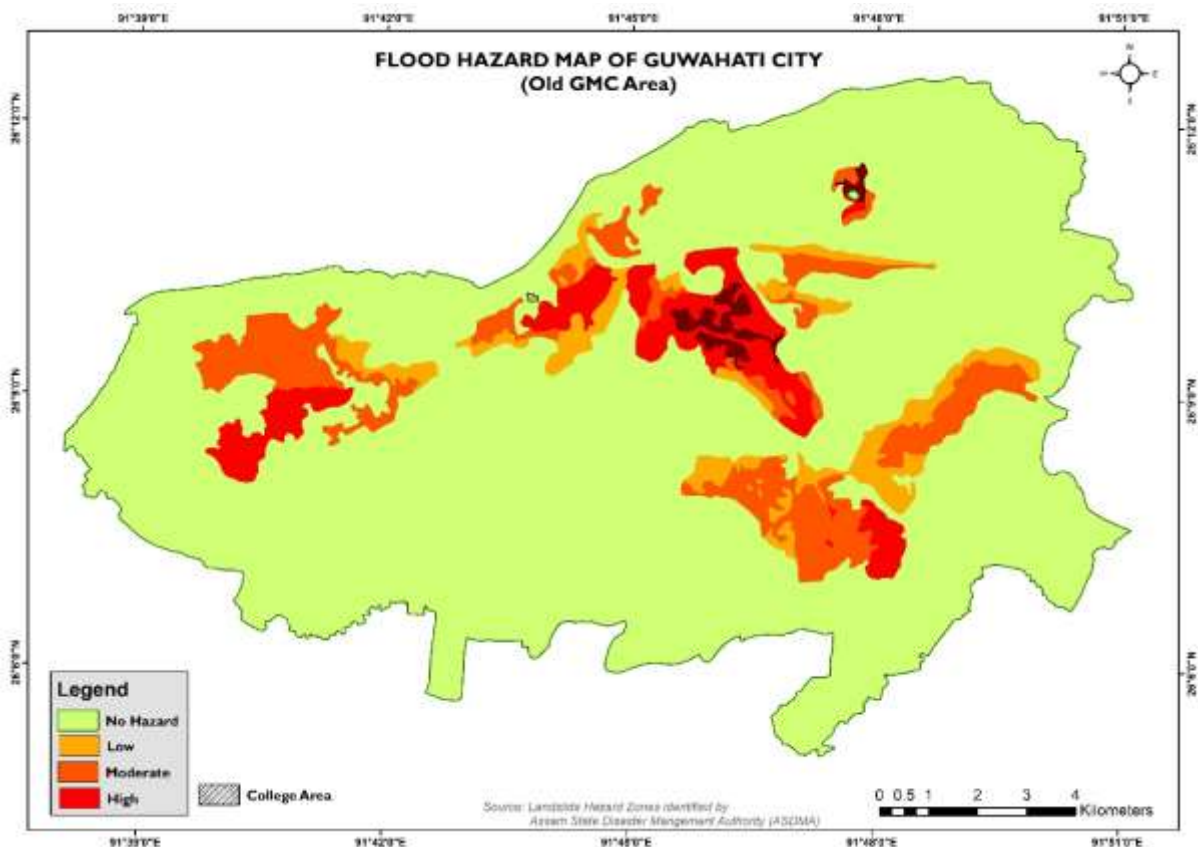


Table 5 Flood Risk Matrix of Pragjyotish College

Flood Risk							
Consequences	5	Very High					
	4	High					
	3	Moderate					
	2	Minor					
	1	Insignificant					
Likelihood		Rare	Unlikely	Possible	Likely	Certain	
Scale		1	2	3	4	5	

### 6.7 Landslide

As per the landslide zonation of the Assam State Disaster Management Authority, Govt. of Assam, Pragjyotish College falls in the 'No Hazard' zone. The college is situated on flat terrain and not surrounded in close proximity with hills. The landslide risk of Pragjyotish College can be categorized as Insignificant and Unlikely.

Figure 2 Landslide Hazard Map of Guwahati city (old GMC area)

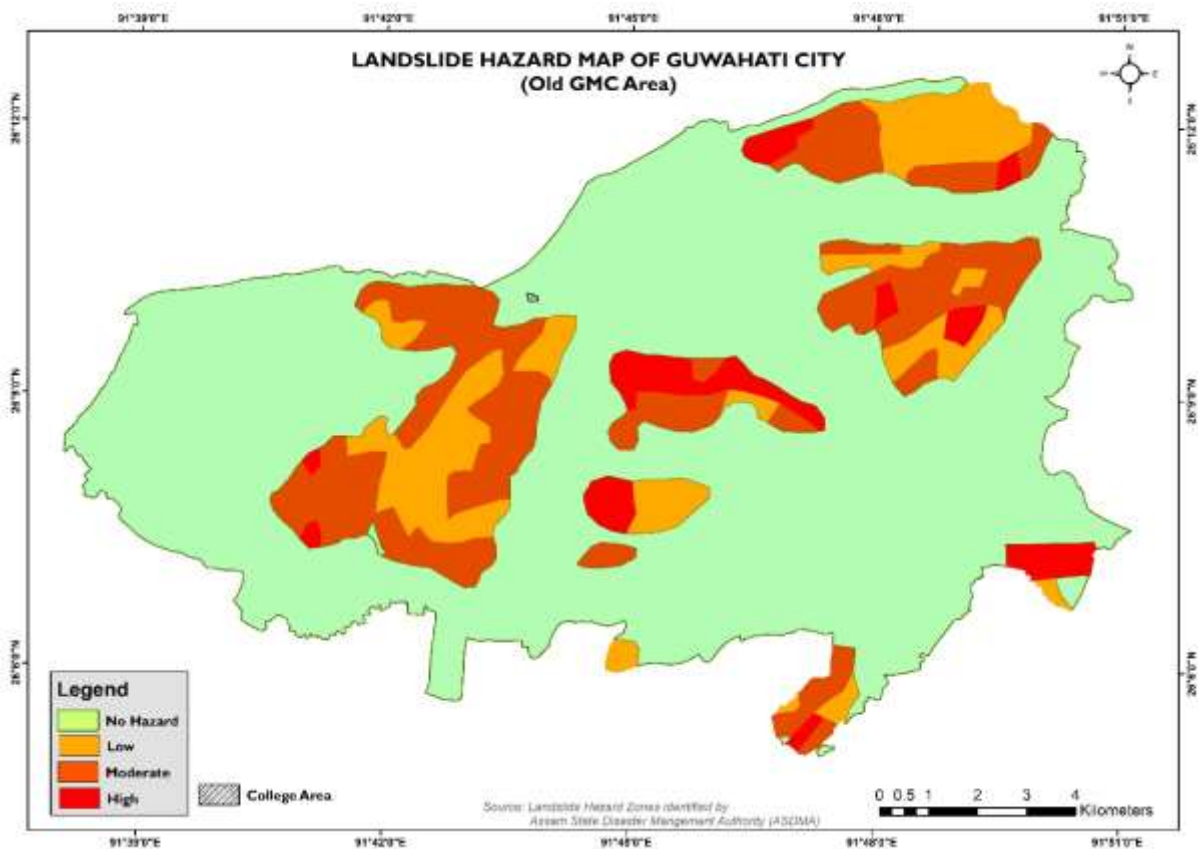


Table 6 Landslide Risk Matrix of Pragjyotish College

Landslide Risk							
<b>Consequences</b>	5	Very High					
	4	High					
	3	Moderate					
	2	Minor					
	1	Insignificant					
<b>Likelihood</b>			Rare	Unlikely	Possible	Likely	Certain
<b>Scale</b>			1	2	3	4	5

## 6.8 Lightning

Lightning is a significant natural hazard in Assam, during the pre-monsoon and monsoon seasons (April to September). Although the state experiences frequent lightning strikes due to its humid subtropical climate and geographical features that induces thunderstorm development. To mitigate the risk of lightning strike, Pragjyotish College has installed Early Streamer Emission (ESE) Lightning conductors installed. These lightning conductors have been developed by the Geophysics Institute of the Bulgarian Academy of Science and the company EUROSTAR GROUP. The lightning conductors have been tested and developed in a high voltage laboratory ICMET, Craiova, Romania, in accordance with the requirements of the French standard NFC17-102. The ESE Lightning conductors can take unlimited number of lightning strikes. Therefore, the lightning risk of the college can be categorized as Insignificant and Rare.

Figure 3 Early Streamer Emission (ESE) Lightning Conductors Test Report

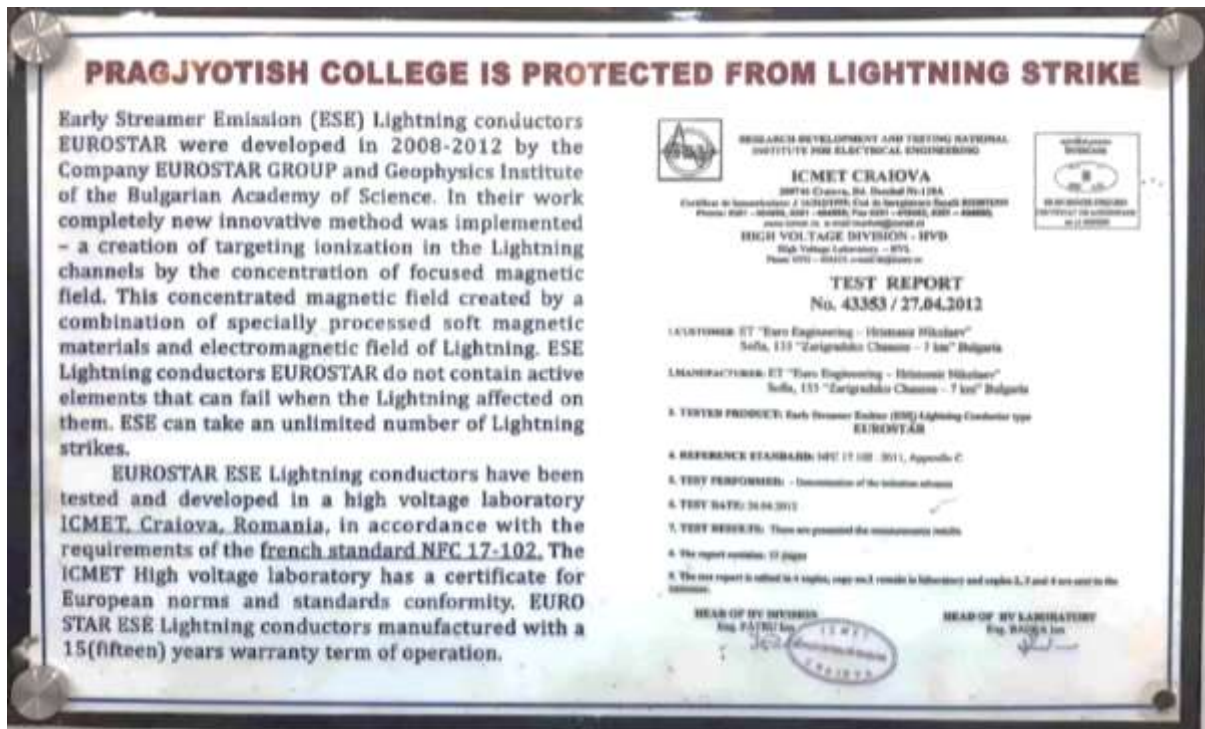


Table 7 Lightning Risk Matrix of Pragjyotish College

Lightning Risk							
Consequences	5	Very High					
	4	High					
	3	Moderate					
	2	Minor					
	1	Insignificant					
<b>Likelihood</b>			Rare	Unlikely	Possible	Likely	Certain
<b>Scale</b>			1	2	3	4	5

## 6.9 Fire Risk

The risk of fire hazard in urban area occurs from likely sources such as forest fires, as well as natural causes like lightning over mature forest patch or dry grassland and urban fires originating from anthropogenic activities. However, due to the tropical humid climatic condition of Assam, forest fire is not a common phenomenon in the state and the college campus is immune to fire arising out of lightning. But there have been many incidents of fire in Guwahati city arising out of anthropogenic causes. In such cases, fire pose as a major risk and the damage caused by fire disaster runs into loss of property and threatens human



lives. There is a risk of fire in the college campus due to electrical short-circuit or any incident of fire in the surrounding neighbourhood. Apart from that, the presence of inflammable material such as chemicals in the laboratories, wooden infrastructure and paper in various portions of the building makes fire a significant risk for the college. Other than earthquake, fire is also one of the significant hazards in the college. To reduce the risk and mitigate fire hazard all the building of Pragjyotish College (especially Girls' Hostel and Cafeteria) is equipped with fire extinguisher in each and every floor and block.

*Table 8 Fire Risk Matrix of Pragjyotish College*

Fire Risk							
<b>Consequences</b>	5	Very High					
	4	High					
	3	Moderate					
	2	Minor					
	1	Insignificant					
<b>Likelihood</b>			Rare	Unlikely	Possible	Likely	Certain
<b>Scale</b>			1	2	3	4	5

## 7 Disaster Management and Emergency Response

### 7.1 Preparedness

Preparedness is defined as the knowledge and capacities developed by the institutions, community and individuals to effectively anticipate, respond to and recover from the likely impacts of near or current disaster. Preparedness is based on thorough analysis and understanding of disaster risks and subsequent steps towards early warning systems. It includes activities like Emergency Evacuation Planning, stockpiling of equipment and supplies, constitution of the Disaster Management Committee/ Disaster Management Cell and Response and Recovery Teams conducting relevant training courses and drills, creating mechanisms for early warning, etc. Preparedness builds the ability to quickly and appropriately respond when a disaster or an emergency situation occurs.

## **Key steps for Preparedness**

1. Formation of Disaster Management Cell/ Disaster Management Committee and Response and Recovery Teams
2. Capacity Building and Training to build the mechanism for alerting students, teachers, non-teaching staff and supporting staff including security during college timing.
3. College campus layout with building or block wise Emergency Exit route plans and Assembly areas.
4. Action plan for conducting Mock Drills
5. Development of a checklist to identify the gaps.
6. Steps for updating of College Disaster Management and Emergency Plan.

## **7.2 College Disaster Management Cell**

College Disaster Management Cell is a specialized group within a college or educational institution dedicated to preparing, responding, and managing emergencies and disasters that may occur within the campus or surrounding areas. The purpose of the cell is to ensure the safety of students, teaching and non-teaching staff, and infrastructure in case of any natural or man-made disasters.

Pragjyotish College, Guwahati has a dedicated Disaster Management Cell (DMC) in the Department of Geography. The objectives of the Disaster Management Cell are as follows:

- i. To create awareness about various disasters and its impact amongst various stakeholders of our institute.
- ii. To collaborate with various government agencies to arrange hands on training for the stake holders.
- iii. To promote training and capacity building services including strategic learning for the stake holders.

The Disaster Management Cell of the college is guided by a Disaster Management Committee constituted of the following:

Sl. No	Name	Designation	Role in the DMC
1	Dr. Manoj Kumar Mahanta	Principal	Chairperson
2	Dr. Jyoti Prasad Das	Assistant Professor	Coordinator
3	Ms. Nandita Rajbongshi	Assistant Professor	Member
4	Dr. Bidyut Bikash Baishya	Assistant Professor	Member
5	Dr. Pallabi Dutta	Assistant Professor	Member
6	Dr. Priyakshree Borthakur	Assistant Professor	Member

### **7.3 Response and Recovery Teams**

Pragjyotish College has a unique distinction of having a full-fledged NCC unit with three wings – Army (both boys’ and girls’ units), Navy and Air. In addition, the NSS, Red Ribbon Club, Bharat Scouts and Guides and the Youth Red Cross of the college serves as Response and Recovery Teams for Disaster Management and Emergency Response in the college.

### **7.4 Resource Management**

It shall be the responsibility of the College Disaster Management Cell to ensure that the college is equipped with necessary emergency supplies, such as first-aid kits, fire extinguishers, and emergency lighting. Additionally, the DMC may also take the responsibility for maintaining an emergency stockpile of food, water, and medical supplies.

### **7.5 Capacity Building and Awareness Programs**

Capacity building and training of students, teachers, non-teaching and support staff is an important step to ensure safety of the Pragjyotish College’s community in any situation of disaster or emergency situation. Every year students, teachers, non-teaching and support staff of the college should be trained in various skills of disaster management and emergency response. The Disaster Management Cell, Pragjyotish College may prepare an Action Plan and Annual Calendar for the training of teachers, non-teaching staff and students on Disaster Management and Emergency Response. The DMC can plan out the

Annual calendar for conducting various preparedness activities along with plans to implement it. This will include the list of various awareness generation programs to be conducted by the college annually.

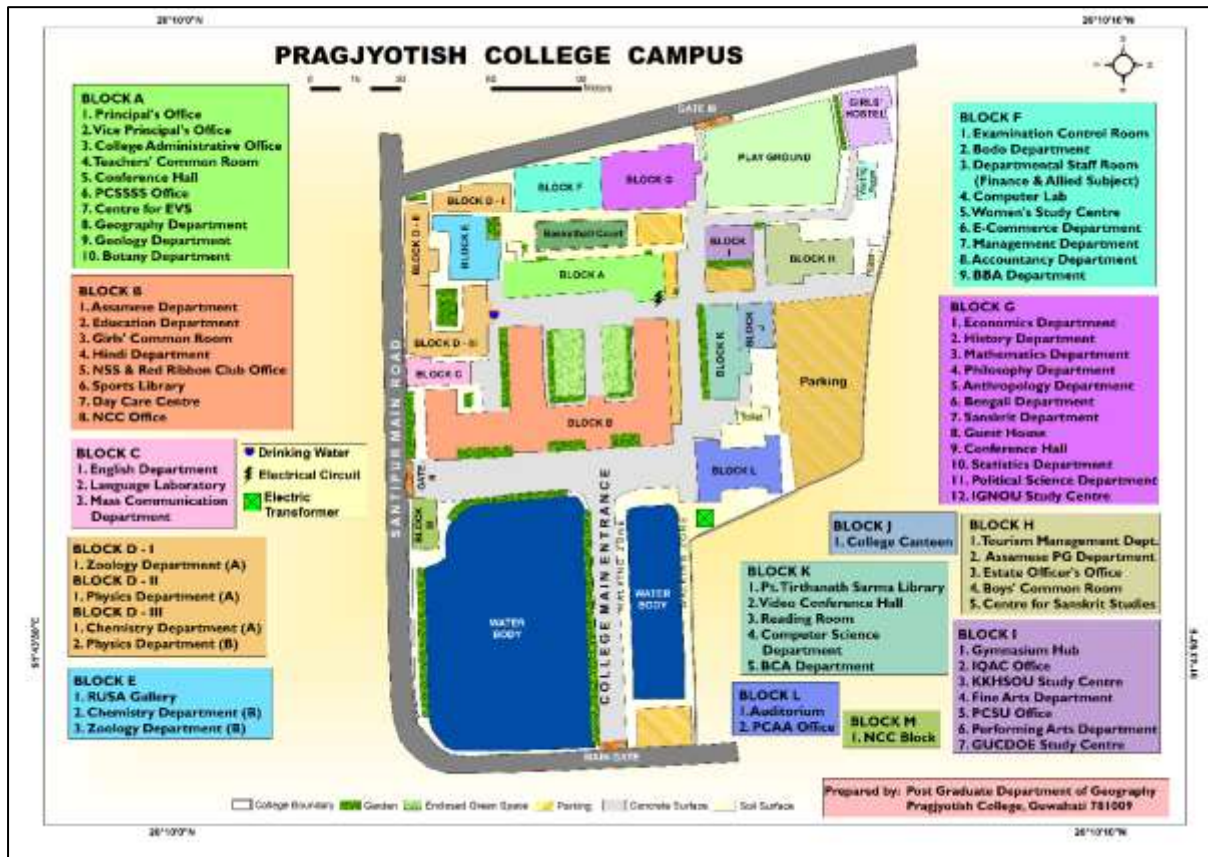
Awareness generation or sensitization is a part of preparedness measures aiming at sensitizing and educating the students, teachers, non-teaching staff, support staff including parents and guardians on issues related to the safety of college. The Disaster Management Cell of the college carries out time to time various awareness programs and bi-annual or annual Mock Drills on Disaster Management and Fire Safety in collaboration with concerned Government agency and stakeholder. The DMC of Pragjyotish College has conducted a Mock Drill on Firefighting and Disaster management on 21<sup>st</sup> November, 2023 in association with Fire and Emergency Services (FES), Government of Assam in the college premises.



## 7.6 Pragjyotish College Campus Layout and Emergency Route Plan

The campus layout of Pragjyotish College, Guwahati –

Figure 4 Pragjyotish College campus layout



In the emergency route plan the Pragjyotish College campus six safety zones have been identified viz., blue zone, yellow zone, green zone, purple zone, pink zone, and maroon zone. Safety zones and assembly points on a college campus are designated open spaces where students, faculty, staff should gather during an emergency evacuation. These areas are chosen to ensure the safety of individuals while Disaster Management Committee along with the emergency Response and Recovery teams assess the situation, check attendance, and provide further instructions. Proper discipline is essential for a smooth evacuation process from assembly points through the exit ways (Main Gate, Gate II and Gate III).



Figure 5 Disaster and Emergency Action Plan - Zone outlay with Block description

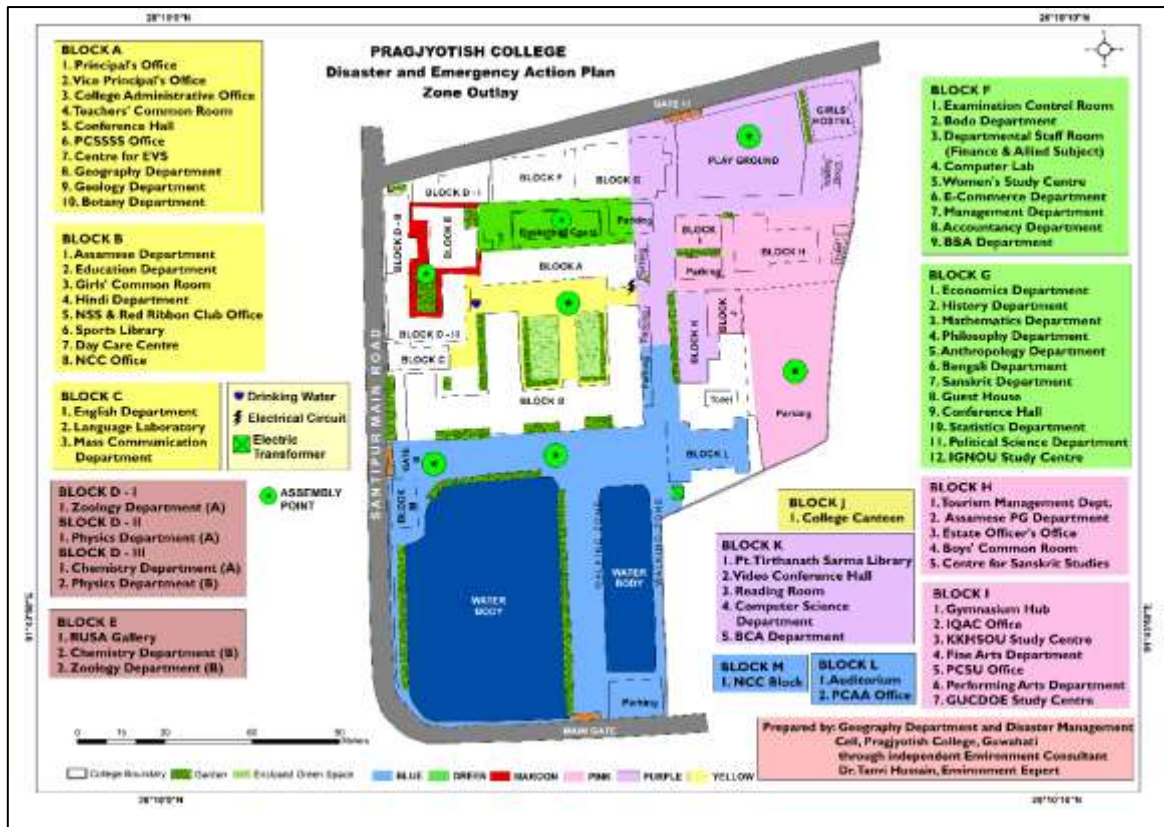
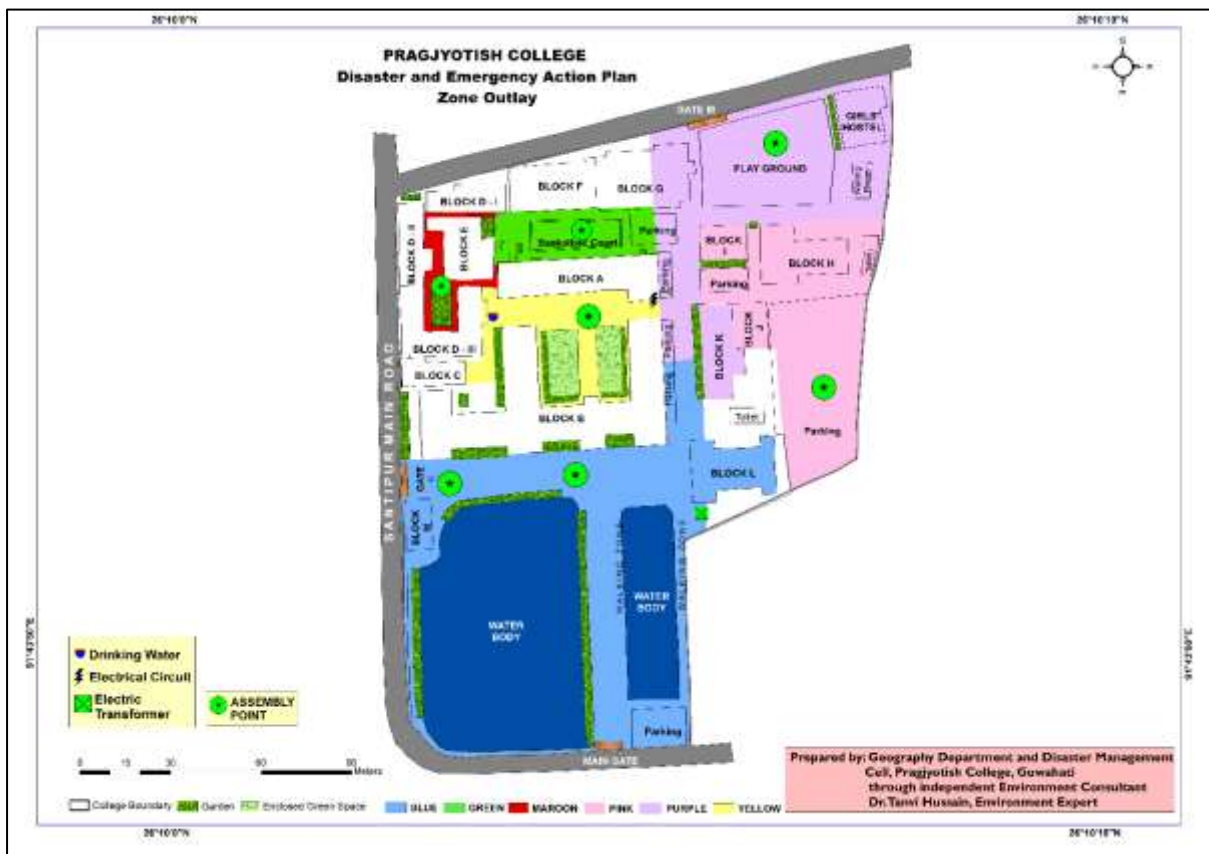


Figure 6 Disaster and Emergency Action Plan - Zone outlay



An Emergency Route Plan is a critical part of campus safety, helping guide individuals to safety during emergencies like fires, earthquakes, floods, or other hazards. It outlines evacuation routes, assembly points, and safety zones, ensuring that students, faculty, and staff know how to respond quickly and safely. The assembly points or Muster points (are designated at safe locations where students and employees of the college can gather after evacuating from a building during an emergency. These points play a vital role in ensuring that everyone is accounted for and that no one is left behind. The National Disaster Management Authority (NDMA) of India emphasizes the importance of assembly points in all emergency preparedness protocols, including evacuation plans.

Figure 7 Disaster and Emergency Action Plan - Route outlay with Block description

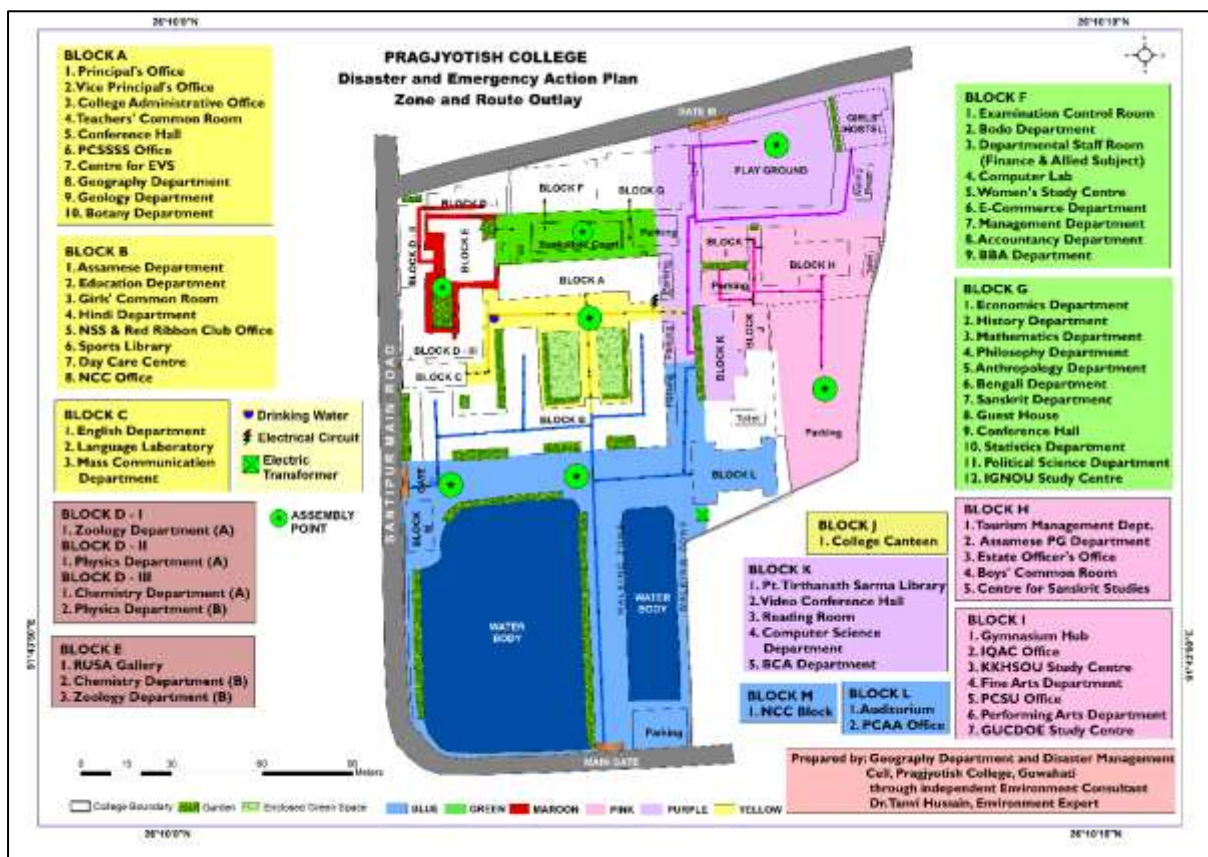
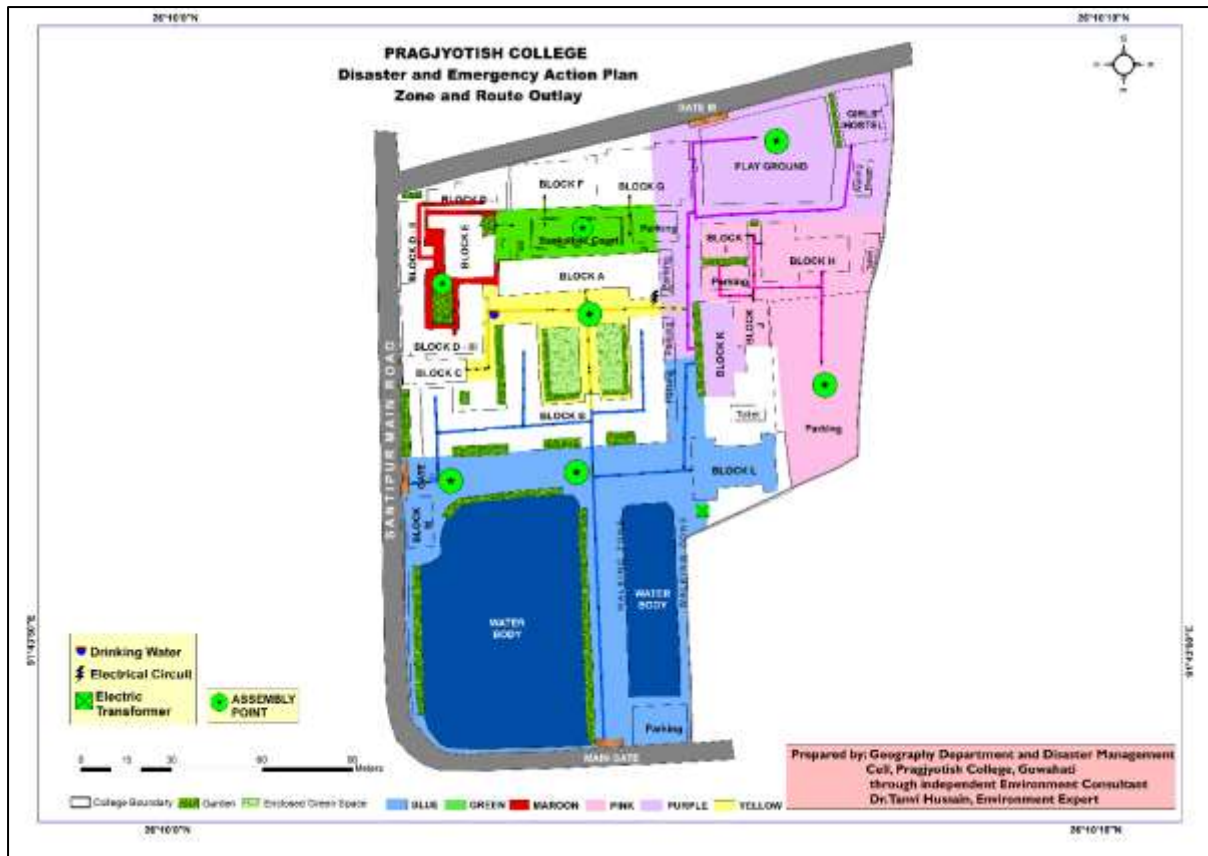


Figure 8 Disaster and Emergency Action Plan - Route outlay



## 7.7 Mock Drills

Mock drills are a way of checking on to preparedness plan. It is one of the last steps of preparedness. The mock drills on earthquake, fire etc. must be conducted at periodic intervals preferably once in every six months and the deficiencies may be assessed for updating the plan.

### ***Earthquake Drill***

- Practicing drop, cover and hold.
- Evacuating classrooms in less than one minute without falling and pushing.
- Assembling in the blocking wise assembly points following the marked routes.
- Evacuation of college in using different exits without any stampede.
- Looking out for the missing people.
- Staying away from weak areas/structures.
- Helping those who need assistance (rescue of persons with special needs).



### **Fire Drill**

- Evacuation from classrooms.
- Ensuring safe storage of inflammable liquids/ chemicals.
- Putting off electricity.

## **8 Disaster Mitigation and Risk Reduction**

Mitigation and risk reduction measures include structural and non-structural techniques. The structural technique focuses on Engineering methods, Constructions, retrofitting etc. On the other hand, the non-structural technique concentrates on improved environmental and social policies, public awareness etc.

### **8.1 Key Activities for Mitigation**

The key activities are as follows:

#### ***Non-Structural measures***

- ✓ Clearing passages and stairways which are to be used as evacuation routes.
- ✓ Fixating of cupboards to the walls.
- ✓ Storing the chemicals in shatter proof containers in the laboratories.
- ✓ Securing computers from falling in the laboratories and office rooms.
- ✓ Availability of fire extinguisher in every room.

#### ***Safety Audit***

- ✓ Electric safety audit: time to time checking of the electrical system.
- ✓ Fire safety audit: checking for possible sources of fire and identifying inflammable items within the college.
- ✓ Wash audit: Audit of purity of water supply and hygienic conditions in washrooms

#### ***Structural Measures***

- ✓ Repair and retrofitting of weak structures.
- ✓ Rapid Visual Screening of Buildings for identification of damage and potential earthquake hazards.

## **9 Response**

Response is all sort of actions taken during or immediately after a disaster in order to save lives, reduce health impacts, and meet the basic needs of the people affected. Disaster

response is predominantly focused on immediate and short-term needs. A proactive response will be based on effective early warning systems, communication, and the preparedness level of the Disaster Management Cell and Disaster Management Committee of Pragjyotish College leading in the implementation of College Disaster Management Plan.

***Key actions for Response***

- ✓ Deployment of Response and Recovery Teams for evacuation, search, rescue and first aid.
- ✓ Communication and alerting protocols.
- ✓ Safe evacuation from the College campus.
- ✓ Informing the concerned departments like fire department, District Administration, Police etc.
- ✓ Arrangement of food, water, shelter, logistic and necessary medicines.
- ✓ Preparing, reviewing and updating the College Disaster Management Plan accordingly.

**10 Recovery**

Recovery is the process by which affected people are assisted in returning to their proper level of functioning after any incident of disaster. The restoration, improvement of economic, physical, social, cultural and environmental assets, regular activities of a disaster-affected society aligning with the principles of Sustainable Development, build back better, to avoid or reduce future disaster risk is called Recovery. Recovery is a long term and continuous process.

***Key actions for Recovery***

- ✓ Providing Psycho-social support to students, faculty and staff.
- ✓ Construction and repairs of damaged buildings.
- ✓ Reopening of college for academic continuity.

**BE ALERT STAY SAFE**