Indian Red Cross Society

POSTGRADUATE DIPLOMA COURSE IN DISASTER PREPAREDNESS & REHABILITATION (Affiliated to Guru Gobind Singh Indraprastha University, Delhi-110006)

COURSE CURRICULAM 2007-2008

Indian Red Cross Society National Headquarters, 1, Red Cross Road, New Delhi 110001, INDIA

Indian Red Cross Society

Apart from promoting humanitarian principles and values, the Indian Red Cross Society is actively involved in disaster relief, disaster preparedness and health care in the community. The IRCS is a national federation of 700 branches spread all over country and is one of the largest national societies in the world.

Established in 1920 by an Act of Parliament, the Indian Red Cross Society has wide and varied experience in disaster relief work ranging from 1934 Bihar earthquake to 1999 super cyclone in Orissa, 2001 Gujarat earthquake and 2004 Tsunami in the coastal areas in Andhra Pradesh, Tamil-Nadu, Kerala and J&K earthquake in 2005. It's inside network of 700 branches having 12 million members and voluntary workers available all over India.

The IRCS has close links with the Federation of Red Cross and Red Crescent Societies and the International Committee of the Red Cross (ICRC). These are non political humanitarian organizations having wide exposure and experience in the related fields. It has also established good working relationships with other National Red Cross and Red Crescent Societies. The IRCS benefits immensely from these organisations technically, financially and intellectually in times of needs and for the purposes of capacity building.

Disaster Management Centre (DMC):

The IRCS has developed a Disaster Management Centre at the National Headquarters which is retrofitted. This serves as a base for all disaster related activities. The centre is designed to strive for improved overall disaster management planning and response, as also for long term risk reduction activities. It has facilities to link with all state branches and warehouses to provide efficient response, better coordination and monitoring. It serves as an information and knowledge management centre, monitors response operations and a need based 24 hours control room.

Central Training Institute (CTI): The IRCS has established a State of art Central Training Institute (CTI) at Bahadurgarh on the fringes of Delhi. It is spread over an area of 5 acres and has all the modern facilities of a training Institute. It contains equipments that are needed by a Disaster Response Unit (DRU) for providing hands on training, water pool for training rescue operations and state of art training facilities for in house training and outdoor drills.

India is one of the most disaster prone countries and it has witnessed several disasters. This has prompted the Red Cross to devote more attention to disaster preparedness activities. There is an acute shortage of trained manpower in this important sphere of speciality. The IRCS has taken up the major task of training a cadre of qualified trainers who would be academically and practically trained. It is introducing a one year part time course on Disaster Preparedness and Rehabilitation at its National Headquarters with its affiliation to the GGSIP University.

Objectives:

- To provide experienced practitioners in appropriate field
- To enhance career opportunities while in service ,through a period of academic study without disrupting the service
- Tor provide opportunities to professionals to obtain specialised qualification which has recognition in global perspective.
- To provide capacity building for national, state or institutional level in disaster preparedness and rehabilitation
- To provide platform to professionals to build up capacity for training for trainers
- to develop liaison with Government, NGO, Corporate Sector and International Agencies for synergies in disaster mitigation , preparedness and rehabilitation

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Module 1

Code No.	Торіс	Credits
DP&R 101	Introduction to Dimensions of Natural And Manmade Disasters.	4
DP&R 102	Policy and Legal Framework, and International Humanitarian Law	2
DP&R 103	Agencies Dealing in Disasters and Role of Funding Agencies	2
DP&R 104	Risk Assessment, reconstruction and Rehabilitation in disasters.	3
DP&R 105*	*Incident Command system	2
DP & R 106*	*Project Work/Assignment	3
	Total Credits	16

*Non university Examination System (NUES)

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Module II

Code No.	TOPICS	Credits
DP&R 107	Informatics and communication System in Disaster Preparedness and Response	3
DP&R 108	Geo-informatics for Disaster preparedness and rehabilitation.	3
DP&R 109	Reporting information and Documentation in Disasters *	1
DP&R 110	Management issues in Disaster Preparedness and Response.*	2
DP&R 111	Health and consequences of disaster and its preparedness and planning.	3
DP&R 112	Psycho-Social and Mental Health support	1
DP&R 113	Rehabilitation *	1
DP&R 114	Project work (minor)*	4
	Total Credits	18

*Non University Examination System (NUES)

Module III

Project Work - Dissertation *

Unit Code- D P & R 115-118

Total Credits	
DP&R118 Dissertation *	
DP & R 117 Comprehensive Viva *	
DP & R 116 Seminar *	2
DP & R 115 Progress Reports *	2

* Non University Examination System (NUES)

16
18
20
54

Note:

1. The total number of credits for Programme for Post graduate Diploma in Disaster Preparedness and Rehabilitation is 54. However, for the award of the diploma, a student shall be required to earn the minimum of 50 credits.

2. Each student shall be required to appear for examination to obtain a diploma.

3. Medium of Instruction - English

4. Evaluation - 1. Internal Assessment : 40 % Weightage.

2. Term End Examination : 60 % Weightage

Grading is done as follows:

Marks % range	Grade
80 and above	A – Excellent
60 – 79.9	B - Very Good
50 - 59.9	C – Good
Below 50	Unsatisfactory/Fail

Module 1

Code No.	Торіс	Credits
DP&R 101	Introduction to Dimensions of Natural And Manmade Disasters.	4
DP&R 102	Policy and Legal Framework, and International Humanitarian Law	2
DP&R 103	Agencies Dealing in Disasters and Role of Funding Agencies	2
DP&R 104	Risk Assessment, reconstruction and Rehabilitation in disasters.	3
DP&R 105	Incident Command system*	2
DP & R 106	Project Work/Assignment *	3
	Total Credits	16

*Non university Examination System (NUES)

Module-1 Course Code DP&R-101 Unit Code -101.1 to 101.6

101. Introduction to Dimensions of Natural and Manmade Disasters

Objectives: The course is intended to provide a general insight in the dimensions of disasters caused by nature beyond the human control as well as the disasters and environmental hazards induced by human developmental activities.

Expected outcome: To understand about natural & manmade disasters, its hazards, prediction, mitigation, preparedness and rehabilitation.

Course curriculum:

Disaster: Definition, Meaning, Factor and Significance Understanding Disasters: Causes and Effects Disasters: a Global View Disaster Profile of India: Regional and Seasonal

Unit - 101.1

Disaster: Definition, Meaning, Factor and Significance Difference between hazard and disaster Natural and Manmade Disasters Nature of disasters, Causes and effects of Disasters Significance and repercussions

Unit 101.2

.Brief understanding of Structure of the earth, atmosphere; Pressure, temperature, precipitation, Cloud classification and formation; and environmental implications. Primary differentiation and formation of core, mantle, crust. Climate change-Emissions and Global warming, impact on sea level in south Asian region Environmental disruptions and their implications.

Unit 101. 3

Types of Disasters .

Floods – flood plains, drainage basins, nature and frequency of flooding, flood hazards, urbanization and flooding, flood hydrographs, Dams barrages and river diversions, creation of reservoir, influence on micro-climate, impact on flora and fauna.

Land slides - Landslide analysis, determination of stability and safety factor.

Coastal hazards – tropical cyclone, coastal erosion, sea level changes and its impact on coastal areas and coastal zone management

Cyclones - Causes, impact, monitoring

Earth quakes - Preliminary concepts, seismic waves, travel-time and location of epicenter, nature of destruction, a seismic designing, quake resistant buildings and dams-

Tsunamis – causes and location of tsunamis; disturbance in sea floor and release of energy, travel time and impact on fragile coastal environment

Volcanoes- Causes of volcanism, volcanic materials, geographic distribution of volcanoes, Avalanches and tornadoes.

Oil spills- Identification and monitoring, impact on flora and fauna

Droughts and Desserts- Definition, causes, effect, monitoring and management

Unit 101.4- Industrial and Technological disasters, including Fire and Accidents.

Unit 101.5- NBC, Warfare insurgency

Unit 101.6- Sector wise, like water supply, electricity, infrastructure, health and communication etc, disaster preparedness and response.

Module 1 Course Code-DP&R-102 Unit Code-102.1to 102.5

102. Policy, Legal Framework and International Humanitarian Law

Objectives: (i) To understand the various aspects and policies of national disaster management policy. Laws and regulations.

(II) To give an overall of view of rules of war, protection in war ,assistance for conflict victims, preventive actions, restoring family reunion after disasters , family news service.

Expected outcome: Expected to know and appreciate the importance of disaster management policy and overall view of rules of war and protection in war and assistance for conflict victims, Restoring family services.

Course Curriculum:

- **Unit-102.1:-** Policies in Disasters- its significance, approaches, essential components, Formulations and coordination.
- Unit-102.2:- Laws in Disaster Preparedness and Rehabilitation. Environmental Protection Act 1986; National Disaster Management Act 2005. Other Institutional / Legal Policies.
- Unit- 102.3:-About the ICRC, Red Cross and Red Crescent global movement
- Unit- 102.4:-Human rights and Humanitarian laws
- **Unit-102.5:-** Protection after natural and man made disasters to civilian community, detainees and restoring family links, mutual support and working with different organizations.

Module-I Course Code DP&R-103 Unit Code-103.1&103.6

103. Agencies Dealing in Disaster and role of Funding Agencies.

Objective:

(i)To enable the students learn and understand the basic concepts and, Financing and Insurance and applying them in Disasters.

(ii) To know different national, international and local agencies involved in disasters and their specific mandate with emphasis on their operations in situation of disaster.

Expected Outcome:

(i)In the context of disasters the student will be able to understand basic aspects of Finance and Insurance.

(ii)Familiarized with the different national and international agencies for coordination and management during disaster

Course Curriculum:

UNIT-103.1

Public budgeting and finance systems; state and local finances, Crisis Relief Fund, NCCF, National Mitigation Fund.

UNIT 103.2

Property loss exposures; life, health and loss of Income exposures, insurance principles and policy provisions; Insurance Industry and regulatory frame work

UNIT-103.3

National Agencies - National Disaster Management Cell, National Disaster Management Authority (NDMA), NCMC, National Institute Of Disaster Management. Role of various departments and agencies: Indian Red Cross Society, Planning Commission, National Civil Defense Organization, Bharat Scouts and Guides. Military and Para-Military Forces; Corporate Bodies etc.

UNIT-103.4

State and District Level Agencies, State Disaster Management Authority

(SDMA), District Disaster Management Authority (DDMA).Disaster Management cells at state level and District level: District Magistrate office, Role and Responsibilities of DM in prevention, preparedness, mitigation, relief and rehabilitation; local bodies and role of different functionaries-Role of PRI / Municipalities.

UNIT-103.5

International Agencies: United Nations and its specialized agencies like UNDP, FAO, WHO, AEC (Atomic Energy Commission), United Nations Disaster Management Cell, New Delhi. National Red Cross/Red Crescent Societies. International Federation of Red Cross and Red Crescent Societies (IFRC).

UNIT-103.6

Civil Society Agencies: NGOs, Religious and Cultural Organizations, Community based organizations, political parties and their affiliates, Philanthropic organizations, Recent case studies on the role played by various civil society organizations during disasters.

Module-I Course Code DP&R-104 Unit Code-104.1to 104.10

104 Risk Assessment, Reconstruction and Rehabilitation, in Disasters,

Disposal of Debris and Human Remains after disasters.

Objectives: -

(i)The Course will provide the methods for undertaking the risk assessment and would introduce the techniques for understanding and assessing the hazards. It would give an insight into the concept of vulnerability factor, industrial hazard and operability study.

(ii)To understand the challenges and issues which may be encountered in post event / recovery/ rehabilitation, and will offer a number of strategies which can be used to resolve them successfully.

(iii)To facilitate and coordinate the disposal of debris and human remains produced by disaster in a systematic ,coordinated manner without producing any threat to the health, safety, and welfare of the affected citizens.

Course Curriculum:-

(i)Information Concept ; Meaning types and importance Risk and Vulnerability Analysis, Risk reduction and Community Preparedness.

(ii)Basic concepts Rehabilitation Social and Economic Aspects Reconstruction and Rehabilitation as Development and agriculture and irrigation Housing ,Retrofitting repairing strengthen. Disasters, types of debris, Organisation and concept of operations, staff development and responsibilities, debris removal priorities, estimates of debris, management actions.

Expected outcome:

Able to understand different aspects of rehabilitation and its significance

Able to coordinate and assist in disposing of all kinds of debris

UNIT-104.1

Introduction to risk analysis, Definition, methodology, characteristics; Definition of risk and fundamentals of risk analysis, environmental hazards, exposure and risk assessment, risk reduction. Basic methodology in risk assessment, hazard identification, dose response assessment, exposure assessment, and risk categorization.

UNIT-104.2

The assessment for different types of Disaster, the extreme event analysis hazard ecology, chemical load and environmental health risk, carcinogenic materials and environment, impact on immune reproduction and nerves system, risk assessment.

UNIT-104.3

Risk Reduction - Design of Risk management program, concept of vulnerability and analysis, exposure, preparedness, prevention and response analysis.

UNIT-104.4

Vital needs, - Need Assessment and logistic planning for food, water supply, sanitation including debris management, shelter - temporary and semi-permanent.

UNIT-104.5

Essential Services - Medical care, Education, Psychosocial, Reproductive and children health care, Law and order.

UNIT-104.6

Livelihood - Skill Enhancement, livelihood development programme,

UNIT-104.7

Infrastructure reconstruction – Damage Assessment, Reconstruction of Immediate nature, Long term reconstruction. (Repair and retrofitting: Superficial repair, structural repair, structural strengthening of habitable spaces, public buildings, roads, bridges, dams, culverts etc.)

UNIT 104.8

Debris clearance - damage to buildings, and clearance.

UNIT 104.9

Disposal Of Dead Humans.

UNIT 104.10

Disposal Of Dead animals.

Module-1 Course Code DP&R-105 Unit Code-105.1 to 105.2

Credits-2

105 Incident Command System*

Objective: To understand the importance of the ICS in terms of a set of personnel, policies, procedures, facilities, and equipment, integrated into a common organizational structure designed to improve emergency response operations of all types and complexities of situations.

Expected outcome: The student should know the ICS to be followed in case of disasters of various natures

Course curriculum:

Unit-105-1

- Defining the system and criteria reason for having an ICS, defines criteria,
- System chacteristics, common terminology used resource elements for particular disciplines.
- Facilities and its defined functions,
- Standard organisational positions,
- Integrated communications,
- Comprehensive resource utilisation.
- Command responsibilities, operation system responsibilities,

Unit-105-2

- Planning-staff positions, logistics, finance
- Incident action planning process
- Forms used in the process
- Organisation assessment list,/ division assignment
- Communication, Communication plan, support vehicle inventory, air operation,
- Medical plan, organisation chart, incident status summary,
- Check in list, unit log, operational planning, work sheet,
- How to integrate with volunteers without interfering the working programme.

*Non university Exam System

Module-1 Course Code DP&R-106 Unit Code-106

Credits-3

Unit-106 Project Work & Assignment*

*Non university Exam System

Module II

Code No.	TOPICS	Credits
DP&R 107	Informatics and communication System in Disaster Preparedness and Response	3
DP&R 108	Geo-informatics for Disaster preparedness and rehabilitation.	3
DP&R 109	Reporting information and Documentation in Disasters *	1
DP&R 110	Management issues in Disaster Preparedness and Response.*	2
DP&R 111	Health and consequences of disaster and its preparedness and planning.	3
DP&R 112	Psycho-Social and Mental Health support	1
DP&R 113	Rehabilitation *	1
DP&R 114	Project work (minor)*	4
	Total Credits	18

*Non University examination System (NUES)

Credits -3

Module 2 Course code : D P & R 107 Unit Code-107.1-107.9

107. Informatics and Communication System in Disaster Preparedness and Response

Objectives: (i)To give knowledge about the fundamentals of computers, data storage, data presentation and introduction to programming etc. Also to cover the needs, usage and implementation of disaster information network.

(ii)To impart knowledge in the field of communication systems applicable to disaster mitigation and rehabilitation. The focus will be from basic orientation to applied know-how. Practical and case studies will also be covered.

Expected outcome:

To know the meaning and importance of information especially in the context of disasters. Understands different types of information; learn the various methods of collecting and organizing relevant information; effective dissemination; and using the information technology appropriately.

(A) Informatics

UNIT 107.1

Introduction to computer, its components and functions, applications in various fields of science and management.

Data Storage: Primary and Secondary storage, Introduction to various computer devices such as keyboard, mouse, printers, disk files, floppies etc.

Concept of computing, contemporary, operating systems such as DOS, Windows, UNIX etc. (only brief user level description).Introduction to Internet and it's use.

UNIT-107.2

Information concept : Use of MS-Office Package, MS Word, MS Excel, MS Access, Internet, Email, Networking, Practical problem solving Exercise using software packages.

UNIT 107.3

Importance of Information in Disasters; methods of collecting relevant information – libraries, internet, interviews questionnaires, survey, observation, Mass media, Meetings, Role of Information from disaster affected community.

UNIT 107.4

Role of information technology in Disasters. Disaster management Information System. Organizing and effective dissemination of information: feedback for improving information (B) :Communication Systems:

UNIT-107.5

Role of Communication in Disasters. Types of communication in case of disasters –HAM radio, , Satellite, Video Conferencing, Electronics devices, detailed study with practical.

UNIT-107.6 Cellular technologies including Mobile SMS

UNIT-107.7 Early warning systems, technologies and Innovations.

UNIT 107.8 National Communication Plan

UNIT 107.9 Emergency operation Centers

Module 2 Course code: DP & R 108 Unit Code-108.1-108.4

108. Geo-Informatics for Disaster Preparedness and Rehabilitation

Objectives:

The aim of this course is to appraise the benefits of geo-informatics in disaster management and to have basic knowledge in the field of geographical information system, remote sensing, data collection, physical geography special data base design and management, map digitization, cartography, map analysis and land use planning. The technological advances in geo-informatics (space, GIS and GPS) have established its capability in dealing with several disasters. The aim of this course is to appraise the benefits of geo-informatics in disasters.

Expected outcome:

Data collection (Information extraction from images) and analysis and interpretation.

Learn about Maps, Mapping techniques and its usefulness. .Mapping as a tool for risk assessment and damage evaluation GIS in the context of disaster.

UNIT-108.1

Remote Sensing: Fundamental of Remote Sensing, platform and sensors, image interpretation, digital image processing, microwave remote sensing, remote sensing application, Indian space programme, future satellites for disaster management; Case studies - (Practical)

UNIT-108.2

GIS: Introduction, definition of GIS, GIS and other information system, maps and spatial information, concept of space and spatial data, domains of spatial information system, elements of GIS (hardware, software, data and liveware), components of GIS (end use/management, data acquisition, data input, data storage & retrieval, data processing and analysis/modeling), information presentation, internet based GIS; Case studies - (Practicals)

UNIT-108.3

Remote Sensing and GIS in Disasters

UNIT 108.4

GPS: Basics only (Introduction, description of GPS system- Space segment, control segment, user segment), observation principal and signal structure; GPS receivers, realities and limitations; GPS application.

Module 2 Course code:-D P & R 109 Unit Code-109.1-109.3

109 : Reporting, Information and Documentation in Disasters

Objective:

To learn theoretical and practical overview of reporting in emergencies to have clear knowledge of the content, process, sensitivity, style of report.

Expected outcome:

The participants should be able to give report writing – concise, effective, accurate and reasonable. Importance of role of media

UNIT-109.1

Types of Media, Importance of role of media – informative, suggestive, analytical; Role of Media in Disaster Mitigation.

UNIT 109.2

Factual and ethical reporting ; Impact of Media Coverage and public communication, Handling of media

UNIT -109.3

Cyber Terrorism:

Concept of Information Society, Critical information infrastructure, Computer and Internet Security, Cyber crimes,

Countermeasures:

preventive and deterrent, International cyber terrorism: threats, concerns and counter measures. Preventions and Implications of cyber terrorism in disasters

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Crédits:2

Module 2 Course Code : D P & R 110 Unit Code-110.1-110.4

110. Management Issues in Disaster Preparedness and Response *

Objectives:

To provide a comprehensive approach towards building leadership issues.

To provide comprehensive analysis of the principles and practice of operational aspects in Disasters Preparedness and Response.

Expected Outcome:

Able to provide leadership during disasters. To lead during Search, Rescue, and Evacuation ; Assessing Damage, Shelter and Relief Requirements.

UNIT-110.1

Leadership

UNIT-110.2

Supply Chain Management

Concepts, issues in supply chain, types of intermediaries, Channel objective & constraints, Channel selection & application during disasters- recent trends

UNIT-110.3

Logistics framework

Concept, objective & scope, transportation, warehousing, Role in inventory, Stock Piling. Role of logistics in disaster.

UNIT-110.4

Quantitative Techniques in Disaster Management – Quing Theory, Linear programming, emergency operation centre for inventory management and marginal analysis

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Module 2 Course code : D P & R 111 Unit Code-111.1-111.5

111: Health and consequences of disaster and its preparedness and Planning

Objective:

Providing knowledge of health care facility and emergency management during disasters. To know the general health problems common to all natural and manmade disasters. Also to understand the disaster specific health problems and what to expect in each crisis be able to predict patterns of health problems according to types of disasters. The course will cover issues relating to public health, health policy and health management. The objective of the course is also giving knowledge for psychological, economic and social support in situations of mass emergency.

Expected outcome:

The student should be knowing the definition of PHIE, understand the operational strategies, approaches, and priorities of PHIE, also feel confident about the concept of PHIE and differentiating it from other health approaches. Student should be able to manage medical emergencies during disaster, able to give first aid, able to organize and help setting up of mobile medical units, organization of rescuing and transporting of injured victims, anticipating expected epidemic outbreaks and its prevention measures, good knowledge about clean water and sanitation, etc. Able to provide psychological support to the most vulnerable in disaster affected areas.

UNIT-111.1

Mass causality preparedness and Response: Hospital preparedness / Mass Gathering medicine.

UNIT-111.2

Public Health and its role in Disaster Management: Public health systems, Health promotion and disaster prevention, integrated approach. Public health emergencies in Disasters – Water borne, vector borne and zoonotic diseases

UNIT-111.3

Epidemiology ; Areas of Public Health ; Environmental and Occupational Health ; Epidemics as a disaster.

UNIT 111.4

Health Policy and Management: Public Health Practices, Public Health in Emergencies :

(topics-Humanitarian charter, sphere standards, code of conduct, HIV AIDS in , Reproductive health , infectious diseases ,Nutrition, Avian flu, Management of temporary shelters, water and sanitation emergencies.

UNIT-111.5

Red Cross Movement. Role of NGOs, CBOs, Armed forces, Educational institutions, occupation groups, Professionals, and Technical groups and their coordination in Health emergencies in disasters.

Module 2 Course code : D P & R 112 Unit Code-112.1-112.3

Psycho - Social and Mental Health Support

Unit-112.1-112.3

Objective:

To understand the Psychological, Mental Health and Social support required by disaster Victims.

Outcome:

Able to provide Psychological, Social and Mental support to the most vulnerable and disaster affected areas/communities and the service providers involved in disaster relief.

Unit 112.1 Psychological support.

Unit 112.2 Mental Health Support

Unit 112.3 Social Support

Module 2 Course code: D P & R 113 Unit Code-113.1-113.2

113- Réhabilitation *

Objectives:

To know and understand the Short Term and Long Term measures required for rehabilitation of the victims and prevention of Disasters

Outcome:

Providing knowledge of the short term and long term measures like health, shelter and physical support etc. required during manmade and natural disasters.

Unit 113.1 Short Term Measures

Unit 113.2 Long Term Measures

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Module 2 Course Code :D P & R 114* D P & R 114: Project Work (Minor)*

*Non University Examination System(NUES)

Module III

Project Work - Dissertation*

Unit Code- D P & R 115-118

DP & R 115 Progress Reports*	2
DP & R 116 Seminar*	
DP & R 117 Comprehensive Viva*	2
DP & R 118 Dissertation*	
Total Credits	

*Non University Examination System(NUES)

Module I	16
Module II	18
Module III	20
Grand Total :	54