

DIPLOMA (SAFETY MANAGEMENT-DISASTER) – PART ONE

Optional Early Certificate: - N/A

Syllabus:-

Sr. No.	Module Code	Name of Module	Credits	Total Marks
1	BSMD111	Professional Communication	5	100
2	BSMD112	Safety Management	5	100
3	BSMD113	Introduction to Disaster Management	5	100
4	BSMD114	Disaster Preparedness and Response	5	100
5	BSMD115	Foundation Course in Environmental Science	4	100

Module Name: PROFESSIONAL COMMUNICATION

- 1. Corresponding: (Official, Business and Personal):** One Letter from each category (Official, Business and Personal) may be set in the examination paper and the students be asked to write one of them.
- 2. Grammar:** A brief review of easy form of tenses. Conversion of direct narration into indirect form of narration and vice versa (Only simple sentences). Punctuation.
- 3. Essay:** Preferably on scientific topic from the given outlines. The paper setter may be instructed to give a choice of attempting one out of three topics. The question paper may provide the outlines. The essay will be of 250 to 300 words. The examiner may select three topics one from each of the following.
 - Science
 - Technology
 - General
- 4. Written Communication:** Report, Notices, Agenda Notes, Business Correspondence preparation of summery & prices.

Module Name: SAFETY MANAGEMENT

- 1. Electrical Safety**

2. Energy Conservation
3. Personal Safety in Laboratory
4. Employee's Health and Safety
5. Fire Hazard & Protection
6. Safety for Home
7. Safety on Road
8. Hazard Evaluation Techniques
9. Training in Safety
10. Work Place Safety
11. Industrial Hazards
12. Road Safety
13. Implementing the Health and Safety Management System

Module Name: INTRODUCTION TO DISASTER MANAGEMENT

Unit I: Introduction

1. Hazard, Risk, Vulnerability, Disaster
2. Meaning, Nature, Importance, Dimensions & Scope of Disaster Management
3. Disaster Management Cycle

Unit II: Natural Disasters

1. Natural Disasters- Meaning and nature of natural disasters, their types and effects
2. Hydrological Disasters - Flood, Flash flood, Drought, cloud burst
3. Geological Disasters- Earthquakes, Tsunamis, Landslides, Avalanches, Volcanic eruptions, Mudflow

Unit III: Types of Natural Disasters

1. Wind related- Cyclone, Storm, Storm surge, Tidal waves, Heat and cold Waves
2. Climatic Change
3. Global warming
4. Sea Level rise
5. Ozone Depletion

Unit IV: Man – Made Disasters

1. CBRN – Chemical disasters, biological disasters, radiological disasters, nuclear disasters
2. Fire – building fire, coal fire, forest fire, Oil fire

Unit V: Types of Man – Made Disasters

1. Accidents- road accidents, rail accidents, air accidents, sea accidents
2. Pollution - air pollution, water pollution
3. Deforestation, Industrial waste

Unit VI: Disaster Determinants

1. Factors affecting damage – types, social status, habitation pattern, physiology and climate
2. Factors affecting mitigation measures, prediction, preparation, communication, area and accessibility, population, physiology and climate

Module Name: DISASTER PREPAREDNESS AND RESPONSE

Unit I: Disaster Preparedness

1. Disaster Preparedness: concept and significance
2. Disaster Preparedness Measures
3. Institutional Mechanism for Disaster Preparedness
4. Disaster preparedness with special needs/ vulnerable groups
5. Disaster Preparedness: Policy and Programmes

Unit II: Disaster Preparedness Plan

1. Concept and Significance of Disaster Preparedness Plan
2. Disaster Preparedness Plan essentials
3. Community Based Disaster Preparedness plan
4. Prediction, Early Warnings and Safety Measures of Disaster

Unit III: Role of Different Organizations / Institutions

1. Role of Information, Education, Communication, and Training
2. Role of Government, International and NGO Bodies
3. Role of Information Technology (IT) in Disaster Preparedness
4. Role of Geographers on Disaster Management

Unit IV: Disaster Response

1. Essential Components of Disaster Response, Disaster Response Plan, Resource Management- Financial, Medical, equipment, communication, Human, transportation, Food and essential commodity (Identification, Procuring, Propositioning and deployment), Directing and controlling functions
2. Communication, Participation & activation of Emergency Preparedness Plan, Logistics Management, Emergency support functions, Need and damage assessment

Unit V: Coordination in Disaster Response

1. Disaster Response Plan - Communication, Participation, and Activation of Emergency Preparedness Plan
2. Search, Rescue, Evacuation and Logistic Management

Unit VI: Psychological Response and Management

1. Psychological Response and Management (Trauma, Stress, Rumor and Panic)
2. Relief and Recovery
3. Medical Health Response to Different Disasters

Module Name: FOUNDATION COURSE IN ENVIRONMENTAL SCIENCE

1. The Multidisciplinary nature of environmental studies Definition; Scope and importance, Need for public awareness.
2. **Natural Resources:** Renewable and non-renewable resources:
Natural resources and associated problems
 - a) Forest resources: Use and Over-exploitation, deforestation, case studies. Timber extraction, mining, dams and their effects on forests and tribal people.
 - b) Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams benefits and problems.
 - c) Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources, case studies.
 - d) Food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies.

- e) Energy resources: Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources, Case studies.
- f) Land resources: Land as a resource, land degradation, man induced landslides, soil erosion and desertification.

Role of an individual in conservation of natural resources.

Equitable use of resources for sustainable lifestyles.

3. Ecosystems:

- Concept of an ecosystem.
- Structure and function of an ecosystem.
- Producers, consumers and decomposers.
- Energy flow in the ecosystem.
- Ecological succession. - Food chains, food webs and ecological pyramids.
- Introduction, types, characteristic features, structure and function of the following ecosystem: -
 - a. Forest ecosystem
 - b. Grassland ecosystem
 - c. Desert ecosystem
 - d. Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries).

4. Biodiversity and its Conservation

- a. Introduction-Definition: genetic, species and ecosystem diversity.
- b. Biogeographical classification of India.
- c. Value of biodiversity: consumptive use, productive use, social, ethical, aesthetic and option values.
- d. Biodiversity at global, National and local levels.
- e. India as a mega-diversity nation.
- f. Hot-spots of biodiversity.
- g. Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts.
- h. Endangered and endemic species of India.
- i. Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.

5. Environmental Pollution:

- Causes, effects and control measures of: -
 - a. Air pollution
 - b. Water pollution
 - c. Soil pollution
 - d. Marine pollution
 - e. Noise pollution
 - f. Thermal pollution
 - g. Nuclear hazards
- Solid waste Management: Causes, effects and control measures of urban and industrial wastes.
- Role of an individual in prevention of pollution.
- Pollution case studies.
- Disaster management: floods, earthquake, cyclone and landslides.

6. Social Issues and the Environment

- From Unsustainable to Sustainable development.
- Urban problems related to energy.
- Water conservation, rain water harvesting, watershed management.
- Resettlement and rehabilitation of people; its problems and concerns. Case studies.
- Environmental ethics: Issues and possible solutions.
- Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case studies.
- Wasteland reclamation.
- Consumerism and waste products.
- Environment Protection Act.
- Air (Prevention and Control of Pollution) Act.
- Water (Prevention and Control of Pollution) Act.
- Wildlife Protection Act. - Forest Conservation Act.
- Issues involved in enforcement of environmental legislation.
- Public awareness.

7. Human Population and the Environment

- Population growth, variation among nations.
- Population explosion-Family welfare Programme.
- Environment and human health.
- Human Rights.
- Value Education.
- HIV/AIDS.
- Women and Child Welfare.
- Role of information Technology in Environment and human health.
- Case Studies.

8. Field Work (Practical)

- Visit to a local area to document environmental assets-river /forest /grassland / hill/ mountain.
- Visit to a local polluted site-Urban/Rural/Industrial/Agricultural.
- Study of common plants, insects, birds.
- Study of simple ecosystems-pond, river, hill slopes, etc.