

R3738

Sub. Code

646301

M.B.A. DEGREE EXAMINATION, NOVEMBER – 2025

Third Semester

Disaster Management

PREPAREDNESS AND MITIGATION

(CBCS – 2022 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 1 = 10)

Answer **all** the following questions
by choosing the correct option.

1. Disaster preparedness primarily focuses on_____.
(CO1, K2)
 - (a) Preventing disasters from occurring
 - (b) Preparing individuals and communities to respond effectively
 - (c) Increasing disaster risks
 - (d) Eliminating the need for emergency services

2. What is the primary challenge in disaster preparedness for vulnerable groups?
(CO1, K2)
 - (a) Communication barriers
 - (b) Political conflicts
 - (c) Lack of financial aid
 - (d) International trade policies

3. The first step in disaster preparedness planning is: (CO2, K2)
- (a) Ignoring past disaster history
 - (b) Eliminating all disasters permanently
 - (c) Waiting for a disaster to happen
 - (d) Identifying hazards and risks
4. What is the primary function of an Emergency Operations Center (EOC)? (CO2, K2)
- (a) Coordinating disaster response and communication
 - (b) Delaying emergency services
 - (c) Selling relief materials
 - (d) Stopping government operations
5. Which type of satellite imagery is commonly used for disaster monitoring? (CO3, K2)
- (a) X-ray and Gamma-ray
 - (b) UV and Infrared only
 - (c) Optical and Radar
 - (d) Bluetooth and Wi-Fi
6. Disaster mapping is primarily used for_____. (CO3, K2)
- (a) Identifying risk-prone areas and planning mitigation strategies
 - (b) Spreading misinformation about disasters
 - (c) Decreasing early warning efficiency
 - (d) Removing evacuation routes from maps

7. Which of the following, is a social vulnerability factor in disaster risk? (CO4, K2)
- (a) High-rise buildings
 - (b) Poverty and lack of education
 - (c) Construction of highways
 - (d) Satellite monitoring
8. Which sector is most affected by disaster risks in rural areas? (CO4, K2)
- (a) Information technology
 - (b) Aerospace engineering
 - (c) Agriculture
 - (d) Film industry
9. What is an effective earthquake mitigation strategy? (CO5, K2)
- (a) Landfills dumping
 - (b) High buildings
 - (c) Soil erosion
 - (d) Base isolation
10. What is a key employment strategy after disasters? (CO5, K2)
- (a) Skill training
 - (b) Wage cuts
 - (c) Job removal
 - (d) Mass layoffs

Part B

(5 × 5 = 25)

Answer **all** the questions not more than 500 words each.

11. (a) Explain how early warning systems contribute to disaster preparedness. (CO1, K4)

Or

- (b) Compare the disaster preparedness policies of two different countries. (CO1, K4)

12. (a) Examine the role of emergency transportation in disaster relief operations. (CO2, K4)

Or

- (b) Discuss the significance of communication networks in disaster response. (CO2, K4)

13. (a) Analyze the importance of Remote Sensing in disaster management. (CO3, K4)

Or

- (b) Examine the impact of wireless networks in disaster communication. (CO3, K4)

14. (a) Compare disaster risks in rural and urban settings with suitable examples. (CO4, K4)

Or

- (b) Analyze the impact of disaster risk on livelihood security in agriculture-based communities. (CO4, K4)

15. (a) Explain the role of earthquake-resistant buildings in reducing disaster risk. (CO5, K5)

Or

- (b) Explain the impact of desertification on agricultural livelihoods. (CO5, K5)

Part C

(5 × 8 = 40)

Answer **all** the questions not more than 1000 words each.

16. (a) Evaluate the effectiveness of India's disaster preparedness framework in managing recent disasters. (CO1, K5)

Or

- (b) Examine the role of NGOs in supporting disaster preparedness efforts at the local level. (CO1, K5)

17. (a) Analyze the role of early warning systems in mitigating disaster losses. (CO2, K4)

Or

- (b) Critically assess the role of transportation and logistics in disaster relief operations. (CO2, K4)

18. (a) Develop a strategy for using aerial photography and drone technology for real-time disaster monitoring. (CO3, K4)

Or

- (b) Critically assess how land use zoning regulations have reduced disaster risks in major cities worldwide. (CO3, K4)

19. (a) Evaluate the importance of disaster risk reduction strategies for achieving sustainable development goals. (CO4, K4)

Or

- (b) Explain the challenges of managing transboundary disasters and suggest possible solutions. (CO4, K4)

20. (a) Discuss how food security programs can mitigate the long-term effects of famine. (CO5, K5)

Or

- (b) Analyze the role of climate-resilient agriculture in mitigating food security risks during natural disasters. (CO5, K5)

R3739

Sub. Code

646302

M.B.A. DEGREE EXAMINATION, NOVEMBER – 2025

Third Semester

Disaster Management

**GEOSPATIAL TECHNOLOGY IN DISASTER
MANAGEMENT**

(CBCS – 2022 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 1 = 10)

Answer **all** the following objective type questions by choosing the correct option.

1. The first Earth observation satellite was _____
launched by NASA in 1972. (CO1, K2)
 - (a) IKONOS
 - (b) SPOT
 - (c) IRS-1A
 - (d) LANDSAT-1

2. Microwave region is useful for _____. (CO1, K2)
 - (a) mapping chlorophyll
 - (b) daytime cloud detection only
 - (c) all weather and night-time remote sensing
 - (d) soil sampling

3. Geostationary satellites are mainly used for _____
(CO2, K2)
- (a) mineral exploration
 - (b) weather observation and communication
 - (c) urban mapping
 - (d) glacier monitoring
4. GOES stands for _____ (CO2, K2)
- (a) Geosynchronous Operational Environmental Satellites
 - (b) Global Observation and Earth Sensing
 - (c) Geodetic Orbit Earth Satellites
 - (d) General Orbital Environmental Systems
5. In GIS, a point represents features such as _____
(CO3, K2)
- (a) roads
 - (b) buildings
 - (c) cities or wells
 - (d) rivers
6. The space segment of GPS includes _____ (CO3, K2)
- (a) Control stations
 - (b) GPS receivers
 - (c) Communication towers
 - (d) Satellites in orbit

7. In disaster risk management, Geoinformatics helps in _____ hazard-prone areas. (CO4, K2)
- (a) ignoring
 - (b) painting
 - (c) identifying and mapping
 - (d) financing
8. The first step in risk analysis is to identify the _____ (CO4, K2)
- (a) capital assets
 - (b) relief centers
 - (c) budget
 - (d) hazards
9. Quantitative approaches rely primarily on _____ data. (CO5, K2)
- (a) observational
 - (b) numerical
 - (c) textual
 - (d) categorical
10. Space-based support involves using _____ to monitor and assess disasters. (CO5, K2)
- (a) underwater cables
 - (b) weather stations
 - (c) satellites
 - (d) manual surveying

Part B

(5 × 5 = 25)

Answer **all** questions not more than 500 words each.

11. (a) Classify various types of maps and its uses in geospatial studies. (CO1, K4)

Or

- (b) Explain electromagnetic radiation with neat sketch. (CO1, K4)

12. (a) Classify the different types of remote sensing platforms. (CO2, K4)

Or

- (b) Summarize the basic steps involved in digital image processing in remote sensing. (CO2, K4)

13. (a) Compare spatial and attribute data with examples. (CO3, K4)

Or

- (b) Explain the basic concept of GPS. (CO3, K4)

14. (a) Explain how remote sensing and GIS used for effective disaster management. (CO4, K4)

Or

- (b) Explain how land use planning can help in disaster risk reduction. (CO4, K4)

15. (a) Distinguish between qualitative and quantitative approaches in geospatial data analysis with examples. (CO5, K5)

Or

- (b) Outline the key features of a GIS-based Decision Support System (DSS) used in disaster management. (CO5, K5)

Part C

(5 × 8 = 40)

Answer **all** questions not more than 1000 words each.

16. (a) Explain the evolution of remote sensing from aerial photography to modern satellite sensors. (CO1, K5)

Or

- (b) Compare the spectral signatures of vegetation, water and built-up areas using suitable graphs or examples. (CO1, K5)

17. (a) Summarize the key differences between geostationary and sun-synchronous orbits. (CO2, K4)

Or

- (b) Explain the basic elements of visual image interpretation. (CO2, K4)

18. (a) Explain the components of a GIS. (CO3, K4)

Or

- (b) Classify the three main segments of the GPS navigation system. (CO3, K4)

19. (a) Outline the role of Geoinformatics in managing disaster risk and vulnerability. (CO4, K4)

Or

- (b) Show how mobile GIS and crowd-sourced data help in real-time disaster mapping and recovery efforts. (CO4, K4)

20. (a) Explain the role of Spatial Data Infrastructure (SDI) in disaster management. (CO5, K5)

Or

- (b) Show with examples how GIS and satellite data supported disaster risk reduction in two real-world case studies. (CO5, K5)
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R3740

Sub. Code

646303

M.B.A DEGREE EXAMINATION, NOVEMBER – 2025

Third Semester

Disaster Management

ENVIRONMENTAL ECONOMICS

(CBCS – 2022 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 1 = 10)

Answer **all** the following objective type questions by choosing the correct option.

1. Sustainable development means maximizing (CO1, K2)
 - (a) economic growth
 - (b) the productivity of produced assets
 - (c) income inequality
 - (d) The economic growth, environmental protection and social equity

2. Using normally renewable resources faster than nature can renew them is called (CO1, K2)
 - (a) nutrient deficit
 - (b) sustainability
 - (c) trade-offs
 - (d) degrading natural capital

3. Which one is not the cause of market failure (CO2, K2)
- (a) Externalities
 - (b) Imperfect market
 - (c) Indivisibilities
 - (d) Pareto optimality
4. Which good below is a public good? (CO2, K2)
- (a) Military and police.
 - (b) Used car market.
 - (c) Insurance from a private company.
 - (d) Petroleum imported from a government-controlled oil field
5. The hedonic price method measures the value of environmental assets through (CO3, K2)
- (a) Using existence of an environmental assets
 - (b) Using linkages between variations of inhouse prices
 - (c) Using WTP to value of environmental assets
 - (d) Using WTA to value of environmental assets
6. Which of the following is not a feature of the contingent valuation method? (CO3, K2)
- (a) It is an economic non-market based valuation method
 - (b) It is based on the maximum willingness to pay by the consumers
 - (c) It is used only in case of air pollution
 - (d) It is used under the condition of market failure

7. Pollution includes (CO4, K2)
- (a) volcanoes spewing toxic gases into the atmosphere
 - (b) CO₂ releases from coal burning power plants
 - (c) Fertilizer runoff
 - (d) all of the above
8. What is chipko movement often called? (CO4, K2)
- (a) Afforestation
 - (b) Love for trees
 - (c) Chipko Andolan
 - (d) Chipko obsession
9. Which of the following project is the Narmada Bachao Andolan related? (CO5, K2)
- (a) Sardar Sarovar
 - (b) Bhakranangal
 - (c) Rihand
 - (d) Tehri
10. Which of the following gases is considered as atmospheric pollutant? (CO5, K2)
- (a) Oxygen
 - (b) Ozone
 - (c) Sulphur dioxide (SO₂)
 - (d) Nitrogen

Part B

(5 × 5 = 25)

Answer **all** questions not more than 500 words each.

11. (a) Ascertain the importance of environmental economics. (CO1, K4)

Or

- (b) Describe the concept of environmentally corrected GDP. (CO1, K4)

12. (a) Elucidate externalities as missing markets. (CO2, K4)

Or

- (b) Show the common property resources. (CO2, K3)

13. (a) Show the Hedonic property values. (CO3, K3)

Or

- (b) Describe the life cycle assessment. (CO3, K3)

14. (a) Enumerate the sources of pollution in India. (CO4, K4)

Or

- (b) Describe the functions of Pollution Control Board. (CO4, K4)

15. (a) Infer the environmentalism of the poor. (CO5, K5)

Or

- (b) Elucidate the Narmada Bachao Andolan. (CO5, K4)

Part C

(5 × 8 = 40)

Answer **all** questions not more than 1000 words each.

16. (a) Write an essay on economics and environment.
(CO1, K5)

Or

- (b) Describe the theories of optimal use of exhaustible and renewable resources.
(CO1, K5)

17. (a) Study the externalities of property rights. (CO2, K6)

Or

- (b) Illustrate the Pareto optimal provision of public goods.
(CO2, K5)

18. (a) Explain the contingent valuation methods of Natural Resources Accounting.
(CO3, K5)

Or

- (b) Assess the impact of development on biodiversity.
(CO3, K6)

19. (a) Illustrate the India's Environmental Policy.
(CO4, K4)

Or

- (b) Examine the efforts of the Indian Government in controlling pollution and Environmental Protection.
(CO4, K5)

20. (a) Portray the grass root environmental movements in India. (CO5, K4)

Or

- (b) Explain the Save Valley Movement. (CO5, K4)
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R3741

Sub. Code

646507

M.B.A. DEGREE EXAMINATION, NOVEMBER – 2025

Third Semester

Disaster Management

Elective : DISASTER ECONOMICS AND FINANCING

(CBCS – 2022 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 1 = 10)

Answer **all** the following objective type questions by choosing the correct option.

1. How does climate change primarily affect global food security? (CO1, K1)
 - (a) By decreasing the variety of food sources
 - (b) By increasing the availability of arable land
 - (c) By altering precipitation patterns and crop yields
 - (d) By promoting sustainable agricultural practices
2. “Tsunami” occurs due to (CO1, K2)
 - (a) Earthquake generated in a subduction zone
 - (b) Wave upwelling
 - (c) Wind impact
 - (d) Tidal force
3. The National Disaster Management Authority (NDMA) is headed by (CO2, K1)
 - (a) Prime Minister of India
 - (b) President of India
 - (c) Governor of States
 - (d) Chief Minister of States

4. In India National Institute of Disaster Management is located at (CO2, K2)
(a) Manipur (b) Punjab
(c) Hyderabad (d) New Delhi
5. The Disaster Management Act was made in (CO3, K1)
(a) 2006 (b) 2003
(c) 2005 (d) 2009
6. Man-made disasters include: (CO3, K2)
(a) Wars (b) Terrorism
(c) Industrial hazard (d) All of the above
7. Full form of NEC in disaster management is (CO4, K1)
(a) National Electrotechnical Commission
(b) National Executive Council
(c) National Executive Committee
(d) National Energy Council
8. Which method is widely used to measure flood variability? (CO4, K2)
(a) FFI (b) FFMI
(c) FI (d) FMI
9. According to Indian Meteorological Department (IMD), which storm is classified as a “Super cyclone” when the wind blows at whatever speed? (CO5, K2)
(a) Above 200 km (b) Above 110 km
(c) Above 220 km (d) None of the above
10. What percentage approximately of the Indian land is the potential area of mild to high Earthquake? (CO5, K2)
(a) 50.1 (b) 58.6
(c) 53.6 (d) 60.6

Part B

(5 × 5 = 25)

Answer **all** the questions not more than 500 words each.

11. (a) Show the humanitarian impact of disaster. (CO1, K3)

Or

- (b) How will you assess damage loss of disaster? (CO1, K3)

12. (a) Elucidate the functions of a disaster economics manager. (CO2, K3)

Or

- (b) Elucidate network arrangements required from a disaster economics manager. (CO2, K3)

13. (a) Interpret the economic infrastructure. (CO3, K3)

Or

- (b) Describe the concept sustainable development. (CO3, K3)

14. (a) Elucidate the disaster financing framework. (CO4, K4)

Or

- (b) Portray the disaster financing in India. (CO4, K4)

15. (a) Enumerate the contribution of important international agencies in disaster mitigation. (CO5, K4)

Or

- (b) Elucidate the role of Non-Governmental Organizations in disaster mitigation. (CO5, K4)

Part C

(5 × 8 = 40)

Answer **all** the questions not more than 1000 words each.

16. (a) Ascertain the tangible and intangible costs associated with disaster. (CO1, K5)
Or
(b) Illustrate the methods of risk identification and assessment. (CO1, K5)
17. (a) Ascertain the role of a disaster economics manager in managing organization. (CO2, K4)
Or
(b) Illustrate the Incident Command System as used in disaster management. (CO2, K4)
18. (a) Write an essay on Environmental Infrastructure Development. (CO3, K4)
Or
(b) The need of the hour is a new paradigm in disasters and development processes - Discuss. (CO3, K5)
19. (a) Elucidate the India's policy on India's disaster financing. (CO4, K4)
Or
(b) Explain the role and functions of finance commission in disaster financing. (CO4, K4)
20. (a) Ascertain the role and importance of United Nations in disaster finance. (CO5, K5)
Or
(b) Explain the financial and logistical assistance needed in disaster situations. (CO5, K5)

R3742

Sub. Code

646509

M.B.A. DEGREE EXAMINATION, NOVEMBER – 2025

Third Semester

Disaster Management

**Elective – EMERGENCY RESPONSE SYSTEM AND FIRE
SAFETY MANAGEMENT**

(CBCS – 2022 onwards)

Time : 3 Hours

Maximum : 75 Marks

Part A

(10 × 1 = 10)

Answer **all** the following objective questions by choosing the correct option.

1. Which document outlines the step-by-step actions to be taken during an emergency? (CO1, K2)
 - (a) Contingency Report
 - (b) Safety Manual
 - (c) Risk Register
 - (d) Standard Operating Procedure

2. Which network ensures smooth coordination of resources during emergencies? (CO1, K2)
 - (a) Community Networking
 - (b) Social Media Chat
 - (c) Banking Network
 - (d) Political Network

3. The sender-oriented view of communication mainly focuses on: (CO2, K2)
- (a) The message receiver
 - (b) Feedback from audience
 - (c) Message creation and transmission
 - (d) Media channels only
4. Normative perspective in disaster communication deals with: (CO2, K2)
- (a) Rules and ethical standards
 - (b) Technical failures
 - (c) Market strategies
 - (d) Financial losses
5. In the risk reduction communication cycle, the final stage is: (CO3, K2)
- (a) Awareness creation
 - (b) Preparedness action
 - (c) Response and recovery
 - (d) Evaluation and feedback
6. The receiver-oriented view of risk communication highlights: (CO3, K1)
- (a) How organizations prepare messages
 - (b) How communities interpret and respond to messages
 - (c) How warnings are generated by authorities
 - (d) How resources are allocated

7. Which fire extinguishing agent is most effective for electrical fires? (CO4, K2)
- (a) Carbon dioxide (b) Water
(c) Sand (d) Foam
8. Which class of fire involves flammable liquids like petrol and kerosene? (CO4, K2)
- (a) Class A (b) Class B
(c) Class C (d) Class D
9. Which of the following is a key objective of exposure assessment? (CO5, K2)
- (a) Risk perception
(b) Ergonomics
(c) Hazard identification
(d) Communication
10. Which act governs industrial safety regulations in India? (CO5, K2)
- (a) Environment Act 1986
(b) Factories Act 1948
(c) Disaster Management Act 2005
(d) Industrial Act 1952

Part B

(5 × 5 = 25)

Answer **all** questions not more than 500 words each.

11. (a) Discuss the significance of Information Management Systems in handling emergencies. (CO1, K3)

Or

- (b) Analyze the structure and functioning of an Emergency Operation Center (EOC) with a suitable diagram. (CO1, K3)

12. (a) Describe the nature and scope of communication in disaster situations. (CO2, K2)

Or

- (b) Discuss the challenges of applying the normative perspective in real disaster communication scenarios. (CO2, K2)

13. (a) Compare the role of hazard awareness and risk perception as elements of risk communication in shaping community disaster preparedness. (CO3, K4)

Or

- (b) Describe the relevance of theoretical approaches to risk communication in formulating disaster management strategies. (CO3, K3)

14. (a) Explain how the burning properties of materials affect fire safety in building design. (CO4, K4)

Or

- (b) Examine the theoretical fire extinguishing mechanisms and their practical applications in fire control. (CO4, K4)

15. (a) Analyze how ergonomic practices in workplace design can reduce occupational hazards and improve worker efficiency. (CO5, K4)

Or

- (b) Evaluate the impact of Personal Protective Equipment's (PPEs) compliance on reducing occupational accidents and injuries in industries. (CO5, K5)

Part C

(5 × 8 = 40)

Answer **all** questions not more than 1000 words each.

16. (a) Evaluate the contribution of Standard Operating Procedures (SOPs) in enhancing the efficiency and reliability of emergency response systems. (CO1, K5)

Or

- (b) Critically examine the effectiveness of CBOs in coordinating with government and NGOs during emergencies. (CO1, K5)
17. (a) Compare and analyze the sender-oriented and receiver-oriented views of communication in disaster management, providing suitable examples. (CO2, K4)

Or

- (b) Elaborate the process of communication with a suitable model in the context of disaster management. (CO2, K4)
18. (a) Illustrate the stages of the Risk Reduction Communication Cycle and analyze their importance in strengthening disaster preparedness. (CO3, K2)

Or

- (b) Explain in detail about the various Risk Communication Models and analyze how they enhance disaster preparedness and response. (CO3, K4)

19. (a) Evaluate the effectiveness of active and passive fire control designs in buildings, and judge their role in minimizing fire-related risks. (CO4, K5)

Or

- (b) Examine the role of active fire protection systems in buildings and analyze how the fire behaviour of materials affects their performance. (CO4, K4)
20. (a) Explore the evolution of industrial safety acts and regulations over time, and judge their adequacy in addressing contemporary workplace risks. (CO5, K5)

Or

- (b) Analyze the impact of medical surveillance programs on preventing occupational diseases and promoting worker health in hazardous industries. (CO5, K4)
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