B.Tech. DEGREE EXAMINATION, MAY 2022
Fourth to seventh Semester

18CEO307T – DISASTER MITIGATION AND MANAGEMENT
(For the candidates admitted from the academic year 2018-2019 to 2019-2020)

Note:
(i) **Part - A** should be answered in OMR sheet within first 40 minutes and OMR sheet should be handed over to hall invigilator at the end of 40th minute.
(ii) **Part - B** should be answered in answer booklet.

Time: 2½ Hours | Max. Marks: 75

PART – A (25 × 1 = 25 Marks)
Answer **ALL** Questions

	Marks	BL	CO	PO

1. What is considered to be a major risk for north-eastern states of India? — 1 1 1 2
   (A) Flood
   (B) Drought
   (C) Cyclone
   (D) Frigid-desert

2. Which of the following disaster is inclusive of a landslide event? — 1 1 1 2
   (A) Environmental disaster
   (B) Topographical disaster
   (C) Meteorological disaster
   (D) Industrial disaster

3. Identify the data involved in the preparation of isoseismals? — 1 1 1 1
   (A) Duration
   (B) Location
   (C) Magnitude
   (D) Intensity

4. What is the difference between epidemic and pandemic? — 1 2 1 2
   (A) Epidemic is a global-scale disaster, and a pandemic is a local scale disaster
   (B) Epidemic is restricted to certain places, and pandemic related to local scale disaster
   (C) Epidemic is a local scale disaster, and a pandemic is a global-scale disaster
   (D) Epidemic is related to local scale disasters, and pandemic is restricted to certain places

5. How is the highest impact of the disaster on society associated with exposure and severity? — 1 2 1 2
   (A) High exposure with high severity resulted in high impact
   (B) High exospore with moderate severity resulted in high impact
   (C) Moderate exposure with high severity resulted in high impact
   (D) Moderate exposure and severity resulted in high impact

6. Identify the point within the earth where an earthquake rupture actually starts — 1 1 2 1,5
   (A) Epicenter
   (B) Crust
   (C) Fault
   (D) Focus

7. What is the name of the formation of huge revolving storms around the area of low atmospheric pressure in the Atlantic ocean? — 1 1 2 1,2
   (A) Typhoon
   (B) Hurricane
   (C) Cyclone
   (D) Willy-Willy

25. Interpret the relationship between the given statements: — 1 2 5 1,5
    Assertion (A) the control segment controls the GPS satellites by tracking and providing them with correct orbital and clock information
    Reason (R) the control segment maintain two-way transmission with the user and space segment
    (A) (A) is true, but (R) is not the correct explanation
    (B) (A) is false, but (R) is the correct explanation
    (C) (A) is true, and (R) is the correct explanation
    (D) (A) is false, and (R) is not the correct explanation

PART – B (5 × 10 = 50 Marks)
Answer **ALL** Questions

	Marks	BL	CO	PO

26. a. Demonstrate the purpose, key stages and outcomes of the disaster management cycle. — 10 3 1 1,2

(OR)

   b. Outline the National Disaster Management Framework Structure with a neat illustration and discuss each role and responsibility of committees under each layer in detail. — 10 4 1 1,2

27. a. Examine the (i) causes, effects, classification of an earthquake (ii) the importance of isoseismals (iii) S-P travel time curve in locating the epicenter. — 10 3 2 1,2,5

(OR)

   b. Analyze the causes and effects of landslide events, their classification, and mitigation measures. — 10 4 2 1,2,5

28. a. Examine the causes and effects of the Chernobyl nuclear power plant accident in detail. — 10 3 3 2

(OR)

   b. Analyze the environment and economic impacts of deforestation and mitigation strategies in detail. — 10 4 3 1,2

29. a. Demonstrate and discuss the conceptual relationship between education and disaster vulnerability with a flow chart. — 10 3 4 1,2

(OR)

   b. Infer the significance of the essential post-disaster activity "Search and Rescue (SAR)". — 10 4 4 1,2

30. a. Examine the role of remote sensing in the response, recovery and mitigation phases of the landslide event. — 10 3 5 1,2,5

(OR)

   b. Analyse the roles and responsibilities of the scientific divisions of the National Institute of Hydrology India. — 10 4 5 1,2,5

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8. Name of the conservation practice used to minimize soil erosion in the agriculture fields? 1 1 2 1,2,5
   (A) Percolation ponds   (B) Chech dams
   (C) Jetty   (D) Contour bunds

9. Interpret the relationship between the given statements: 1 2 2 2
   Assertion (A) Sluff avalanches are quite dangerous
   Reason (R) Sluff avalanches travel slowly due to friction, which collects debris from the path fairly easily and can pick up speed with ease
   (A) (A) is true, (R) is not the correct explanation
   (B) (A) is false, but (R) is the correct explanation
   (C) (A) is true, and (R) is the correct explanation
   (D) (A) is false, and (R) is not the correct explanation

10. How the accurate location of the epicenter of an earthquake is identified? 1 2 2 1,2,5
    (A) Remote sensing   (B) Survey
    (C) Isoseismals   (D) Time-travel curve

11. What was the primary cause of the nuclear disaster in Fukushima on 11th March 2011? 1 1 3 2
    (A) Earthquake and Tsunami   (B) Low-quality reactors
    (C) Malfunction of cooling systems   (D) Internal fire accident

12. What is the name of the outbreak of diseases of contagions of plants and animal life on a pandemic level? 1 1 3 2
    (A) Nuclear disaster   (B) Chemical disaster
    (C) Biological disaster   (D) Forest fire

13. What type of fire is particularly level dangerous? 1 1 3 2
    (A) Surface fire   (B) Crown fire on a hill slope
    (C) Crown fire on a flat surface   (D) Surface fire in the dry region

14. Interpret the relationship between the given statements: 1 2 3 2
    Assertion (A) the method of simultaneous integration of crops is called crop rotation
    Reason (R) this practice is done to decrease the rate of soil erosion
    (A) (A) is true, but (R) is not the correct explanation
    (B) (A) is false, but (R) is the correct explanation
    (C) (A) is true, and (R) is the correct explanation
    (D) (A) is false, and (R) is not the correct explanation

15. What is the issue of Jharia coal mine underground fire? 1 2 3 1,2
    (A) Forest fires   (B) Lightening
    (C) Human accident   (D) Unscientific mining and extraction of coal in the past

16. What is the name of a map in which the areas are classified based on the natural surface features on the ground? 1 1 4 1,2
    (A) Land cover map   (B) Land-use map
    (C) Land cover and land-use map   (D) Cadastral map

17. Which among the following does not come under preparing multiple hazard maps? 1 1 4 1
    (A) Translated information   (B) Sources and compiling information
    (C) Timing   (D) EWS

18. What is the method used to rescue a sling in which a person may be lowered from heights? 1 1 4 2
    (A) Lashing   (B) Double sheet-bend
    (C) Chair-knot   (D) Fore and AFT method

19. Interpret the relationship between the given statements: 1 2 4 2
    Assertion (A) SAR stands for search and respond
    Reason (R) the SAR activities are under taken in two ways
    (i) The community local resources and
    (ii) Outside community resources
    (A) (A) is true, but (R) is not the correct explanation
    (B) (A) is false, but (R) is the correct explanation
    (C) (A) is true, and (R) is the correct explanation
    (D) (A) is false, and (R) is not the correct explanation

20. Interpret the relationship between the given statements: 1 2 4 1,2
    Assertion (A) land use and land cover classification are considered important in disaster prevention and mitigation for disaster-prone regions
    Reason (R) the information on land use is given high priority than land cover in decision making
    (A) (A) is true, but (R) is not the correct explanation
    (B) (A) is false, but (R) is the correct explanation
    (C) (A) is true, and (R) is the correct explanation
    (D) (A) is false, and (R) is not the correct explanation

21. Name the satellite used for weather forecasting, and cyclone prediction in India? 1 1 5 1,2,5
    (A) SCATSAT-1   (B) AVHRR
    (C) RISAT   (D) LANDSAT

22. What is the rank of the "Ruinous" category in MMI sacle? 1 1 5 1,2
    (A) 3   (B) 5
    (C) 9   (D) 11

23. What is the name of the regional navigation satellite system developed by India? 1 1 5 1,5
    (A) RISAT   (B) IRNSS
    (C) GPS   (D) GLONASS

24. What sensor-platform characteristic is closely associated with the changes that occurred overtime? 1 2 5 1,2
    (A) Spatial resolution   (B) Radiometric resolution
    (C) Spectral resolution   (D) Temporal resolution