KUMARAGURU
college of technology
character is life

B.E DEGREE EXAMINATIONS: APRIL 2018

(Regulation 2014)

Eighth Semester

CIVIL ENGINEERING

U14CETE61**:** Disaster Management and Mitigation

COURSE OUTCOMES

CO1:   Apply the remote sensing and GIS techniques for predicting the natural disasters.

CO2:   Apply various geospatial technology for disaster mapping.

CO3:   Prepare disaster management plan.

CO4:   Assess disaster vulnerability of a location.

CO5:   Work on recovery & rehabilitation due to disasters.

Time: Three Hours   **Maximum Marks: 100**

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1.   Match List I with List II   CO1   [K_2]

List I	List II
A. Intensity	i. Meter
B. Cyclone	ii. –ve to any quantity
C. Magnitude	iii. I to XII
D. Tsunami	iv. km/hr

	A	B	C	D
a)	ii	i	iii	iv
b)	iii	I	ii	iv
c)	ii	iv	iii	i
d)	iii	iv	ii	i

2.   A condition of abnormally dry weather within a geographic region is called   CO1   [K_1]

a)   Avalanche   b)   Drought

c)   Fire   d)   Cyclone

3. Which of the following statement is wrong? CO2 [K₂]

    1. Nuclear fission weapons produces a large proportion of its energy than nuclear fusion weapons.

    2. Chemical war is a war between forces belonging to the same nation or political entity.

    3. Class C fires are fires that involve electrical elements.

    4. Foam based extinguishers are used on Class B fires.

  a) 1,3   b) 1,4

  c) 1,2   d) 2,3

4. Oil well fire is extinguished CO2 [K₁]

  a) Using dynamite   b) Using Dry Chemical

  c) Using a gas turbine   d) All the above

5. Assertion (A): The availability of the data using remotely sensed data is not always present. CO3 [K₂]

Reason (R): This can be due to satellite malfunction or due to overcast skies.

  a) Both A and R are Individually true and R is the correct explanation of A   b) Both A and R are Individually true but R is not the correct explanation of A

  c) A is true but R is false   d) A is false but R is true

6. In GIS, a raster model captures data in form of CO3 [K₁]

  a) Points and lines   b) Polygons

  c) Grids or images   d) Circles

7. Consider the following steps of disaster management cycle. CO4 [K₂]

    1. Risk reduction

    2. Preparedness

    3. Recovery

    4. Response

The correct sequence is,

  a) 4-1-3-2   b) 1-3-2-4

  c) 3-4-2-1   d) 2-4-3-1

8. The relation between hazard, risk and vulnerability is given by CO4 [K₂]

  a) $V_h = H \times R_h$ b) $R_h = H \times V_h$

  c) $R_h = R / V_h$ d) $H = R_h \times V_h$

9. Assertion (A): Disaster management involves all levels of government. COL [K_L]

Reason (R): Nongovernmental and community-based organizations play a vital role in Disaster management.

a) Both A and R are Individually true and R is the correct explanation of A

b) Both A and R are Individually true but R is not the correct explanation of A

c) A is true but R is false

d) A is false but R is true

10. The number of chapters in Disaster Management Act 2005 is CO5 [K_1]

a) 10 chapters

b) 12 chapters

c) 11 chapters

d) 15 chapters

PART B (10 x 2 = 20 Marks)
(Answer not more than 40 words)

11.	What is an Avalanche?	CO1	[K_2]
12.	Compare Magnitude and Intensity of earthquake.	CO1	[K_2]
13.	List the effects due to major power breakdowns.	CO2	[K_2]
14.	List the effects of war in a society.	CO2	[K_2]
15.	What is disaster mapping?	CO3	[K_2]
16.	Compare spatial data and attribute data in GIS.	CO3	[K_2]
17.	Define hazard and risk.	CO4	[K_2]
18.	List any four major disasters in India.	CO4	[K_2]
19.	What is emergency support function?	CO5	[K_2]
20.	What is the importance determining vulnerability of a location.	CO5	[K_2]

Answer any FIVE Questions:-
PART C (5 x 14 = 70 Marks)
(Answer not more than 300 words)

Q.No. 21 is Compulsory

21. List the various natural disasters. Explain the effects due to (i) Cyclones and (ii) Tsunami. CO1 [K_2]

22. List the various natural disasters. Explain the effects due to (i) Chemical Industrial hazards and (ii) Nuclear disaster. CO2 [K_2]

23. What is Remote sensing? Explain the principle and working of Remote sensing technique in disaster monitoring. CO3 [K₂]

24. i) Explain about the preparedness and mitigation measures for various Disasters. (7) CO4 [K₂]
    ii) Explain disaster mitigation through capacity building. (7) CO4 [K₂]

25. Explain in detail the various chapters in Disaster Management Act 2005. CO5 [K₂]

26. Explain the various systems and working of global positioning system and its application in real time disaster monitoring. CO3 [K₂]

27. i) Explain the importance of post disaster recovery and rehabilitation. (7) CO5 [K₂]
    ii) Explain logistics management during post disaster recovery. (7) CO5 [K₂]

****