

B. Construction Engineering 4th Year 2nd Semester Examination 2024

Disaster Mitigation Engineering

(50 Marks for each Part)

Time : Three hours Use separate answer script for each Part Full Marks : 100

Part I (50 Marks)

Use **Separate Answer Script** for Each Part

Answer any Two Questions. Maximum Marks is 50

Answer should be **to the point** and **No Codes are allowed**

1. a) Define **Disaster** and **Mitigation** from Engineering perspective 4
b) What are the different types of **Disaster** and their **effect on structures** 6
c) **Compare the Loss of Live, Homeless and Economy** due to the three major disaster in India e.g. **Earthquake, Cyclone and Flood.** 6
d) Discuss the **three 'P'** concept of **Disaster Mitigation** and their **role** on the three major **disasters** in India e.g. **Earthquake, Cyclone and Flood.** 6
e) What should be the **philosophy of Preparedness** and the role for Earthquake? 3
[CO1 & CO2]

2. a) Discuss the structure of a **typical cyclone** and its salient features. 7
b) Discuss on similarity and contradiction of **Seismic & Cyclone** disaster mitigation. 5
c) Explain **Disaster Mitigation Cycle** and discuss in brief. 4
d) What are the Objective and Principle of **Ultrasonic pulse velocity test** in concrete. 5
e) Discuss on the **advantage and Limitations of Non-Destructive Test** in concrete. 4
[CO2 & CO3]

3. a) What are the different **information** to be collected during **site visit** for the **seismic evaluation** of Reinforced concrete building structures? 8
b) What are the different **configuration related checks** to be made for the **seismic evaluation** of Reinforced concrete building structures. 7
c) Discuss on **Strength-Related** checks under **preliminary evaluation** for RCC frame under seismic demand ? 10
[CO3 & CO4]

[Turn over

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Subject: Disaster Mitigation Engineering

Time : Three hours
Full Marks: 100

Part-II(Full Marks-50)
Use separate Answer Sheet for Each Part

<p>Answer any one Five questions from the following. [5×10=50]</p> <p>[1] Distinguished between natural and man-made disaster. What do you mean by liquification of soil ?</p> <p>[2] Write a short note on hazard reduction program due to earth quake.</p> <p>[3] Write a short note on Flood and its impact on the environment.</p> <p>[4] How can we prevent control and mitigate the flood hazards.</p> <p>[5] What are the main factors responsible for landslide occurrence and what are the main social impact due to landslide.</p> <p>[6] What are the main reasons of drought and what are the main impact on the environment due to drought.</p> <p>[7] Write in brief prevention control & mitigation of Cyclone.</p>
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- CO1: Explain and discuss of disaster (K2)
CO2: Solve Hazard reduction (K2)
CO3: Apply Mitigation of natural disaster(K3)
CO4: Explain Prevention and control of disaster (K2)
CO5: Analyze the effect of disaster(K4)
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