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**M.Tech. Civil Engineering (Computer Aided  
Structural Engineering) Elective-I 2nd Semester**

**Examination, July-2022**

**GREEN BUILDING**

**Paper-21 MTCASE22D3**

Time allowed : 3 hours ] [ Maximum marks : 100

*Note : Attempt any five questions. All questions carry  
equal marks.*

1. (a) Define the term Green Building. 10
  - (b) List various systems used for rating Green Building in India. 10
  - (c) Describe resource recovery from waste. 10
  - (d) Explain the terms conduction, convection and radiation in buildings.  $5 \times 4 = 20$
2. (a) Write any five features of green buildings. 10
  - (b) Explain the environmental benefits of green buildings. 10

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3. (a) Explain criteria for converting an existing residential building into Green Building. 10
- (b) List ecological features which can be adopted for a tall building. 10
4. (a) Discuss possible measures available for improving water efficiency for a tall building. 10
- (b) Discuss the relevance of energy efficient technologies in HVAC systems. 10
5. (a) What is hybrid system of thermal comfort? State the outstanding features. 10
- (b) What are the various rating systems for the assessment of sustainability? 10
6. (a) Write a note on water recycling and energy conservation. 10
- (b) Elucidate the role of structural designing according to the climate. 10

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7. (a) Write any eight features of sustainable buildings.
- (b) Describe how indoor air pollutants can be reduced.
8. Write short note :
  - (a) Top soil conservation 6
  - (b) Rain water harvesting 6
  - (c) Small scale hydro and wind systems 8

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