

Total No. of Questions :5]

[Total No. of Printed Pages :2

Roll No .....

**CE-8044****B.E. VIII Semester**

Examination, June 2017

**Energy Efficient and Green Building  
(Elective - II)****Time : Three Hours****Maximum Marks : 70**

**Note:** i) Attempt all questions.  
 ii) All questions carry equal marks.  
 iii) Support the answers with neat sketches.

1. a) Elaborate the Green Building Concept. Give any one example of Green Building. 4  
 b) Discuss various Sustainable practices used in design and construction. 3  
 c) What is GRIHA, LEED and IGBC? Also explain the parameter and process on which building rated as Green building. 7
2. a) What is Microclimate? How we can improve the microclimate condition. 4  
 b) How climate affects the 'Building Design' and use of 'Construction Materials'. 3  
 c) India is vast country discuss the characteristics features of various Climatic zones. 7
3. a) Discuss 'Principles of Energy Conscious Design' of Hot and dry climate of India. 4

CE-8044

PTO

[2]

- b) Write Short Notes (Any Two) 3  
 i) Thermal Wall  
 ii) Green house effect  
 iii) Wind Tower
- c) Write Notes on : 7  
 i) Passive Cooling Techniques  
 ii) Evaporative Cooling Techniques  
 iii) Principles and Systems of Day Lighting
4. a) What is "Thermal Performance of Building"? How we can measure it. 4  
 b) How we can estimate the solar radiation and heat transfer, explain the computer-based tool. 3  
 c) Discuss the guidelines prescribed by the Energy Conservation Building Code or NBC, India. 7
5. a) Discuss the Opportunities and Challenges in Designing the 'Net Zero Building' in India. 3  
 b) How following features helpful in designing energy efficient building : 4  
 i) Orientation of Building  
 ii) Sunshades  
 iii) Landscaping  
 iv) Window Design
- c) Discuss the following : 7  
 i) Energy efficient lighting  
 ii) Solar Water Heater  
 iii) PV System  
 iv) Efficient Air Conditioning System  
 v) Earth Air Tunnel

\*\*\*\*\*

CE-8044