

**[5254]-30-A**

**B.E. (Civil)**

**GREEN BUILDING TECHNOLOGY**

**(2008 Pattern) (Elective- IV) (Open Elective)**

*Time : 3 Hours]*

*[Max. Marks : 100*

**Instructions to the candidates:**

- 1) Answer any 3 questions from Section I and Section II.*
- 2) Figures to the right indicate full marks.*
- 3) Your answers will be valued as a whole.*
- 4) Assume suitable data, if necessary.*

**SECTION - I**

- Q1)** a) Discuss in details the sustainable site selection criteria. [7]  
b) Discuss the uses of following [4+3+2]  
i) Building layout plan  
ii) Solar Energy  
iii) Fresnel Lens

OR

- Q2)** a) Differentiate with example between direct and indirect lighting. [6]  
b) What is solar concentrator? Discuss. [5]  
c) Why the ventilation is necessary? Explain how natural ventilation utilized. [6]

- Q3)** a) Differentiate with example the active and passive architecture. [6]  
b) Explain the concept of Embodied Energy. [5]  
c) What is the selection criteria for material of surface treatment. [6]

OR

- Q4)** a) Explain hybrid system of active and passive refrigeration and air conditioning. [8]  
b) Explain the Energy audit of Building in detail. [8]

**P.T.O.**

- Q5) a)** Discuss the Green rating of Building. [8]  
b) What you understand by environmental clearance of buildings? Discuss. [8]

OR

- Q6) a)** Discuss the improvement for thermal comfort. [6]  
b) Discuss the followings : [6+5]  
i) LEED Criteria & its application  
ii) Carbon credit.

**SECTION - II**

- Q7) a)** What is water efficient landscaping give the details. [6]  
b) Discuss any one method with suitable sketch for bore well recharging. [6]  
c) Explain the method for the minimization of water use. [5]

OR

- Q8) a)** Explain the followings : [3+4+4]  
i) Smart water taps  
ii) Anaerobic filters  
iii) Ion exchanger  
b) Discuss about advanced biogas plant. [5]

- Q9) a)** What is indoor environmental quality? Explain in detail. [8]  
b) Discuss how the quality of indoor environment is maintained? [8]

OR

- Q10) a)** Differential the following : [4+3]  
i) Adhesives and Sealants  
ii) Paints and Coatings  
b) Discuss the uses of following : [4+3+3]  
i) Composite Wood  
ii) Bamboo  
iii) Jute

**Q11)a)** How the recycling of building materials is beneficial? Discuss. **[8]**

b) Discuss the Life cycle analysis in brief. **[8]**

OR

**Q12)a)** Discuss the followings : **[4+3+3]**

i) Operation Phase

ii) Construction Phase

iii) Use of Foundry sand

b) Explain in details about Construction waste management. **[7]**

