Total No. of Questions : 12]

SEAT No. :

P3546

[Total No. of Pages : 3

[4859]-31

B.E. (Civil)

GREEN BUILDING TECHNOLOGY

(2008 Pattern) (Open Elective) (Semester - II)

Time : 3 Hours] *[Max. Marks : 100*

Instructions to the candidates:

1) *Answer any three 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) Explain and discuss sustainable site selection criteria and orientation. **[7]**

b) Discuss the uses of following : **[3 + 3 + 3 = 9]**

i) Building layout plan.

ii) Solar Energy.

iii) Fresnel Lens.

OR

Q2) a) Discuss direct and indirect lighting. **[6]**

b) What is solar concentrator? Discuss. **[4]**

c) Give note on design of door and window ventilation. **[6]**

Q3) a) Compare the active and passive architecture. **[6]**

b) Explain the concept of Embodied Energy. **[5]**

c) Give the selection criteria for material of surface treatment for improvement in thermal comfort with minimum energy input. **[6]**

OR

Q4) a) Explain hybrid system of active and passive refrigeration and air conditioning. **[9]**

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. **[9]**

OR

Q6) a) Discuss the improvement for thermal comfort. **[6]**

b) Give note on followings : **[4 + 3 + 4 = 11]**

i) USGBS.

ii) CDM.

iii) Carbon credit.

SECTION - II

Q7) a) Explain water efficient landscaping. **[6]**

b) Explain any one method with suitable sketch for bore well recharging. **[6]**

c) Discuss the minimization of water use. **[5]**

OR

Q8) a) Give the note on following : **[3 + 4 + 4 = 11]**

i) Smart water taps.

ii) Anaerobic filters.

iii) Ion exchanger.

b) Discuss about advanced biogas plant. **[6]**

Q9) a) Explain what is indoor environmental quality. **[8]**

b) Discuss how the quality of indoor environment is maintained? **[9]**

OR

Q10) a) Differential the following : **[4 + 3 = 7]**

i) Adhesives and Sealants.

ii) Paints and Coatings.

b) Discuss the uses of following : **[4 + 3 + 3 = 10]**

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) Explain the following : **[3 + 3 + 3 = 9]**

i) Operation Phase.

ii) Construction Phase.

iii) Use of Foudry sand.

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