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Total Number of Pages : 02

M.Tech.
P2CNCC15

2nd Semester Regular / Back Examination 2017-18

GREEN BUILDING CONCEPTS

**BRANCH : CONSTRUCTION TECH. AND MANAGEMENT,
GEOTECHNICAL ENGG, SOIL MECHANICS, SOIL MECHANICS & FOUNDATION ENGG,
STRUCTURAL & FOUNDATION ENGG, STRUCTURAL ENGG, TRANSPORTATION
ENGG, WATER RESOURCE ENGG, WATER RESOURCE ENGG AND MANAGEMENT**

Time : 3 Hours

Max Marks : 100

Q.CODE : C1065

Answer Question No.1 which is compulsory and any FOUR from the rest.

The figures in the right hand margin indicate marks.

Answer all parts of a question at a place.

- Q1 Answer the following questions : (2 x 10)**
- a) What do you mean by green materials?
 - b) What are the benefits of using recycled-content building materials?
 - c) What is the unit of Embodied energy?
 - d) What is the energy consumption of raw materials out of 100% production in world?
 - e) Give some examples of top green buildings.
 - f) A building which utilizes solar energy such as solar film effectively _____ heat gain during the winter, and _____ heat gain during the summer.
A) increases; reduces B) reduces; increases C) reduces; reduces
 - g) What is functional building design?
 - h) What is the role of built environment in sustainability?
 - i) What is the characteristic of a low-carbon building?
 - j) What are the elements of passive solar design?
- Q2 a) Explain the concepts and objectives of Green Building. (10)**
- b) Discuss the factors affecting the selection of green/sustainable building materials. (10)**
- Q3 a) What is construction waste? Discuss the disposal options for non-hazardous waste in India and the ways to minimize it. (10)**
- b) Briefly discuss the root cause of thermal comfort in buildings and its remedial measures. (10)**
- Q4 a) What are the Selection criteria for building thermal insulation and write benefits of thermal insulation. (10)**
- b) Explain the common building insulating materials and their characteristics. (10)**
- Q5 a) Explain the utility of solar energy for cooling and heating of buildings. (10)**
- b) What is Embodied energy? Why it is necessary to reduce use of embodied energy in buildings? (10)**

- Q6** a) Why do we need green composites? What are the advantages of green composites over traditional composites? **(10)**
 b) Discuss the role of water in achieving sustainable development. **(10)**
- Q7** **Writes short notes on :** **(5 x 4)**
- a) Sustainable sites
 - b) Carbon emission
 - c) Biomass Resources for buildings
 - d) Green cover and built environment