

Code: CE7T5E

**IV B.Tech - I Semester – Regular / Supplementary Examinations
JANUARY - 2022**

**GREEN BUILDINGS
(CIVIL ENGINEERING)**

Duration: 3 hours

Max. Marks: 70

PART – A

Answer *all* the questions. All questions carry equal marks

11 x 2 = 22 M

1.

- a) Define green building.
- b) Write the purpose of internal planning.
- c) What are non conventional energy resources?
- d) How solar energy is converted to electrical energy?
- e) Define passive cooling.
- f) Discuss the use of ecological walling systems.
- g) What is meant by energy efficient building?
- h) Define infiltration and ventilation.
- i) Define the term LEED.
- j) List out the names of any two case studies of green buildings.
- k) Define BEA.

PART – B

Answer any **THREE** questions. All questions carry equal marks.

3 x 16 = 48 M

2. a) Explain in detail about advantages and short comings of green buildings. 8 M
- b) Explain in detail about effective energy use in green buildings. 8 M
3. a) Explain about any fully solar energy based buildings in India. 8 M
- b) Explain the role of solar energy as renewable energy for transforming a traditional building into a green building. 8 M
4. a) Explain in detail about thermal properties of construction material for energy conservation. 8 M
- b) State the role of surface to volume ratio in performance of building. 8 M
5. a) Explain in detail about the mechanism for harvesting the rainwater. 8 M
- b) Comment on the role of natural ventilation against artificial ventilation in balancing the health condition. 8 M

6. a) What is the purpose of green rating system and explain its objectives? 8 M

b) Explain the mandatory rules in GRIHA (Green Rating for Integrated Habitat Assessment) related to construction. 8 M