

D

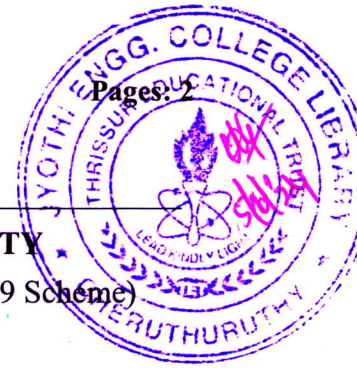
0400CET458052401

Pages: 2

Reg No.: \_\_\_\_\_

Name: \_\_\_\_\_

**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**  
B.Tech Degree S8 (R,S) / S8 (PT) (R) Examination May 2024 (2019 Scheme)



**Course Code: CET458**

**Course Name: SUSTAINABLE CONSTRUCTION**

**Max. Marks: 100**

**Duration: 3 Hours**

**PART A**

*Answer all questions, each carries 3 marks.*

- |    |  | Marks |
|----|--|-------|
| 1  | Distinguish between operational carbon and embodied carbon.  | (3)   |
| 2  | Enumerate the causes and impacts of Global Warming.  | (3)   |
| 3  | Describe sustainable building material with an example.  | (3)   |
| 4  | Enumerate alternative building materials developed and promoted by non-governmental organisations.   | (3)   |
| 5  | Explain Filler slab with a figure.   | (3)   |
| 6  | List the advantages of pre-engineered building elements.   | (3)   |
| 7  | Elaborate BIPV.  | (3)   |
| 8  | Differentiate between passive and active solar techniques to reduce energy consumption in buildings. | (3)   |
| 9  | Discuss about the benefits of BIM.   | (3)   |
| 10 | Enumerate applications of BA.  | (3)   |

**PART B**

*Answer any one full question from each module, each carries 14 marks.*

**Module I**

- 11 a) Illustrate the process of Life Cycle Analysis with an example. (8)  
b) Explain 'Carbon Foot Print' (6)

**OR**

- 12 a) Illustrate the process of EIA with an example. (8)  
b) Explain the concepts of 'Green Buildings'. (6)

**Module II**

- 13 a) Explain different types of Bio materials with examples. (9)  
b) Explain the use of industrial wastes in building construction with examples. (5)

**OR**

- 14 a) Explain the different sustainable uses of building demolition wastes. (8)  
b) Enumerate the alternate building materials developed by CBRI and SERC. (6)

**Module III**

- 15 a) Explain the contributions of Habitat for sustainable development. (8)  
b) Distinguish between Rat Trap Bond and Flemish bond with sketches. (6)

**OR**

- 16 a) Explain the contributions of Nirmithi Kendra for sustainable development. (8)  
b) Explain the advantages and applications of Ferrocement. (6)

**Module IV**

- 17 a) Describe the strategies of LEED- India rating system. (8)  
b) Explain the importance of NBC. (6)

**OR**

- 18 a) Describe the strategies of GRIHA rating system. (8)  
b) Explain the importance of Energy Conservation Building Code. (6)

**Module V**

- 19 a) BIM save time and money in the construction phase, describe with examples. (7)  
b) Explain the components of Building Automation System. (7)

**OR**

- 20 a) Explain the use of BIM in scheduling, cost estimation and construction management. (9)  
b) Describe the concepts and importance of BA. (5)

\*\*\*\*