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002607

May 2024

B.Tech. (Civil) VI Semester

Sustainable Construction Practice (PEC-CED-304-1)

Time : 3 Hours] [Max. Marks : 75

Instructions :

1. *It is compulsory to answer all the questions (1.5 marks each) of Part-A in short.*
2. *Answer any four questions from Part-B in detail.*
3. *Different sub-parts of a question are to be attempted adjacent to each other.*

PART–A

1. (a) Define sustainability. (1.5)

(b) What is fly ash? Discuss its advantages. (1.5)

(c) What is carbon cycle? Elaborate. (1.5)

(d) What is the purpose of GRIHA Ratings? Elaborate. (1.5)

(e) What are the advantages of 3D printing? (1.5)

(f) Discuss the advantages of recycled aggregates. (1.5)

(g) How does production of conventional building materials affect sustainability? Elaborate. (1.5)

(h) Enlist various techniques employed for sustainable indoor environment. (1.5)

(i) What are zero energy buildings? Elaborate. (1.5)

(j) List out some common practices followed in the construction industry for promoting energy efficiency. (1.5)

PART–B

2. (a) Discuss the cost benefit analysis in detail for using fly ash in the construction of a G + 2 Residential building of size 15 × 15m. (10)

   (b) Write short note on Innovative Materials used in sustainable construction. (5)

3. (a) Elaborate on the concept of energy efficient buildings. (5)

   (b) How you can use- on site resources to make construction sustainable. Support your answer with suitable examples. (10)

4. Discuss the different criterion basis for sustainability performance ratings of buildings. (15)

5. (a) Discuss the different policies for sustainability. (5)

   (b) As an Engineer what ways you would suggest to increase water efficiency in building. Discuss in detail. (10)

6. Explain the' criterion for converting existing residential building into Green building. (15)

7. Discuss in detail any *three* technologies which promote sustainability in the construction industry. (15)