

B.Arch. Sixth Semester (Architecture Engineering) (CGS)

10053 : Elective-II : Sustainable Architecture : 06 FEAR 05

P. Pages : 1

Time : Three Hours



AU - 2834

Max. Marks : 80

- Notes :
1. All question carry equal marks.
 2. Solve **any four** questions.
 3. Question No. **8** is compulsory.
 4. Due credit will be given to neatness and adequate dimensions.
 5. Assume suitable data wherever necessary.
 6. Illustrate your answer necessary with the help of neat sketches.

1. Explain the impact of population growth, urbanisation and industrial development on the environment. Why and how sustainability is affected by above factors. 20
2. What is sustainable Development? How does Architecture present a unique challenge in the field of sustainability? 20
3. What is sustainable Architecture? Discuss in brief about the various earth's resources, its composition and its availability and limitations. Explain the role of architect and building industry in judicious use of the resources. 20
4. What do you understand by the term "green building materials"? Discuss the role of an architect in selecting proper building materials for sustainable development. 20
5. a) What are the causes of solid waste pollution? Explain briefly the various type of solid waste, its collection, transportation, recycling and disposal. 12
- b) Explain the methods of artificial recharge of ground water in urban areas. 8
6. Explain the different passive methods by which energy can be conserved in buildings. 20
7. a) Justify these with suitable examples. Resources of earth e.g. land, water, air, vegetation etc. are limited and hence it is to be used judiciously. Discuss with appropriate examples. 5
- b) Pollution of various kinds are harmful to Natural environment. Justify. 5
- c) The use of locally available materials that contains less embodied energy. Write in brief about them. 5
- d) Planting of trees on site and proper landscaping helps in achieving sustainability in Architecture. Comment. 5
8. Write short notes **any five**. 20
 - a) Embodied Energy.
 - b) Biodegradable material.
 - c) How energy Design.
 - d) Photo voltaic cells and their application in building.
 - e) Solar passive Architecture.
 - f) Ecological foot prints.
 - g) 3R's – Reduce, Reuse and Recycle.
 - h) Urbanization and its impact on micro climate.
