

711403

Roll No. _____

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B. Tech. VII - Sem. (Main) Exam., (Academic Session 2021-2022)

Open Elective

(7CH6-60.2) – Sustainable Engineering

Time: 3 Hours

Maximum Marks: 120
Min. Passing Marks:

Instructions to Candidates:

*Part – A: Short answer questions (up to 25 words) 10 × 2 marks = 20 marks.
All ten questions are compulsory.*

*Part – B: Analytical/Problem solving questions 5 × 8 marks = 40 marks.
Candidates have to answer five questions out of seven.*

*Part – C: Descriptive/Analytical/Problem Solving questions 4 × 15 marks = 60 marks.
Candidates have to answer four questions out of five.*

Schematic diagrams must be shown wherever necessary. Any data you feel missing may suitably be assumed and stated clearly. Units of quantities used/calculated must be stated clearly.

*Use of following supporting material is permitted during examination.
(Mentioned in form No. 205)*

1. NIL

2. NIL

PART – A

- Q.1 What do you mean by sustainable development? [2]
Q.2 Write any two major challenges for sustainable development. [2]
Q.3 Define 3R concept. [2]
Q.4 What is carbon foot print? [2]
Q.5 Why some buildings are called green buildings? [2]
Q.6 What are conventional energy sources? [2]

- Q.7 What is OTEC? On what principle is it based? [2]
- Q.8 Discuss in very short the pollution caused by chlorofluorocarbons. [2]
- Q.9 List any four natural source of air pollution. [2]
- Q.10 Mention any two regional and local environmental issues. [2]

PART – B

- Q.1 Discuss the impact of man on environment mentioning the major environmental issues. [8]
- Q.2 What are different sources of Energy? Explain any one of them. [8]
- Q.3 What are the various environmental considerations in town planning? Explain in detail [8]
- Q.4 Explain the link between science and technology citing suitable examples. [8]
- Q.5 What is Global Warming? Enumerate the impacts of global warming on present environmental crisis. [8]
- Q.6 What is LCA? What is its importance? [8]
- Q.7 Explain the significance of carbon footprint. Suggest some methods for reducing the carbon footprints of your house. [8]

PART – C

- Q.1 What is water pollution? Discuss the role played by government in controlling water pollution. [15]
- Q.2 (a) Justify the necessity of developing non-conventional sources of energy. [7½]
 (b) Enumerate the various drawbacks that limit the exploitation of solar energy as a source of energy. [7½]
- Q.3 What is Environmental Impact Assessment (EIA)? Give the necessity and methodology of implementing EIA. [15]
- Q.4 Give the background of evolution of ISO 14000 series of standards. Explain the reason as to why an organization may choose to implement ISO 14000 series of standards. [15]
- Q.5 Transportation sector is the major source of pollution in the cities. What are the factors pointing to the statement? Suggest some methods to deal with traffic issues in urban areas. [15]
