**ST JOSEPH’S UNIVERSITY, BENGALURU - 27**

Registration Number:

Date & session:

 **M.Sc. ENVIRONMENTAL SCIENCE AND SUSTAINABILITY – III SEMESTER**

**SEMESTER EXAMINATION: OCTOBER 2023**

**(Examination conducted in November/December 2023)**

**ES 9223 – SUSTAINABLE DEVELOPMENT**

**(For current batch students only)**

**Time: 2 Hours Max Marks: 50**

**This paper contains ONE printed page and THREE parts**

***Instruction: Draw diagrams wherever necessary***

**PART – A**

**Answer any FIVE of the following 5q X 2m = 10m**

1. Define sustainable development.
2. What is Anthropocene?
3. What is strong sustainability?
4. List the main phases of LCA.
5. What are Environmental Management Systems?
6. What is ecoefficiency?
7. What is a sustainable lifestyle?

**PART – B**

**Write explanatory notes on any FOUR of the following 4q X 5m = 20m**

1. Components of Sustainable Development
2. SDG India Index – an outline
3. SDG 7 – Affordable and Clean Energy
4. Strengths and limitations of LCA
5. Concept of 'Cradle-to-Grave' with respect to Life Cycle Assessment
6. Sustainable cities

**PART – C**

**Answer ALL the questions 2q X 10m = 20m**

1. Discuss the role of spatial scale in sustainable development. Comment on the interactions between local and global levels.

**OR**

Discuss the concept and significance of Footprints and Handprints. (6+4)

1. Present your perspectives on industrial ecology with reference to sustainable development.

**OR**

Explain the key components and criteria considered in 'Sustainable building and infrastructure rating systems'.