

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**BE - SEMESTER– IV(NEW) EXAMINATION – SUMMER 2023**

Subject Code:3140609

Date:13-07-2023

Subject Name:Civil Engineering - Societal &amp; Global Impact

Time:10:30 AM TO 01:00 PM

Total Marks:70

**Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

- Q.1** (a) Enlist Modern civil engineering marvels of India and describe any one. **03**  
 (b) Give four points in the favour and in against of river interlinking projects. **04**  
 (c) Write a brief note on “Green Revolution in India.” **07**
- Q.2** (a) What is GIS? Give applications of GIS. **03**  
 (b) Enlist major civil engineering advancements and innovations. **04**  
 (c) Explain the concept of smart city. What are the pillars of smart cities? **07**
- OR**
- (c) What are the improvements in the technology of underground tunnel construction? **07**
- Q.3** (a) What is infrastructure? Give its importance. **03**  
 (b) Enlist futuristic energy sources and describe bio-energy. **04**  
 (c) Discuss in detail various methodologies for ensuring Sustainability in construction. **07**
- OR**
- Q.3** (a) Write short note on: Rainwater harvesting. **03**  
 (b) Explain environmental clearance procedure in India. **04**  
 (c) Enlist major air pollution with their sources and effects. **07**
- Q.4** (a) What do you understand by environmental metrics? Explain **03**  
 (b) Define built environment. Describe components of built environment **04**  
 (c) What is EIA? What are the purposes of EIA? Explain stages of EIA. **07**
- OR**
- Q.4** (a) Explain measure for climate control in built environment. **03**  
 (b) Write short note on LEED rating System for green buildings. **04**  
 (c) Describe futuristic methods of solid waste management. **07**
- Q.5** (a) Write short note on: Recycling of materials. **03**  
 (b) Write short note on: Facilities management in built environment. **04**  
 (c) Define: Repair, Restoration and Retrofitting. And describe methodology for the repair of structures. **07**
- OR**
- Q.5** (a) What is the role of Urban Arts Commission? **03**  
 (b) Explain factors affecting labour productivity at building construction. **04**  
 (c) Discuss in detail contribution of Civil engineering in employment in India. **07**

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