

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-IV(NEW) EXAMINATION – WINTER 2022****Subject Code:3140609****Date:15-12-2022****Subject Name:Civil Engineering - Societal & 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.

MARKS

- Q.1**
- | | |
|---|-----------|
| (a) What is GIS? Give applications of GIS. | 03 |
| (b) Write short note on Building Information Modelling. | 04 |
| (c) Write a short note on Green Revolution in India | 07 |

- Q.2**
- | | |
|---|-----------|
| (a) Describe the impotence of civil engineering in shaping the world. | 03 |
| (b) What are the challenges of mega cities? | 04 |
| (c) Explain the concept of smart city. Also explain the requirements of smart cities. | 07 |

OR

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|---|-----------|
| (c) Describe recent major civil Engineering breakthroughs and innovation. | 07 |
|---|-----------|

- Q.3**
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|--|-----------|
| (a) Discuss future innovations at airports? | 03 |
| (b) Write short note on Smart future Road and Railway. | 04 |
| (c) Discuss in detail various methodologies for ensuring Sustainability in construction. | 07 |

OR

- Q.3**
- | | |
|---|-----------|
| (a) Enlist and describe in short any 2 ancient and any 2 modern Civil engineering Marvels | 03 |
| (b) Write a short note on: Hyper loops. | 04 |
| (c) What are the improvements in the technology of underground tunnel construction? | 07 |

- Q.4**
- | | |
|---|-----------|
| (a) What do you understand by environmental metrics? Explain. | 03 |
| (b) Enlist futuristic energy sources and describe Hydropower. | 04 |
| (c) Describe sources of air pollution. | 07 |

OR

- Q.4**
- | | |
|---|-----------|
| (a) What are the objectives of solid waste management? | 03 |
| (b) Write short note on: Rainwater Harvesting. | 04 |
| (c) Explain in detail how interlinking of dams, canals and rivers help in controlling floods. | 07 |

- Q.5**
- | | |
|---|-----------|
| (a) Explain measure for climate control in built environment. | 03 |
| (b) Write short note on: Recycling of materials. | 04 |
| (c) Discuss in detail contribution of Civil engineering in employment in India. | 07 |

OR

- Q.5**
- | | |
|--|-----------|
| (a) What is the role of Urban Arts Commission? | 03 |
| (b) Write a short note on societal and global impact of civil Engineering. | 04 |
| (c) What is EIA? What are the purposes of EIA? Explain stages of EIA. | 07 |
