

Total Pages: 2

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APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
FIRST SEMESTER (R) M Tech DEGREE EXAMINATION, JANUARY 2024

Discipline: CIVIL ENGINEERING

Course Code & Name: 221ECE050 - Sustainable Transportation

Max. Marks: 60

Duration: 2.5 Hours

PART A

Answer all questions. Each question carries 5 marks

Marks

- 1 Examine the theoretical foundations and resulting economic and social outcomes associated with the adoption and implementation of sustainable transportation practices. (5)
- 2 How can a transit network be represented? (5)
- 3 Examine the interdependence between climate conditions and transportation, considering how climate influences transport systems and vice versa. (5)
- 4 Suggest some policies to promote non-motorised transportation as a sustainable transportation option? (5)
- 5 Explain the ways to improve sustainability in public transport? (5)

PART B

Answer any 5 questions. Each question carries 7 marks

- 6 Elaborate on the essential performance measures that should be considered to evaluate the effectiveness of sustainable transportation initiatives? (7)
- 7 Explain the network performance measurement framework with the help of a flow chart? (7)
- 8 Provide an overview of travel demand management (TDM) and elucidate the different measures encompassed within TDM strategies (7)
- 9 How does the utilization of multiple transportation modes address contemporary demands, and can you shed light on the benefits derived from a diversified transportation network? (7)
- 10 How do the Green pathways contribute to reducing the greenhouse gas emissions? (7)
- 11 Could you provide insights into the concept of Transit-Oriented Developments (TOD) and in what ways does the implementation of Transit-Oriented

Developments bring about positive outcomes, considering the advantages and gains associated with TOD?

- 12 What characterizes the concept of green logistics and What hurdles are commonly (7)
faced when incorporating environmentally sustainable logistics practices into
operational frameworks?