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Sixth Semester B.E. Degree Examination, July/August 2022 Intelligent Transportation System

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. What is Intelligent Transportation System? Describe the major objectives of adopting ITS. (10 Marks)
- b. Explain the advantages of adopting ITS over the conventional transportation system? (10 Marks)

OR

- 2 a. Define Geographical Information System (GIS). Describe briefly how GIS is implemented in ITS. (10 Marks)
- b. Explain briefly the following ITS data collection techniques:
 - i) Detectors
 - ii) Automatic Vehicle Location (AVL)
 - iii) Automatic Vehicle Identification (AVI). (10 Marks)

Module-2

- 3 a. What are Traffic Management Centres (TMC)? Write the importance of TMC in ITS. (10 Marks)
- b. Explain the adaptation of Telecommunications in ITS. Briefly write the major points to be considered in information management. (10 Marks)

OR

- 4 a. Briefly explain the traffic sensor technologies. Write a short note on transponders and communication system. (10 Marks)
- b. Explain briefly the process of data function at traffic management centres. What are specification requirement for the process? (10 Marks)

Module-3

- 5 a. Explain briefly the following functional area of ITS:
 - i) Advanced Traffic Management System (ATMS).
 - ii) Advanced Vehicle Control System (AVCS). (10 Marks)
- b. Write a short notes on:
 - i) Advance Public Transportation System (APTS).
 - ii) Advance Rural Transportation System (ARTS). (10 Marks)

OR

- 6 a. Explain the major user needs to be provided by ITS in the aspect of traffic and traffic management and public transportation management. (10 Marks)
- b. Write a short notes regarding the services to be provided by ITS for the following:
 - i) Electronic payment
 - ii) Advance vehicle safety systems
 - iii) Emergency management. (10 Marks)

Module-4

- 7 a. Explain briefly the ITS models and evaluation methods. (10 Marks)
b. What are the human factors issues to be considered during ITS operations? (10 Marks)

OR

- 8 a. Explain case study on deployment planning and system align, ITS operation. (10 Marks)
b. Explain briefly how ITS can be adopted in safety, security and technology deployment program. (10 Marks)

Module-5

- 9 a. Explain briefly the applications of ITS in the following aspects:
i) ITS and sustainable Mobility
ii) ITS in travel demand management
iii) ITS and Road pricing. (10 Marks)
b. Write a short notes of applications of ITS in
i) Automated highway systems.
ii) Commercial vehicle operations.
iii) Public transportation applications. (10 Marks)

OR

- 10 a. Describe briefly the implementation of ITS in the developed countries of the world. (10 Marks)
b. Explain the case study of implementation of ITS in a developed country. (10 Marks)

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