L	T	P	C
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Course Code	2CLOE01
Course Title	Intelligent Transportation System

Course Outcomes:

At the end of the course, students will be able to
1. outline need of Intelligent Transportation System (ITS)
2. illustrate role of communication systems in ITS
3. identify functional areas and services of ITS
4. apply ITS for automated highway systems.

Syllabus: Teaching Hours: 45

Unit 1: Introduction to Intelligent Transportation System (ITS)   Hours: 06

Definition, objectives, historical background, benefits, data collection techniques: detectors, automatic vehicle location, automatic vehicle identification, geographic information systems, video data collection.

Unit 2: Telecommunications in ITS   Hours: 09

Importance of telecommunications, information management, traffic management centres vehicle roadside communication, vehicle positioning system.

Unit 3: Functional Areas   Hours: 10

Traffic management systems, traveller information systems, commercial vehicle operations, vehicle control systems, public transportation systems, rural transportation systems.

Unit 4: User Needs and Services   Hours: 10

Travel and traffic management, public transportation management, electronic payment, commercial vehicle operations, emergency management, advanced vehicle safety systems, information management.

Unit 5: Automated Highway Systems   Hours: 10

Vehicles in platoons, integration of automated highway systems, implementations in developed countries and developing countries.

Self-Study:

The self-study contents will be declared at the commencement of semester. Around 10% of the questions will be asked from self-study contents.

Suggested Readings:

1. Choudury M A & Sadek A. *Fundamentals of Intelligent Transportation Systems Planning.* Artech House
2. Sarkar, P.K. & Jain, A.K. *Intelligent Transportation Systems.* PHI Learning Pvt. Ltd.
3. Chen, K.P. & Miles, J. *Recommendations for World Road Association (PIARC).* ITS Hand book
4. Sussman, J.S. *Perspective on Intelligent Transportation Systems.* Springer.
5. Turban. E & Aronson. J. E. Decision Support Systems and Intelligent Systems. Prentice Hall.

L= Lecture, T= Tutorial, P= Practical, C= Credit

w.e.f. academic year 2020-21 and onwards