CET LIBRARY BANGALORE-49

CBCS SCHEME

USN | | | | | | | | | | |

BCV714A

Seventh Semester B.E./B.Tech. Degree Examination, June/July 2026
Intelligent Transportation Systems

Time: 3 hrs. Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.

		Module – 1	M	L	C
Q.1	a.	Define ITS and explain its roles and responsibilities.	10	L2	CO1
	b.	What is an Advanced Traveler Information System (ATIS) and how does it benefit travels?	10	L2	CO1
		OR			
Q.2	a.	Explain the purpose and functioning of fleet oriented ITS service.	10	L2	CO1
	b.	Explain the concept of electronic toll collection. What are the critical issues related to its security and safety?	10	L2	CO1
		Module – 2			
Q.3	a.	Explain the fundamental components of ITS architecture framework.	10	L2	CO2
	b.	Discuss the role of various hardware sensors in ITS.	10	L2	CO2
		OR			
Q.4	a.	How do GPS and GPRS contribute to ITS applications, specifically regarding dynamic message sings and toll collection?	10	L2	CO2
	b.	What are the different vehicle detection techniques used. Explain their working principle.	10	L2	CO2
		Module – 3			
Q.5	a.	Discuss video detection technique in traffic management and how does a virtual loop function.	10	L2	CO2
	b.	Explain the role of cameras, ANPR and IR lighting in intelligent traffic monitoring.	10	L2	CO2

VTU-05-06-2026 01:21:00pm - EP - EP - EP

		OR			
Q.6	**a.**	Describe different junction management strategies used in Advanced Traffic Manufacturing Systems (ARMS).	**10**	**L2**	**CO3**
	b.	What is Dynamic Traffic Assignment (DTA)? Briefly explain its components and the algorithm used for route optimization.	**10**	**L2**	**CO3**
		Module – 4			
Q.7	**a.**	Discuss Advanced Travelers Information System (ATIS) and list its main components.	**10**	**L2**	**CO4**
	b.	Differentiate pre-trip and en-route travel information system.	**10**	**L2**	**CO4**
		OR			
Q.8	**a.**	Differentiate between historical, current and predictive route guidance in ATIS.	**10**	**L2**	**CO4**
	b.	List and explain business opportunities arising from the implementation of ATIS and smart route systems.	**10**	**L2**	**CO4**
		Module – 5			
Q.9	**a.**	Explain the concept of Automated Highway Systems (AHS) and vehicles in platoons.	**10**	**L2**	**CO5**
	b.	Describe the integration process of AHS with existing transportation infrastructure.	**10**	**L2**	**CO5**
		OR			
Q.10	**a.**	Discuss the current status and challenges of ITS implementation in developing countries. Compare it with Indian scenario.	**10**	**L3**	**CO5**
	b.	Give an overview of major ITS programs implemented in developed countries.	**10**	**L3**	**CO5**

* * * * *

VTU-05-06-2026 01:21:00pm EP - EP - EP - EP
05-06-2026 01:32:27pm EP - EP - EP - EP