GUJARAT TECHNOLOGICAL UNIVERSITY

ME - SEMESTER-IV • EXAMINATION - SUMMER • 2014

	J	ect Code: 741301 Date: 04-06-2014	
	_	ect Name: Advances in Transportation Engineering	
		: 02:30 pm - 05:00 pm Total Marks: 70	
	Instru	enons: 1. Attempt all questions.	
		2. Make suitable assumptions wherever necessary.	
		3. Figures to the right indicate full marks.	
Q.1	(a)	Justify the statement õIntelligent Transportation System will improve the accident hazard effectivelyö.	07
	(b)	How will ITS affect the road pricing? Explain any example related to the above for Indian scenario.	07
Q.2	(a) (b)	Explain in detail õElectronic payments, toll collection and fare collectionö. Explain by drawing sketch public transportation management system by satellite.	07 07
	~ \	OR	. –
	(b)	What is incident Management? Discuss how incidents can be managed by ITS?	07
Q.3	(a)	Explain with the example the application of ITS in Travel demand management.	07
	(b)	What is smart highway? How will it affect the road safety? OR	07
Q.3		Describe the applications of ITS for commercial vehicle operations and intermodal freight.	07
	(b)	Describe Adaptive Traffic Control System with example.	07
Q.4	(a)	Why bituminous materials are required to be modified? Enlist various modified bituminous materials and describe any one of them with its IS requirements and	07
	(b)	testing procedures. What is microsurfacing? Describe briefly the various application locations of the same.	07
		OR	
Q.4	(a)	Describe the importance of use of recyclable waste materials in highway	07
	(b)	construction. Explain briefly the High Performance Concrete along with the areas of applications.	07
Q.5	(a)	What are three important components of super pave system? How super pave mix-design differ from conventional Marshall mix design procedure?	07
	(b)	Describe the necessity of Multi grade bitumen and its characteristics. OR	07
Q.5	(a)	Where do you suggest the use of stone matrix asphalt? Briefly explain its mix design.	07
	(b)	Why anti-stripping additives are necessary in bituminous mixes? What are their requirements?	07
