Seat No.:	Enrolment No.

## GUJARAT TECHNOLOGICAL UNIVERSITY ME SEMESTER- II EXAMINATION - SUMMER 2015

	•	Code: 2721313 Date: 30/05/ 201 Name: Advances in Transportation Engineering	15				
Tiı		2:30 to 5.00 pm Total Marks:	Total Marks: 70				
	1. 2.	Attempt all questions.  Make suitable assumptions wherever necessary.  Figures to the right indicate full marks.					
Q.1	(a) (b)	Describe in detail the Advanced Traveler information systems.  Explain the application of ITS in public transportation system with the example of Ahmedabad BRTS.					
Q.2	(a)	Explain clearly the following terms:  i) Polymer modified bitumen ii) Polymer concrete iii) Stone matrix asphalt iv) Multigrade bitumen v) Blown bitumen vi) Cationic bitumen binder vi) Stone matrix asphalt	07				
	(b)	Where do you suggest :Micro surfacing \( \phi \)? Explain the microsurfacing process of mixing and laying system.	07				
	(b)	State the various types of Natural fibers and synthetic fibers. Explain the importance of following in fiber-reinforced concrete:  i) Aspect ratio  ii) Percentage of fiber in the mix  iii) Dispersion of fibers in the mix	07				
Q.3	(a) (b)	What is Smart Highway? How will affect road safety?  Explain with example the application of ITS in Travel demand management.  OR					
Q.3	(a) (b)	What is Smart vehicle? How will it affect the road user?  Describe adaptive traffic control system with examples.					
Q.4	(a)	Why anti-stripping additives are necessary in bituminous paving mixes? What are their functions and requirements?					
	(b)	What are environmental and economical benefits of use of Fly ash in highway construction? Explain briefly.  OR	07				
Q.4	(a) (b)	Explain in detail õElectronic payments, toll collection and fare collectionö.  Explain by drawing sketch public transportation management system by satellite.  0					
Q.5	(a)	Which are the desirable properties of recycled concrete aggregate? How the presence of contaminants in recycled aggregate may harm the performance of concrete.					
	<b>(b)</b>	Describe in detail Porous asphalt-mix? Briefly explain the advantages of the	07				

same.

## <u>OR</u>

Q.5	(a)	Different	iate between High-strength concrete and High performance concrete.	07	
		Where and why they are commonly recommended?			
	super pave with respect to:	07			
		i)	Material selection and its specification		
		ii)	Gyratory compactor for compaction of mix		
		iii)	Limitations of superpave mix-design		

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