Seat No.:	Enrolment No	
GUJARAT TECHNOLOGICAL UNIVERSITY ME_SEMESTER IV (NEW) _ • EXAMINATION _ WINTER 2016		

ME – SEMESTER IV (NEW) – • EXAMINATION – WINTER 2016			
Su	bject	Code: 741301 Date: 26/10/202	16
Tiı	-	t Name: Advances in Transportation Engineering 2:30 pm to 05:00 pm Total Marks:	70
	2.	Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	
Q.1	(a) (b)	Explain the difference between Penetration grade & viscous grade bitumen. Which one is currently considered for pavement design? Why? Describe in detail the Advanced Traveler information systems	07 07
Q.2	(a) (b)	What are admixtures? List different types of admixtures and their influence on performance of bituminous Pavement Write a short note on "Smart Highway and Smart Vehicles"	07 07
	(b)	OR Describe in detail the Advanced Traveler information systems	07
Q.3	(a) (b)	Explain about Automatic vehicle identification and classification system Explain in detail "Electronic payments, toll collection and fare collection OR	07 07
Q.3	(a) (b)	Where do you suggest 'Micro surfacing? Explain the micro surfacing process of mixing and laying system What are three important components of super pave system? How super pave	07 07
Q.4	(a)	Mix - design differ from conventional Marshall mix design procedure? Explain clearly the following terms:	07
	(b)	i) Polymer modified bitumen ii) Polymer concrete iii) Blow bitumen What are the advantages of porous pavement? OR	07
Q.4	(a) (b)	What are the limitations of super pave mix design? Write a short note on "Gyratory Compactor"	07 07
Q.5	(a)	Differentiate between Standard concrete and High performance concrete. Where and why they are commonly recommended?	07
	(b)	Why anti-stripping additives are necessary in bituminous mixes? Explain briefly OR	07
Q.5	(a) (b)	Explain – vehicle positioning system Enlist the various types of waste which can be used in pavement. Explain each briefly	07 07
