HALL TICKET NUMBER



Time: 3 hours

Max. Marks: 70

Answer all the questions from each UNIT (5X14=70M)

Q.No.		Questions	Marks	CO	KL
UNIT-I					
1.	a)	Explain with sketches the various factors controlling the alignment of roads	[7M]	1	L2
	b)	What are the objects of reconnaissance in engineering survey? Discuss the scope of aerial survey for the purpose	[7M]	1	L1
OR					
2.	a)	Differentiate between second and third twenty year road plan? What are the take away?	[7M]	1	L2
	b)	Discuss the general principles in the re-alignment of a highway and explain how the work is carried out?	[7M]	1	L2
UNIT-II					
3.	a)	Write short notes on 1) Kerbs 2) Traffic Separators 3) Shoulders 4) Right of way	[7M]	2	L2
	b)	Calculate the stooping sight distance for a design speed of 100kmph. Take the total reaction time 2.5 seconds and the coefficient of friction = 0.35	[7M]	2	L3
OR					
4.	a)	Derive an expression for calculating the overtaking sight distance on a high way	[7M]	2	L4
	b)	What is the super elevation to be provided on a horizontal curve on a national highway in plain terrain (HINT: Design speed = 95 km/h), If the curve has a radius of 300 Meter?	[7M]	2	L3
UNIT-III					
5.	a)	Enumerate the different methods of carrying out traffic volume studies. Indicate the principle of each.	[7M]	3	L2
	b)	A vehical skids through a distance equal to 40m before colliding with another parked vehicles, the weight of which is 75 percent of the former. After collision, if both the vehicles skid through 14m before stooping compute the initial speed of the moving vehicle. Assume friction coefficient of 0.62	[7M]	3	L3
OR					
6.	a)	Explain various measures that may be taken to prevent accidents	[7M]	3	L2
	b)	Show the conflict points at the intersection of the following types a) Cross- roads, both two ways b) Cross-Road, one way c) T-Intersection both two way d) Y-Intersection one way	[7M]	3	L2
UNIT-IV					
7.	a)	What are the different types of bituminous materials used in road construction? Under what circumstance each of these materials is preferred.	[7M]	4	L2
	b)	What are the applications and limitations of shear bearing and penetration tests?	[7M]	4	L3


