GUJARAT TECHNOLOGICAL UNIVERSITY

M.E. Semester: III

Transportation System Engineering

Subject Name: **INTERSECTION DESIGN AND ANALYSIS (Major Elective - IV)**

Sr.No	Course content
1.	General consideration for location of various types of intersection, Principle of design, Types of manoeuvres, Relative speed, Conflict points and areas, Intersection geometrics. Capacity and LOS concepts, Operational analysis of signalized Intersections by HCM method, Swedish Method, British Method, Delay and its evaluation. Priority control and no control intersections, Capacity and level of service of uncontrolled Intersections. Rotary Intersections, Justification, Design factors, design and capacity, Mini-roundabouts. Weaving Sections, Types, One sided and two sided weaving sections, Operational evaluation. Grade Separated Intersections, Types, Suitability and economic justification, design of grade separation, Interchange ramps, Capacity of grade separated intersections. Warrants for signal, Design of signal by HCM, Webster, and IRC method. Turn control by islands, Pedestrian control, Design of speed change lanes and median lanes, Intersections signs, Marking and lighting.

Reference Books :

1. Khistry C.J., "Transportation Engineering, An Introduction", Prentice Hall, New Jersey, 1990.
2. McShane, W. R. and Roes, R.P, "Traffic Engineering", Prentice Hall, New Jersey, 1990.
3. Institute of Transportation Engineers, "Transportation and Traffic Engineering Hand Book", ITE Prentice Hall, New Jersey, 1976
4. Hamburger, W.S., and Kell, J.H., "Fundamentals of Traffic Engineering", 11th Edition, ITS, California, 1984.
5. Transportation Research Board, "Highway Capacity Manual", SR-209, TRB, 1985, 1994.