IF552: Transportation system planning and management

Teaching and Examination Scheme:

CREDITS = 5 (L=*3*, T=*2*, *P=0*)

M. Tech First year, 1st Semester

Teaching and Assessment Scheme:

Teaching Scheme			Credits	Assessment Scheme				
				Theory		Practical		Total Marks
L	T	P	C	ESE	CE	ESE	CE	
3	2	0	5	70	30	30	20	150

Course Contents:

Unit No.	Topics	Teaching Hours
1	**Introduction to transportation system:** Development of Transportation modes in India: Growth of Transport - Trends in Traffic - Imbalances in Transport System. Operational Controls of Air, Water, Railway and Highway Transportation Systems.	06
2	**Transportation System Management Actions:** Study of following TSM actions with respect to problems addressed, conditions for applications, potential implementation problems, evaluation & impact analysis Public transportation & HOV treatment - Toll discounts for car pools during peak periods, park and ride, carpooling, exclusive lanes, priority at ramp terminals, bus transfer stations, limited and skip-stop bus services, shared ride.	10
3	**Demand Management:** Staggered work hours, flexible work hours, high peak period tolls, shuttle services, circulation services, extended routes. Traffic Operations Improvement: On-street parking ban, freeway ramp control & closure, travel on shoulders, one-way streets, reversible lanes, traffic calming, Right turn phase, right turn lanes, reroute turning traffic.	10
4	**Parking Management:** Short term reserved parking, increased parking rates, time duration limits, and expanded off-street parking Non-Motorized Transport: pedestrian only streets, Dial a ride for elderly & handicapped.	06
5	**Methodology and Data Collection :** Methodological frame work, objectives and problems, conflicts resolution, strategic categories and action elements, travel behavior impact and response time, TSM actions combinations and interactions, impact assessment and evaluation, monitoring and surveillance, Area wide data collection methodology, corridor data collection methodology.	10

List of References:

1. D, Arlington, Transportation System Management in 1980: State of the Art and Future Directions,
2. Transportation Research Board, 1980.
3. John W Dickey, Metropolitan Transportation Planning, Tata McGraw Hill
4. Institute of Transportation Engineers, Transportation and Traffic Engg. Hand Book, Prentice Hall,
5. 1982
6. ITE (1982), Transportation and Traffic Engineering Handbook, Chapters 1,2,3,4,5,6,7 and 14,
7. Prentice-Hall, NJ.
8. L.R. Kadiyali, Traffic and Transport Planning, Khanna publishers, New Delhi (Latest Edition)
9. TRB Publications.
10. Willam, Hay, Introduction to Transportation Engineering, Johnwiley, New York.