M. Tech. Transportation Engineering 2nd Semester

S. No.	Course Code	Course Title	L	T	P	C
1	MA-502	Advanced Course in Mathematics	2	1	0	3
2	CE-524	Pavement Maintenance Management System	3	0	0	3
3	CE-525	Transportation Planning	3	0	0	3
4	CE-526	Transportation & Traffic Engineering Lab	0	0	3	2
5	-	Program Elective III	3	0	0	3
6	-	Program Elective IV	3	0	0	3
7	-	Open Elective II	-	-	-	3
Total			X	X	X	20

L=Lecture hours/week P=Practical hours/week T=Tutorial hours/week C=Credits

CE 524 Pavement Maintenance Management System
Cr. 3: (3-0-0)

Pavement Management Maintenance Measures PMMS objectives.
Structural requirements and Evaluation of flexible pavements – Design requirements, factors affecting structural condition of flexible pavements, structural behavior and evaluation of structural condition of pavements.
Design methods for flexible pavements, design of overlays by Benkelman Beam Rebound Deflection Technique.
Pavement Serviceability concepts, Evaluation of riding quality by psychophysical method.
Pavement Maintenance Measures, Implementation of Maintenance management programs.
Reference Books:
1. Highway Engineering: Khanna & Justo
2. Pavement systems management: Haas & Hudson.
3. Bituminous Materials: HMSO

CE 525 Transportation Planning
Cr. 3: (3-0-0)

Transportation planning methodology, hierarchical levels of planning-statewide, regional, urban passenger and goods transportation. General concept and process of transportation planning.
Urban transportation planning, urban travel characteristics: private and public, travel behavior analysis.
Travel demand estimation and forecasting. Trip classification and Socioeconomic variable in trip making, trip generation; multiple regression analysis, category analysis, comparative study. Modal split analysis- traditional analysis, behavioral approach to mode choice, two-stage modal split models. Trip distribution: Growth factor method, gravity model. Intervening opportunity and competing opportunity models, comparative study. Traffic assignment network assignment, capacity restrained.
Land-use transport planning: Land-use transport intersections, transport related land use models, their use in transportation planning.

Reference Books:
1. Transportation Planning: C.S. Papacasto
2. Transportation Planning: L.R .Khadyali.
3. Highway Engineering: G.V. Rao.
4. Transportation Planning: Huchinson

CE 526 Transportation & Traffic Engineering Lab

Cr. 2: (0-0-3)

Tests using Driver Testing Unit, Origin & Destination Survey, Spot speed studies, Speed & Delay studies, Traffic Volume count (including on Intersections), Parking study, Capacity study etc..