IIT Mandi
Proposal for a New Course

Course number : **CE 352P**
Course Name : **Transportation Engineering Laboratory**
Credit Distribution : ***0-0-2-1***
Intended for : **UG Civil Engineering**
Prerequisite : **None**
Mutual Exclusion : **None**

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1. Preamble:

Transportation Engineering Laboratory, where a dynamic and essential component of our comprehensive engineering curriculum is presented. This course serves as a bridge between theoretical knowledge and real-world applications in transportation engineering. Through hands-on experiments, data analysis, and innovative problem-solving, invaluable insights will be gained into the design, analysis, and optimization of transportation systems. Our state-of-the-art facilities will guide the students in exploring traffic flow dynamics, pavement materials quality assurance and control, and traffic surveys. The laboratory session offers students a unique opportunity to acquire the skills and expertise needed to shape the future of transportation infrastructure.

2. Course Modules with quantitative lecture hours:

Laboratory/practical/tutorial Modules:

S. No	Experiments
1	Los Angles Abrasion Test of Bitumen
2	Devel's abrasion Test of Bitumen
3	CBR Test
4	Marshall Stability of Bitumen
5	Penetration Test of Bitumen
6	Softening Point of Bitumen
7	Flash and Fire point of Bitumen
8	Ductility of Bitumen
9	Viscosity of Bitumen
10	Banklmen's Beam Test
11	Road Survey- Cross section, Super-Elevation Camber, Gradient
12	Measuring Spot Speed/Flow/Density/Vehicle Count

3. Text books:

1) S.K. Khanna, C.E.G. Justo and A. Veeraraghavan, 'Highway Engineering', Nem Chand Bros., 10th Edition, 2018.
2) Kadiyali L.R., 'Principles and Practice of highway Engineering', Khanna Publishers, Delhi, 1992.

4. References:

- IS Standards for each test
- Transportation Engineering: Planning and Design" by Paul H. Wright and Norman J. Ashford -
- "Traffic and Highway Engineering" by Nicholas J. Garber and Lester A. Hoel

1. Similarity with the existing courses:
(Similarity content is declared as per the number of lecture hours on similar topics)

S. No.		Course Code	Similarity Content	Approx. % of Content
1.	nil			

6. Justification of new course proposal if cumulative similarity content is >30%: N.A.