

Lesson Plan

VEER SURENDRA SAI UNIVERSITY OF TECHNOLOGY, BURLA

Branch: **Civil Engineering**

Semester: **2nd M.Tech**

Subject: **Pavement Analysis And Design**

Name of the Faculty: **Mrs. Jhunarani Ojha**

Theory/ Sessional: **Theory**

Class No.	Module No.	Topics to be Covered	Remarks
1	M-I	Factors Affecting Pavement Design: Design life, reliability, material properties.	
2	M-I	traffic, climate, road geometry, and drainage	
3		numericals	
4	M-II	Stresses In flexible Pavement: Vehicle-Pavement Interaction	
5	M-II	Transient, Random & Damping Vibrations,	
6	M-II	Steady State of Vibration, Experiments on Vibration,	
7	M-II	Stress Inducing Factors in Flexible and Rigid pavements	
8	M-II	Stress In Flexible Pavements	
9	M-II	Stress In Flexible Pavements	
10	M-II	Numerical related to stresses in flexible pavement	
11	M-II	Numerical related to stresses in flexible pavement	
12	M-II	Numerical related to stresses in flexible pavement	
13	M-II	Visco-Elastic Theory and Assumptions,	
14	M-II	Layered Systems Concepts	
15	M-II	Stress Solutions for One, numerical	
16	M-II	Stress Solutions for two, numerical	
17	M-II	Stress Solutions for three, numerical	
18	M-II	Fundamental Design Concepts.	
19	M-III	Stresses in Rigid Pavements	
20	M-III	Westergaard's Theory and Assumptions	
21	M-III	Stresses due to Curling, Numerical	
22	M-III	Stresses and Deflections due to Loading, Numerical	
23	M-III	Frictional Stresses, Numerical	
24	M-III	and Stresses in Dowel Bars, Numerical	
25	M-III	Stresses in Tie Bars. 37, Numericals	
26	M-III	Numerical	
27	M-III	Numerical	
28	M-IV	Design of Flexible Pavements	

29	M-IV	Factors effecting Design	
30	M-IV	Deflection studies in Flexible Pavements	
31	M-IV	Present Serviceability Index	
32	M-IV	IRC guidelines for Flexible Pavements	
33	M-IV	Pavement Performance and methods- AASHTO and Asphalt Institute Method.	
34	M-IV	Need for Overlays	
35	M-IV	Overlays design methods for Flexible and Rigid pavements	
36	M-IV	Design of Rigid Pavements: Factors affecting Design - Wheel load & its repetition, sub grade strength & proportion, strength of concrete- modulus of elasticity	
37	M-IV	Reinforcement in slab, Design of joints. Design of Dowel bars. Design of Tie bars.	
38	M-IV	IRC and AASHTO methods of Rigid Pavement	