

School of Planning and Architecture: Vijayawada

(An autonomous institution established by Ministry of Human Resource Development, Govt. of India) S.No. 71/1, NH-5, Nidamanuru, Vijayawada – 521 104, Andhra Pradesh, India

Department of Architecture

Course: Theory of Structures

Instructors: Jagath kumari Internal Assessment Marks: **50 M**

Class: B. Arch II year (sem-4)

Contact Periods/week: 5 hours External Assessment (Theory Examination):**50** <u>TEACHING PLAN</u>

Sl. No.	Date	Topic of Class/Lecture & Discussion	Class / remarks
1	Jan I week	Introduction to the deflections of the beams. Importance of the M.I of the different sections . significance of the modular rigidity. Calculation of bending moment for the various types beams carrying UDL and concentrated loads.	LECTURE/ Studio class
2	Jan II week	 Deflections of determinate beams, cantilevered with different loading, relation between slope, deflection and curvature, double integration method. Arrangement of bricks using English Bond for one brick thick wall, one-and-half brick □thick wall for Tee junction. 	LECTURE/studio practice and lab
3	Jan III week Jan IV week	Deflections of simply supported beam with different loading, relation between slope, Practice of deflection double integration method, moment area methods-application to simple cases including overhanging beams. Preparation of Drawings on Brick bonds and Arches	LECTURE Studio practice class
4	Feb I, II week	Types of columns, columns and struts, buckling and crushing failure, Euler's theory, general design requirements columns as per IS 456-2000.	LECTURE/practice and lab

6	Feb III week	Equivalent length and slenderness ratio, Rankine's formula. Equivalent length and critical loads of Columns. Numerical practice	LECTURE Studio class
7	Feb IVweek	Introduction to Bearing Capacity of Soils, and Settlements of Foundations ,terminology, factors affecting bearing capacity of soils, methods of determining bearing capacity. Testing load carrying capacity of masonry arches/vault/dome and its failure.	LECTURE Site visit and Studio class
8,9	March I week	Numerical practice. Methods of improving bearing capacity of soil, settlement of foundations,	LECTURE Lab/Studio class
10	March II week	Types of failures in soil, General , Local and Punching shear failure. Causes and Effect of settlement - Simple problems. Plate load test	LECTURE Lab/site visit and studio
11	Mar III week	Laboratory testing and internal exam	LECTURE Lab/Studio class
12	Mar IV week	Bearing pressure. Checking the stability of the retaining wall. Practice with numerical.	Lab/practice Assessment
13	April I week		Studio class/ Practical
14	April II week	Calculation of maximum and minimum bearing pressures,	Lab Assessment
15,	April III week	Revision	Studio class/practice
16	April III week		

D .Jagath Kumari (Course Faculty)