

# GOVERNMENT POLYTECHNIC, VAISHALI

## CIVIL ENGINEERING, SEMESTER - VI

LECTURE PLAN FOR LEFT SYLLABUS EFFECTIVE FROM 10-04-20

SUBJECT :- DESIGN OF STRUCTURES (1615604)

SUBJECT TEACHER - AKASH KUMAR

S.NO.	UNIT	TOPIC TO BE COVERED	No. OF PERIOD	BOOK
1.	Unit-7.	<p><u>Design of slab (LSM)</u></p> <p>7.1. Design of simply supported, one-way slab for flexure check for deflection control &amp; shear.</p> <p>7.2. Design of one-way cantilever slabs and continuous slabs for flexure check for deflection control and checks for development length and shear.</p> <p>7.3. Design of two-way simply supported slabs for flexure with corner free to lift.</p> <p>7.4 Design of dog-legged staircase.</p> <p>7.5 simple numerical problems on design of one-way simply supported slabs, cantilever slab &amp; two-way simply supported slab. (No. problem on design of dog-legged staircase shall be asked in written examination)</p>	<p>L1, L2</p> <p>L3, L4</p> <p>L5, L6</p> <p>L7</p> <p>L8, L9.</p>	<p>B1, B1</p> <p>B1, B1</p> <p>B1, B1</p> <p>B1, B1</p> <p>B1, B1</p>
2.	Unit-8	<p><u>Design of Axially Loaded Column &amp; Footing (LSM)</u></p> <p>8.1. Assumptions on limit state of collapse - compression.</p> <p>8.2. Definition &amp; classification of columns, effective length of column. Specification for minimum reinforcement; cores, maximum reinforcement, number of bars in rectangular, square and circular sections, diameter and spacing of lateral ties</p> <p>8.3 Analysis and design of axially loaded short, square, rectangular and circular columns with lateral ties only; check for short column &amp; check for min eccentricity may be applied.</p> <p>8.4 Types of footing, Design of isolated square footing for flexure and shear.</p> <p>8.5 simple numerical problems on the design of axially loaded short columns &amp; isolated square footing. (Problems on design of footing shall be asked in written examination for moment and two way shear only.)</p>	<p>L10</p> <p>L11, L12</p> <p>L13, L14</p> <p>L15</p> <p>L16</p>	<p>B1</p> <p>B1, B1</p> <p>B1, B1</p> <p>B1, B1</p> <p>B1, B1</p>

## Books

(1) B1 → Reinforced Concrete Design by S.V. Pillai & Dendran Menon (Tata McGraw Hill).