

Gopal Krishna college of engineering and technology
Goura Hari vihar, po: raniput, jevpore-764005
Lesson plan(2025-2026)

Name of the subject : Advance Transportation Engineering

Name of the faculty: **Er .pabani patra**

Semester: 6TH

Semester from: Dec to April

Branch: Civil Engg.

No.of week:12th

week	Class day	Theory/practical
Module1(week-1-3)		
1 st	1 st	Introduction to concrete behavior.
	2 nd	Difference in properties between RCC and PSC
	3 rd	Different systems of prestressing
2 nd	1 st	Characteristics of concrete and steel
	2 nd	Other suitable material for prestressing
	3 rd	Losses in prestress
3 rd	1 st	Losses in prestress
	2 nd	Losses in prestress
	3 rd	Losses in prestress
4 th	1 st	Analysis and Design of section for Flexure
	2 nd	Analysis and Design of section for Flexure
	3 rd	Analysis and Design of section for Shear
5 th	1 st	Analysis and Design of section for Torsion
Module 2(week4-6)		
4 th	1 st	Deflection of prestressed member
	2 nd	Short term deflection of un-cracked member
	3 rd	Short term deflection of un-cracked member
5 th	1 st	Short term deflection of un-cracked member
	2 nd	Long term deflection of un-cracked member
	3 rd	Long term deflection of un-cracked member
6 th	1 st	Deflection of cracked member
	2 nd	Deflection of cracked member
	3 rd	Deflection of cracked member
Module 3(week 7-10)		
7 th	1 st	Stress distribution in end block of post tensioned section
	2 nd	Magnel's method
	3 rd	Guyen's method
8 th	1 st	Rowe's method
	2 nd	IS code method
	3 rd	Design of pre-tensioned beam
9 th	1 st	Design of pre-tensioned beam
	2 nd	Design of pre-tensioned beam
	3 rd	Design of pre-tensioned beam
10 th	1 st	Design of pre-tensioned beam
	2 nd	Design of pre-tensioned beam
	3 rd	Design of pre-tensioned beam
Module 4(week11-12)		
11 th	1 st	Principles of design of prismatic continuous beams with two equal span (same moment of inertia)
	2 nd	Principles of design of prismatic continuous beams with two equal span (same moment of inertia)
	3 rd	Principles of design of prismatic continuous beams with two equal span (variable moment of inertia)
12 th	1 st	Cap cable and Design concept of concordancy of cable
	2 nd	Secondary design consideration
	3 rd	Design of post-tensioned beam

Books:

- [1] **Prestressed Concrete, N Krishna Raju, Tata McGraw-Hill**
- [2] **Design of Prestressed Concrete Structures, T Y Lin, Ned H Burns, John Wiley & Sons**
- [3] **Prestressed Concrete Structures, P. Dayaratnam, P. Sarah, Medtech Publisher**