

PADMASHREE KRUTARTHA ACHARYA INSTITUTE OF
ENGINEERING & TECHNOLOGY, BARGARH



LESSON PLAN
Session-2022-2023

Discipline: CIVIL ENGINEERING Engg. Semester: 5th

Name of the Teaching Faculty: SASWAT SUMAN SHARMA.

Subject: RAILWAY & BRIDGE ENAG No. of Days/per week class allotted 4P/week

Semester From Date : 15-9-22 To Date : 22-12-22 No. of Weeks : 15

Week	Class Day	Theory / Practical Topics
1	I	Railway terminology
	II	Advantages of Railways.
	III	Classification of Indian Railways
	IV	Definition and components of permanent way
2	I	Concept of gauge, different types of gauge in India.
	II	Rails, sectional view, terms and concept.
	III	function and requirement of rails.
	IV	Types of rail section, length of rails.
3	I	Rail joints - Types and requirement of an ideal joint.
	II	Purpose of welding of rails & its advantage
	III	Creep - concept, definition & prevention.
	IV	Sleepers.

Susmita Suman Jena
Signature of the Faculty

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Week	Class Day	Theory / Practical Topics
4	I	Definition, functions and requirements of sleepers.
	II	Ballast, - concept
	III	Functions and requirements of ballast.
	IV	Materials for ballast.
5	I	Assignment Evaluation, Class test
	II	Fixtures for broad gauge
	III	Connections of rails to fish plate, fish bolt
	IV	Connections of rails to sleepers
6	I	Typical Cross-section of single and double gauge railway tracks with cutting & Embankment
	II	Permanent & Temporary Land width
	III	Gradients for drainage
	IV	Superelevation - Necessity and limitations.

Saswat Suman Shyama
 Signature of the Faculty

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 Semester From Date: 15-9-22 To Date: 22-12-22 No. of Weeks: 15

Week	Class Day	Theory / Practical Topics
7	I	Definitions and necessity of points and crossings.
	II	Types of points and crossings with tie diagrams.
	III	Methods of laying & maintenance of work track.
	IV	Duties of a permanent way inspector.
8	I	Assignment Evaluation, class test
	II	Introduction to Bridges.
	III	Components of bridges.
	IV	Classification of bridge
9	I	Requirement of an ideal bridge.
	II	Selection of bridge site, Alignment
	III	Determination of flood discharge
	IV	Waterway & Economic span.

Saswat Kumar Shome,
 Signature of the Faculty

Subject: RAILWAY & BRIDGE ENGG No. of Days/per week class allotted 4P/W

Semester From Date: 15-9-22 To Date: 12-11-22 No. of Weeks: 15

Week	Class Day	Theory / Practical Topics
10	I	Afflux clearance and free board
	II	Scour depth, minimum depth of foundation
	III	Types of bridge foundation - spread, pile, well, caisson foundation.
	IV	Coffer dams.
11	I	Assignment Evaluation, class test.
	II	Types of piers.
	III	Cross sections of piers with components.
	IV	Types of abutments.
12	I	Cross section of Abutments with components
	II	Types of wing wall.
	III	Cross-section of wing wall.
	IV	Approaches

Sarwat Anam Shome
Signature of the Faculty

Subject: RAILWAY & BRIDGE ENGG No. of Days/per week class allotted 4P/week

Semester From Date: 15-9-22 To Date: 22-12-22 No. of Weeks: 15

Week	Class Day	Theory / Practical Topics
13	I	Cross section of approaches with components.
	II	Cross-section diagrams of whole bridge with super & sub-structures.
	III	Discussion of bridge site selection factors.
	IV	Doubt clearing on determination of flood discharge.
14	I	Previous year questions practice.
	II	Types of culvert - Brief concept
	III	Cross-section of culvert with components.
	IV	Types of causeway - Brief concept.
15	I	Cross section of causeway with components.
	II	Previous year questions practice.
	III	Discussion of types of footings for bridges.
	IV	Doubt class and Numericals practice.

Saswad Sumon Shosma.
Signature of the Faculty