DHABALESWAR INSTITUTE OF POLYTECHNIC
LESSON PLAN

Discipline CIVIL	Semester 5TH	Name of the Teaching Faculty SUBHRANSU KU. MUDULI
Subject R&B E	No.of days per Week Class Alloted	Semester from Dt. 01/10/22 To Dt. 08/01/22 No. of Weeks: 14

Week	Class Day	Theory / Practical Topics
1ST	1st	1. INTRODUCTION : (RAILWAYS)
	2nd	1.1. Introduction to Indian Railway system and Railway terminology.
	3rd	1.2. Advantages of Railways
		1.3. Classification of Indian Railways
2ND	DASAHARRA HOLIDAY	
		2. PERMANENT WAY :
3RD	1st	2.1. Defination and different parts of a permanent way.
	2nd	2.2. concept of Gauge, Different types of Gauge in India.
	3rd	2.3. Suitability of these gauges under different conditions.
		3. TRACK MATERIALS :
	4th	3.1. Introduction to track materials and terminology.
	5th	3.2. Defination of Rails and functions and its requirement.
4TH	1st	3.3. Types of Rail joints with different types of Rail sections.
	2nd	3.4. Requirement of Ideal joints With concept about Welding of Rails and its advantages.
	3rd	3.5. Creep concept with cause and its prevention.
	4th	3.6. Class Test and Revision

LESSON PROGRESS

Date	Topic to be covered as per Lesson plan	Topic actually covered	Point / Contents Discussed (in brief)	Sign. of Teacher
04.10.21	Introduction to Railway and its Terminology.	Introduction to Railways System and its concept.	About Indian Railway System.	Sruthi
05.10.21	Benefits of Railway as compared to other transportation.	Benefits and its advantages as compared to others.	Benefits of Railway as compared to other Transportation Mode.	Sruthi
5.10.21	classification of Indian Railways.	Classification of IR.	classification of Indian Railway.	Sruthi
11.10.21	Different parts of Indian Railway path, Way.	Introduction to Railway tracks and its terminology.	Different types of Railway Tracks and its concept.	Sruthi
12.10.21	concept of Gauge and its type.	Different Gauge rail lines and its type.	Gauge Distance and its types.	Sruthi
13.10.21	Suitability of these gauges.	Suitability of Gauge	Suitability according to location.	Sruthi
18.10.21	General concept of Track Material.	Different track Materials used in.	Different track Materials used in IR.	Sruthi
19.10.21	concept about Rails and its function.	Rails, its various types and function.	concept about Rails.	Sruthi
20.10.21	concept about Rail Joints and its various type.	some concept of Rail and Joints.	concept about Rail Joints.	Sruthi
25.10.21	Rail Joints and some concept about Rail Welding.	Rail Joints types and Welding process	Rail Joints and Welding process.	Sruthi
26.10.21	Creep and its concept.	Creep behaviour and its basic concept	Creep behaviour and its terminology.	Sruthi
27.10.21	Revision and Doubt clearing.	Revision and Doubt Clearing.	Revision and Doubt clearing.	Sruthi

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Week	Class Day	Theory / Practical Topics
5TH	5th	3.6. Defination of sleepers and its function with requirement
	6th	3.7. classification of sleepers.
	1st	3.8. Advantages and Disadvantages of different types of sleepers.
	2nd	3.9. Defination of Ballast and its function with requirement.
	3rd	3.10. Different types of materials used for ballast.
	4th	3.11. Railway connections i.e. Rail to Rail with fish plate and bolts.
	5th	3.12. connection of Rails to sleepers.
6TH	1st	3.13. Class Test and Doubt clearing.
		4. GEOMETRIC FOR BROAD GAUGE:
	2nd	4.1. Cross sections of broad gauge railway track in cutting and embankment
	3rd	4.2. Permanent and Temporary land With in railway.
	4th	4.3. Defination of Gradient and gradients for Drainage
7TH	1st	4.4. Super elevation with its necessity and limiting valued.
		5. POINTS AND CROSSINGS:
	2nd	5.1. Defination of points and crossings With its necessity.

LESSON PROGRESS

Date	Topic to be covered as per Lesson plan	Topic actually covered	Point / Contents Discussed (in brief)	Sign. of Teacher
01.11.21	concept about sleepers and its function.	Basic concept about sleepers and its function.	Sleepers and its function.	Sruthi
02.11.21	classification of sleepers.	classification of sleepers.	classification of sleepers.	Sruthi
03.11.21	Advantages and Disadvantages. and types.	Advantages and Disadvantages.	Advantages and Disadvantages.	Sruthi
05.11.21	Track Material, Ballast and its function.	Track Material, its function.	Track Material, function.	Sruthi
06.11.21	Different types of Materials used for Ballast.	Different Materials used as track Material.	Various track Material.	Sruthi
08.11.21	Railway connections, fish plate and bolts.	Railway connections fish plate and bolts.	Railway connections	Sruthi
09.11.21	Connection of Rails.	connection of Railway parts.	connection of Railway parts.	Sruthi
15.11.21	Revision and Doubt clearing.	Revision.	Revision.	Sruthi
11.21	Cross Sections of Broad Gauge railway track.	Cross Section of Broad Gauge Railway Track.	Cross Section of Railway Track.	Sruthi
11.21	Permanent and temporary land width in IR.	Permanent and temporary land width.	Land Width in Permanent and Temporary.	Sruthi
12.11.21	Introduction to Gradient and Drainage slope.	Introduction to Gradient, Drainage	Introduction to Gradient, Drainage	Sruthi
11.21	Superelevation and its necessary.	Superelevation and its necessary.	Superelevation and its necessary.	Sruthi
11.21	Introduction to points and crossings and its necessity.	Introduction to points and crossings.	Introduction to points and crossings.	Sruthi

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Week	Class Day	Theory / Practical Topics
	3rd	5.2. Different types of points and crossings with diagrams.
		6. LAYING AND MAINTENANCE :
	4th	6.1. Different Methods of laying and Maintenance of track.
	5th	6.2. Some concept about duties of a permanent Way Inspector.
8TH	1st	6.3. Class Test and Doubt clearing.
		7. INTRODUCTION : (BRIDGES)
	2nd	7.1. Introduction with different terminology.
	3rd	7.2. components of a bridge
	4th	7.3. classification of bridges.
	5th	7.4. Requirements of an Ideal bridge.
		8. BRIDGE SITE, HYDROLOGY & PLAN :
9TH	1st	8.1. Selection of bridge site and alignment.
	2nd	8.2. Concept about flood discharge and its determination.
	3rd	8.3. Defination of Waterway and concept about economic Span
	4th	8.4. Defination of Afflux, concept of clearance and free board
	5th	8.5. Class Test
	6th	8.6. Doubt clearing and Revision.

LESSON PROGRESS

Date	Topic to be covered as per Lesson plan	Topic actually covered	Point / Contents Discussed (in brief)	Sign. of Teacher
26.11.21	Different types of points and crossings with diagrams.	Types of points and crossings with their diagrams.	Points and crossings.	Smith
29.11.21	concept about laying and Maintenance.	concept about laying and Maintenance.	Laying and Maintance.	Smith
30.11.21	Duties of a peramnent Way Inspector.	Duties of a permanent Way Inspector.	Duties of a permanent Inspector.	Smith
01.12.21	class test and Doubt clearing.	class Test and Doubt clearing.	class Test and Doubt clearing.	Smith
02.12.21	Concept about Bridges and its Introduction.	Introduction to Bridges and its terminology.	Introduction to Bridges.	Smith
03.12.21	components of a bridge.	Different components of a bridge.	components of a bridge.	Smith
06.12.21	classification of Bridges concept about Ideal bridge.	classification of Bridges. Ideal Bridges.	classification of bridges. Ideal Bridges.	Smith Smith
07.12.21	Selection procedure of bridge site.	site selection procedure.	Site selection procedure	Smith
9.12.21	concept about flood discharge.	concept about flood discharge.	concept about flood discharge.	Smith
11.12.21	Defination of Water-Way, Economic span.	Water way and Economic Span.	Waterway and Economic Span.	Smith
13.12.21	concept about Afflux clearance and free board.	concept about Afflux clearance and free board.	Afflux clearance and free board.	Smith
15.12.21	class Test	class Test	class Test.	Smith
16.12.21	Doubt clearing and Revision.	Doubt clearing and Revision.	Doubt clearing and Revision.	Smith

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Week	Class Day	Theory / Practical Topics
10TH	1st	9. BRIDGE FOUNDATION :
		9.1. Introduction and concept of scour depth, minimum depth.
	2nd	9.2. Types of bridge foundations
	3rd	9.3. Spread foundation, Pile and Well foundation.
	4th	9.4. Sinking of Wells, caission foundation, coffer dams.
	5th	9.5. Coffer dams
11TH	1st	9.6. Revision and Class Test.
		10. BRIDGE SUBSTRUCTURE :
	2nd	10.1. Introduction and terminology
	3rd	10.2. Piers and its type
	4th	10.3. Abutments and its type
	5th	10.4. Wing walls and its type with approaches.
12TH	1st	11. CULVERT AND CAUSE WAYS :
	2nd	11.1. Introduction to culvert
	3rd	11.2. Its types and brief concept
	4th	11.3. Introduction to causeway
	5th	11.4. Its types and brief concept.
	6th	11.5. Terminology and other concept of culvert.
		11.6. Class Test
		11.7. Revision and Question discussion.

LESSON PROGRESS

Date	Topic to be covered as per Lesson plan	Topic actually covered	Point / Contents Discussed (in brief)	Sign. of Teacher
18.12.21	Bridge foundation, Scour depth and Minimum depth.	Bridge foundation, Scour depth and Minimum depth.	Bridge Foundation, Scour Depth and Minimum depth	Smith
21.12.21	Types of bridges foundations.	Types of bridges foundations.	Types of bridges Foundations.	Smith
22.12.21	Spread foundation, pile and well foundation.	Concept about spread foundation, pile and well found.	Spread, pile and well foundation.	Smith
24.12.21	Sinking of wells, caission foundation, coffer dams.	Sinking of wells caission foundation.	Sinking of wells, caission foundation.	Smith
28.12.21	coffer Dams.	coffer Dams.	coffer Dams.	Smith
29.12.21	Revision and class Test.	Revision and class Test	Revision and class Test.	Smith
30.12.21	Substructure and Superstructure.	Substructure and Superstructure.	Super and Sub-Structure.	Smith
03.01.22	Piers and its different types.	Piers and its different types.	Piers and its types.	Smith
04.01.22	Abutments and its different types.	Abutments and its types.	Abutments and types.	Smith
05.01.22	Wing Walls and its type.	Wing Walls and its type.	Wing Walls and types.	Smith
06.01.22	Introduction to culvert.	Introduction to culvert.	culvert.	Smith
07.01.22	Different types of culvert and brief concept.	Different types of culvert and brief concept.	Different types of culvert	Smith
08.01.22	Introduction to Causeway.	Introduction to cause way.	Cause way.	Smith
10.01.22	Its types and brief concept.	Its type and concept	Different types of cause way.	Smith
11.01.22	Class Test	Class Test	Class Test	Smith
12.01.22	Revision and Question Discussion.	Revision and Question Discussion.	Revision and Question Discussion	Smith

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Week	Class Day	Theory / Practical Topics
13TH	1st	11.8 Revision and Question Ans. Discussion.
	2nd	11.9. previous Year Question Ans. Dismission.
	3rd	11.10. Long Question and Short type Question Answer Dismission.

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10.01.22	Revision and Question Answer Discussion	Revision and Que. Answer Discussion.	Revision and Que. Ans. Discussion.	Smith
10.01.22	Previous Year Question Answer Discussion	Previous Year Que. Ans. Discussion.	Previous Year Que. Ans. Discussion.	Smith
11.01.22	Long question and Short type question answer Discussion	Long and short type Que. Ans. Discussion.	Long and short type Que. Ans. Discussion.	Smith

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Week	Class Day	Theory / Practical Topics