



MAHARAJA POLYTECHNIC, Bhubaneswar.
LESSON PLAN

NAME OF FACULTY: *Dasman Nayak*
SUBJECT NAME: RAILWAY & BRIDGE ENGG.
BRANCH & SEMESTER: CIVIL ENGG & 5th SEM
TOTAL NO. OF STUDENT IN THE CLASS: 34
TOTAL NO. OF CLASSES REQUIRED: 60
SESSION: -2021-22

Sl. No.	Topics to be covered	Topics covered on date	Total no. of students present	Verified by HOD	Verified by the principal	Remark
	UNIT:1 INTRODUCTION					
1	Railway terminology	03-11-21-18		<i>[Signature]</i>		
2	Advantages of railways	04-11-21-17		<i>[Signature]</i>		
3	Classification of Indian Railways	05-11-21-20		<i>[Signature]</i>		
	UNIT:2 PERMANENT WAY					
4	Definition and components of a permanent way	06-11-21-22		<i>[Signature]</i>		
5	Concept of gauge, different gauges prevalent in India, suitability of these gauges under different conditions	7-11-21-20		<i>[Signature]</i>		
	UNIT:3 TRACK MATERIALS					
	Rails					
6	Functions and requirement of rails	8-11-21-21		<i>[Signature]</i>		
7	Types of rail sections, length of rails	9-11-21-19		<i>[Signature]</i>		
8	Rail joints – types, requirement of an ideal joint	11-11-21-17		<i>[Signature]</i>		
9	Purpose of welding of rails & its advantages	12-11-21-15		<i>[Signature]</i>		
10	Creep definition, cause & prevention	13-11-21-16		<i>[Signature]</i>		

	Sleepers			
11	Definition, function & requirements of sleepers	18.11.21-20		
12	Classification of sleepers	18.11.21-20		
13	Advantages & disadvantages of different types of sleepers	19.11.21-21		
14	Ballast	20.11.21-22		
15	Functions & requirements of ballast	20.11.21-22		
16	Materials for ballast	21.11.21-22		
17	Fixtures for Broad gauge	22.11.21-23		
18	Connection of rails to rail-fishplate, fish bolts	28.11.21-23		
19	Connection of rails to sleepers	28.11.21-23		
20	UNIT:4 GEOMETRIC FOR BROAD GAUGE	29.11.21-24		
21	Typical cross - sections of single & double broad gauge railway track in cutting and embankment	03.12.21-20		
22	Permanent & temporary land width	04.12.21-22		
23	Gradients for drainage	05.12.21-23		
24	Super elevation - necessity & limiting valued	07.12.21-23		
25	UNIT:5 POINTS AND CROSSINGS	8.12.21-20		
26	Definition, necessity of Points and crossings	8.12.21-20		
27	Types of points & crossings with tie diagrams	9.12.21-21		
28	UNIT (B) :1 INTRODUCTIONS	10.12.21-21		
29	Definitions	11.12.21-20		
30	Components of a bridge	13.12.21-21		
31	Classification of bridges	14.12.21-18		
32	Requirements of an ideal bridge	15.12.21-19		
33		17.12.21-12		

	UNIT (B) : 2 BRIDGE SITE INVESTIGATION, HYDROLOGY & PLANNING			
28	Selection of bridge site			
29	Bridge alignments		18.12.21-17	PMB
30	Determination of flood discharge		19.12.21-18	PMB
31	Waterway & economic span		22.12.21-20	
32	Afflux, clearance & free board		09.01.22-21	PMB
33	Collection of bridge design data & sub surface investigation		03.1.22-20	PMB
UNIT (B) : 3 BRIDGE FOUNDATION				
34	Scour depth minimum depth of foundation		04.1.22-15	
35	Types of bridge foundations - spread foundation, pile foundation-pile driving, well foundation - sinking of wells, caisson foundation		05.01.22-13	PMB
36	Cofferdams		08.1.22-16	
UNIT (B) : 4 BRIDGE SUBSTRUCTURE AND APPROACHES				
37	Types of piers		10.1.22-18	
38	Types of abutments		12.1.22-19	PMB
39	Types of wing wall		19.1.22-20	PMB
40	Approaches		03.2.22-24	PMB
UNIT (B) : 5 PERMANENT BRIDGES				
41	Masonry bridges		04.2.22-25	PMB
42	Steel bridges - classification with sketches		07.2.22-22	PMB
43	Concrete bridges - classification, brief description with sketches		16.2.22-22	PMB
44	IRC bridge loading		18.2.22-20	
UNIT (B) : 6 Culvert & cause ways				
45	Types of culverts - brief description		17.2.22-19	PMB
46	Types of causeways - brief description		20.2.22-18	

SIGN OF PRINCIPAL

[Signature]
27/02/22

SIGN OF HOD

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27/02/22

SIGN OF FACULTY

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27/02/22