

Discipline: <u>civil</u>	Semester: <u>5<sup>th</sup></u>	Name of the Teaching Faculty <u>Gibyajyoti Nayak</u>	
Subject: <u>RBE</u>	No of Days/Week Class Allotted: <u>4</u>	Semester From date: <u>18/09/22</u> To date <u>17/01/23</u>	No. of Weeks:

WEEK	Class Day	Theory Topics
1 <sup>st</sup>	1st	Railway Terminology, Introduction of railway - Engineering.
	2nd	Advantages of Railway Engineering
	3rd	Classification of Indian Railways with diagram.
	4th	Requirements of an ideal permanent way.
	5th	
2 <sup>nd</sup>	1st	Concept of Gauge, different gauges prevalent in India. Suitability of these gauges.
	2nd	Definition of Rails, functions of Rails and Requirement of rails.
	3rd	Types of rail sections and length of rails.
	4th	Rail joints and types of rail joint.
	5th	
3 <sup>rd</sup>	1st	Requirement of an ideal joint.
	2nd	Purpose of welding of rails and its advantages.
	3rd	Definition of creep, cause and prevention of creep.
	4th	Definition of sleepers and functions of sleepers.
	5th	

WEEK	Class Day	Theory Topics
4 <sup>th</sup>	1st	Requirements of sleepers & classification of sleepers
	2nd	Advantages and disadvantages of different types of sleepers
	3rd	Definition of Ballast & functions of Ballast
	4th	Requirements of Ballast
	5th	
5 <sup>th</sup>	1st	Materials used for Ballast
	2nd	fixtures for Broad gauge
	3rd	connection of rails to rail-fishplate, fish bolts
	4th	connection of rails to sleepers
	5th	
6 <sup>th</sup>	1st	Geometric for Broad gauge & classification of Railway land
	2nd	Typical cross-sections of single & double broad gauge railway track in cutting & embankment
	3rd	Permanent land width & Temporary land width
	4th	Gradients for drainage
	5th	



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WEEK	Class Day	Theory Topics
7 <sup>th</sup>	1st	Defination of Superelevation & describe the cant deficiency
	2nd	Necessity of superelevation with net sketch.
	3rd	Limitation of superelevation.
	4th	Defination of points & crossing and necessity of points & crossings.
	5th	
8 <sup>th</sup>	1st	Types of points & crossings with tie diagrams.
	2nd	Describe methods of laying & Maintenance of track.
	3rd	Duties of a permanent way inspector.
	4th	Discuss the total subject of railway engineering.
	5th	
9 <sup>th</sup>	1st	Detailed Defination of Bridge engineering
	2nd	Components of a bridge.
	3rd	Classification of a bridge.
	4th	Requirements of an ideal bridge.
	5th	

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WEEK	Class Day	Theory Topics
10 <sup>th</sup>	1st	Bridge Alignment & selection of bridge site
	2nd	Definition of flood discharge
	3rd	Empirical methods for estimation of flood discharge
	4th	Rational methods for estimation of flood discharge
	5th	
11 <sup>th</sup>	1st	Water way and economic span
	2nd	Definition of afflux, clearance & free board
	3rd	Collection of bridge design data
	4th	Design data for major bridge
	5th	
12 <sup>th</sup>	1st	Overall idea on bridge foundation.
	2nd	Scour depth minimum depth of foundation.
	3rd	Describe all types of bridge.
	4th	Bridge foundation, Deep & shallow foundation.
	5th	



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# ARYAN SCHOOL OF ENGINEERING & TECHNOLOGY

Discipline:		Semester:	Name of the Teaching Faculty	
Subject:	No of Days/Week Class Allotted: _____	Semester From date: _____ To date _____	No. of Weeks:	

WEEK	Class Day	Theory Topics
13 <sup>th</sup>	1st	spread foundation, pile foundation, well foundation, sinking of wells, caisson foundation.
	2nd	Bridge substructure & approaches.
	3rd	Types of piers, definition of piers.
	4th	Abutments and their types.
	5th	
14 <sup>th</sup>	1st	Definition of wing walls & Types of wing walls.
	2nd	Culvert and Type of culvert with diagram.
	3rd	Causeway and type of causeway.
	4th	Discuss the subject of bridge engineering.
	5th	
	1st	
	2nd	
	3rd	
	4th	
	5th	