

KIIT POLYTECHNIC, BHUBANESWAR

LESSON PLAN

Session: 2023-24

| | | |
|---|---|--|
| Discipline: Civil Engineering | Semester: 5 th , W23 | Name of the Teaching Faculty: Abhijeet Prasad Dash, Lecturer Mail ID: abhijitfce@kp.kiit.ac.in |
| Subject: Railway & Bridge Engineering(Th.3) | No. Of Days/Week Class Allotted- 4 | Start Date: 01/08/2023 End Date: 30/11/2023 |

| Week | Class Day | Theory |
|------|-----------|---|
| 1st | 1st | Railway terminology |
| | 2nd | Advantages of railways |
| | 3rd | Classification of Indian Railways |
| | 4th | Definition and components of a permanent way |
| 2nd | 1st | Concept of gauge, different gauges prevalent in India, suitability of these gauges under different conditions |
| | 2nd | Rails |
| | 3rd | Assignment Evaluation |
| | 4th | Sleepers |
| 3rd | 1st | Ballast |
| | 2nd | Fixtures for Broad gauge |
| | 3rd | Typical cross – sections of single & double broad gauge railway track in cutting and embankment |
| | 4th | Assignment Evaluation |
| | | Permanent & temporary land width |
| 4th | 1st | Gradients for drainage |
| | 2nd | Super elevation – necessity & limiting valued |
| | 3rd | Definition, necessity of Points and crossings |
| | 4th | Assignment Evaluation |
| 5th | 1st | Types of points & crossings with tie diagrams |
| | 2nd | Methods of Laying & maintenance of track |
| | 3rd | Details of a permanent way inspector |
| | 4th | Definitions |

| | | |
|------|-----|---|
| 6th | 1st | Assignment Evaluation, Class Test |
| | 2nd | Components of a bridge |
| | 3rd | Classification of bridges |
| | 4th | Requirements of an ideal bridge |
| 7th | 1st | Selection of bridge site |
| | 2nd | Quiz test |
| | 3rd | Bridge alignments |
| | 4th | Determination of flood discharge |
| 8th | 1st | Waterway & economic span |
| | 2nd | Afflux, clearance & free board |
| | 3rd | Assignment Evaluation |
| | 4th | Collection of bridge design data & sub surface investigation |
| 9th | 1st | Scour depth minimum depth of foundation |
| | 2nd | Types of bridge, foundations – spread foundation, pile foundation- pile driving, well foundation – sinking of wells, cassion foundation |
| | 3rd | Coffer dams |
| | 4th | Assignment Evaluation, Class Test |
| 10th | 1st | Types of piers |
| | 2nd | Types of abutments |
| | 3rd | Types of wing walls |
| | 4th | Approaches |
| 11th | 1st | Masonry bridges |
| | 2nd | Masonry bridges cont. |
| | 3rd | Steel bridges – classification with sketches Concrete bridges – classification, brief description |
| | 4th | with sketches |
| 12th | 1st | IRC bridge loading |
| | 2nd | Assignment Evaluation |
| | 3rd | Types of culvers - brief description Types of causeways - brief description |
| | 4th | Quiz test |
| 13th | 1st | Types of bridge, components revision |
| | 2nd | Classification of bridge, requirements revision |

| | | |
|------|-----|--|
| | 3rd | Quiz test |
| | 4th | Selection of bridge site, alignment |
| 14th | 1st | Determination of flood discharge doubt clear |
| | 2nd | Waterway, economic span |
| | 3rd | Previous year question discussion |
| | 4th | Afflux, clearance, free board revision |
| 15th | 1st | Class test |
| | 2nd | Types of bridge foundation, spread foundation doubt clearing |
| | 3rd | Class test |
| | 4th | Previous year question discussion |