

# **GOVT. POLYTECHNIC MAYURBHANJ TIKARPADA**



## **DEPARTMENT OF CIVIL ENGINEERING**

**QUESTION BANK FOR THE SUBJECT OF:**

**SUBJECT: RAILWAY & BRIDGE ENGG.**

**PREPARED BY: PADMABHUSAN NAIK**

**DESIGNATION: LECTURER**

**SEMESTER: 5<sup>TH</sup>**

## QUESTION BANK

### SECTION-A

( 6<sup>th</sup> sem :- R & BE )

- What are the effects of creep in rails?
- State the requirements of ideal fastenings connecting rail and sleeper.
- What do you mean by fixtures and fastenings?
- What do you mean by permanent way?
- Draw a neat labeled sketch of permanent way in embankment.
- What do you understand by ballast? Give its functions.
- What is a gauge? Explain various types of gauges?
- What are the factors affecting the choice of particular gauge.
- What is creep? Explain any two theories of creeps.
- Discuss the preventive measures to avoid creep of rail.
- What do you mean by crossings?
- Explain cant deficiency with its values.
- Write the ideal requirements of permanent way.
- What are the advantages of Track maintenance?
- What are the duties of PWI?
- Short notes:
  - ❖ Creep
  - ❖ Fishplate
  - ❖ Steel sleepers
  - ❖ Functions of ballast
  - ❖ Turnout
  - ❖ Gradient
  - ❖ Super elevation
- What are requirements of good bridge foundation?
- Describe the factors affecting the site selection of a bridge construction.
- Differentiate between temporary and permanent bridges.
- Define Wing walls and Abutments of a bridge. Also describe the functions.
- Describe in brief caisson foundation for a bridge with neat sketch.
- State the functions and requirements of a pier.

- Draw a neat labeled sketch of a plan of bridge showing all its components.
- Suggest suitable situation for Raft foundation and Pile foundation.
- Short notes:
  - ❖ Afflux
  - ❖ Waterway
  - ❖ Economic span
  - ❖ Free board
  - ❖ Scour depth
  - ❖ Pier
  - ❖ Abutment
  - ❖ Bearing
  - ❖ Wing wall
  - ❖ Culverts
  - ❖ Causeways

## **SECTION-B**

- Define gauge. What are different types of gauges used in India? What are factors affecting Choices of gauge?
- Give the characteristics of an ideal ballast material.
- What is sleeper? What are its requirements? What are functions of sleepers?
- Explain factors affecting selection of site of Railway Bridge.
- What is wear of rails? How do you classify wear? Causes and suitable measures to reduce wear of rails.
- Explain the factors which affect selection site of a bridge.
- Explain the components of bridge with diagram. Explain with the help of diagram.
- What are the various factors which effect the selection of site of bridge?
- What are the pile foundations? Where and how they are used?
- What are the requirements of a good cofferdam?