



### RCETCEAC03 - Repair and Maintenance of Building

#### Course outcomes:

- Describe different component parts of permanent way such as rails, sleepers and ballasts
- Classify bridges and select suitable type of bridge for a particular purpose
- Supervise construction of a tunnel, carry out ventilation, drainage and lightening of tunnels

#### Syllabus:

#### UNIT I

##### Introduction to Indian Railways

Mass Transit System: Metro, Mono-rail, Tube Railway surveys: Factors influencing the railways route, brief description of various types of railway survey Classification of permanent way describing its component parts Rail Gauge: Definition, types, practice in India (gauges in different countries knowledge) Rails – types of rails, Rail Welding and its types

#### UNIT II

##### Bridges

Introduction Bridge its function and component parts, difference between a bridge and a culvert Classification of Bridges Maintenance of Bridges Inspection of bridges Routine maintenance

#### UNIT III

##### Tunnels

Definition and necessity of tunnels, method of tunneling, machinery used in tunneling Typical section of tunnels for a national highway and single and double broad gauge railway track. Ventilation –necessity and methods of ventilation, by blowing, exhaust and combination of blowing and exhaust Drainage method of draining water in tunnel, Lighting of tunnels

#### Reference Text Books:

1. “ Inspection, Maintenance, Assessment and Repair”; J.E. Harding, G. A. R. Parke and M. J. Ryall, Thomas Telford, London