नाम
Name : _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

अनुक्रमांक
Roll No : _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

प्राप्त अंक
Marks Awarded :

पाठ्यक्रम
Course : _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

दिनांक
Date : _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

अनुदेशक का अधाक्षर
Instructor Initial :

PURPOSE: To study the methods of jointing of line wires used in Railways as transmission and to note the precautions observed during jointing.

INTRODUCTION: For transmission lines, conductors of G.I (Galvanised Iron) and ACSR (Aluminium Conductors Steel Reinforced) are used in Railways. In some old constructions 200 Ibs mils copper and copper-weld wires were also used.

The main aim behind any jointing should be that the electrical characteristics of the line wire should not be affected by extra joints and joints should be good as the wires manufactured in the factory also in any section the number of joints should be minimized by carefully planning the terminations and using wires of appropriate length.

On ACSR wires, (a) Twist sleeve joint (b) Compression joints are used for tension joints and (a) PG Clamp joint (b) Repair sleeve joint and (c) Tap off connector for non-tension joints.

I. Jointing of G.I Wires:

(a) Identify the following tools and materials and mention their uses.

1. Cutting plier

2. Emery sheet

3. Soldering iron/soldering bolt

4. solder soft

5. Aluminium chloride (voltoid)

6. Lime water

7. Hand-vice

b) Describe the procedure for making the following joints.

1. Twist joint

2. Britannia joint

3. Termination of line wire

4. Intermediate binding

(c) What precautions are to be taken while making the above joints?

II. Jointing of ACSR Wires: Identify the following tools and materials and mention their uses.

(a) Tools and materials:

1. Sleeve twister
2. Cutting plier
3. Sleeves
4. Dungry cloth
5. Loaded grease

(b) Mention the procedure for making the following joints:

(a) Twist sleeve joint

(b) Compression joint (Single Sleeves)

(c) Compression joint (Double Sleeves)

(c) Draw a neat sketch indicating the name of the tools and materials used in making above joints.

(d) Mention the procedure for making the following non-tension joints and where they are used:-

i) P.G. Clamp joint:

ii) Repair sleeve joint:

iii) Tap-off connector joint:

iv) Intermediate binding:

v) Eye-loop termination:

vi) Pot head termination:

e) What are the main precautions you will observe while making joints on ACSR wires to ensure larger life of joints?

f) Mention the solders and fluxes used for jointing in the following wires.

	Solder	Flux
a) Iron Wire		
b) Copper Wire		
c) ACSR Wire		

Date: **Signature of Trainee**