



# INSTITUTE FOR STEEL DEVELOPMENT AND GROWTH

Training programme on

## CONNECTION DESIGN FOR STEEL STRUCTURES

### ABOUT INSDAG

Institute for Steel Development and Growth (INSDAG) is a not-for-profit, member-based organization established at Kolkata by the Ministry of Steel, Govt. of India and the major steel producers in the country. The Institute primarily works towards the development of advanced design methodologies and technical marketing by expanding applications of steel in different segments, upgrading skills and know-how, creating awareness amongst potential users, providing efficient steel-usage technology / design aids / teaching aids, upgrading skills/ know-how, disseminating steel related information / database, establishing intimate industry-university interface and communicating the benefits of steel vis-à-vis other competitive materials, etc.

### ABOUT TRAINING COURSE

To create interest among the Civil/Structural Engineers to use steel in their professional endeavors while exploiting numerous advantages of structural Steel as a construction material. Connections in steel structures are crucial in the structural steel building, bridges, etc. Steel connections include parts such as bolts, welding, stiffeners, and gussets which serve to connect two or more steel components. Engineers must carefully choose the appropriate connection type based on factors such as load types, structural movement, and ease of assembly for designing and analyzing steel structures.

### COURSE CONTENT

- **Bolted Connection – Type of bolts, Capacity of bolts in tension & shear**
- **Welded Connection – Type of welds, weld quality parameter, Weld testing, Capacity of weld in tension and shear, Weld symbols, Weld standards and detailing aspects.**
- **Design of Shear Connections, Moment Connections and connection for Torsion**
- **Concept of failure theory – Von-Mises Theory and Design of connection for combined forces**
- **Design of a splice joint for a plate girder – Welded & Bolted with example**
- **Design of Connection of a joint for Open Web through type truss with example**
- **Design of Gusset plates with example**
- **Case study on failure due to improper design of joints**

### TRAINING DATES

Training programme date: August 03 & 17, 2024

Last date of registration: July 31, 2024

### PARTICIPANTS

- UG / PG / Ph.D Scholars (Civil/Structural Engineering)
- Practicing Civil/ Structural Engineers
- Faculty

### REGISTRATION FEES

- UG & PG Students / Research Scholars - Rs. 1770/- (including GST)
- Working Professional/Faculty/Engineers (including GST) - Rs. 2360/- (including GST)

### DISCOUNTS

- 30% for Associate/Individual /Student members and additional 5% for Bulk nominations ( ≥ 5 nominations )

## COURSE DETAILS

- The entire course is designed in the ONLINE MODE (ZOOM PLATFORM)
- Course will be 2 days with approximate 8+ hours
- The interaction can be done with faculties and the participants through WhatsApp.
- Participants will be encouraged to share their real project problems during the course. We will discuss possible solution for the same.
- One month is considered for raising their doubts, queries related to the subject.
- Certificate will be issued on successful completion of the online course

## REGISTRATION PROCEDURES

Visit <https://www.steel-insdag.org/event> for online registration and payment.

or participants kindly register by sending the filled-up registration form and payment details to [seminars@insdag.com](mailto:seminars@insdag.com)

## PAYMENT DETAILS (Online) -

Visit <https://www.steel-insdag.org/event> for online payment after registration.

or NEFT/ Payment through QR Code - Details are in the Registration Form.

## COORDINATOR

**MR SAJAL KUMAR GHORAI, SENIOR MANAGER (CIVIL & STRUCTURAL)**

**INSTITUTE FOR STEEL DEVELOPMENT AND GROWTH**

Ispat Pragati Bhawan, 793, Anandapur, Kolkata - 700107

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Mobile : **9836093666**

## SCHEDULE

### CONNECTION DESIGN FOR STEEL STRUCTURES

<b>Day 1 (03.08.2024)</b>		
10.30 - 11.30	:	<b>Bolted Connection – Type of bolts, Capacity of bolts in tension &amp; shear</b>
12.00 - 13.00	:	<b>Welded Connection – Type of welds, weld quality parameter, Weld testing, Capacity of weld in tension and shear, Weld symbols, Weld standards and detailing aspects.</b>
14.30 - 15.30	:	<b>Design of Shear Connections, Moment Connections and connection for Torsion</b>
16.00 - 17.00	:	<b>Concept of failure theory – Von-Mises Theory and Design of connection for combined forces</b>
<b>Day 2 (17.08.2024)</b>		
10.30 - 11.30	:	<b>Design of a splice joint for a plate girder – Welded &amp; Bolted with example</b>
12.00 - 13.00	:	<b>Design of Connection of a joint for Open Web through type truss with example</b>
14.30 - 16.30	:	<b>Design of Gusset plates with example</b>
16.00 - 17.00	:	<b>Case study on failure due to improper design of joints</b>

**INSTITUTE FOR STEEL DEVELOPMENT AND GROWTH**  
ONLINE (ZOOM) TWO-DAY TRAINING PROGRAMME



**REGISTRATION FORM**

**CONNECTION DESIGN FOR STEEL STRUCTURES**

(AUGUST 03 & 17, 2024)

Name (in CAPS)		
Designation		
Organization		
INS DAG Membership No, if any		
GST No. if any		
Contact Address:		
	State:	Pin code:
Mobile:	Email:	

**Details of NEFT/ Bank Transfer:**

Amount: Rs.

Date:

Signature of the Applicant

**Registration Fee:** Rs 2360/- (including GST) for Engineering Professionals & Faculty members  
Rs. 1770/- (including GST) for UG & PG Students / Research Scholars

Discounts:

- 30% for Associate/Individual/Student members
- Additional 5% for Bulk nominations (  $\geq 5$  nominations )
- Certificate will be issued to those who attend the entire workshop.

**Payment Details: (Online)**

NEFT / RTGS / IMPS	QR CODE	UPI
INSTITUTE FOR STEEL DEVELOPMENT & GROWTH, UCO Bank, Kasba Branch SB a/c No – 08370100004683, IFSC : UCBA0002081		8334815444@ucobank

**or** visit <https://www.steel-insdag.org/event> for online registration and payment.

**Contact Person:**

Coordinator: Sajal Kr Ghorai, Mob: 9836093666, Email: [seminars@insdag.com](mailto:seminars@insdag.com) / [sajal.ghorai@insdag.com](mailto:sajal.ghorai@insdag.com)