NX CAM Training – Basic and Advanced
Objective: After the completion of NX CAM - Basic & Advanced Training; the candidates will be able to develop the manufacturing models and assemblies, work piece setups, efficient manufacturing 2 ½ and 3 axis, Multi axis (4,5 & mill turn) tool paths, and shop documentation.

Duration: 10 days

Training Contents:

1. General User Interface (CAD)
   - Roles
   - Sketching
   - Extrude/Revolve
   - Blends/Chamfers
   - Holes
   - Primitives
   - Work piece Blank Geometry
   - Assembly Constraints
   - Synchronous Modeling
2. General User Interface (CAM)

- Master Model Concept
- Work piece Setup
- Work piece Blank Options
- Machine Coordinate System
- Tool and Holder Creation
- Tool Library

3. Planar Milling

- Floor & Wall
- Floor & Wall with IPW
- Face Milling with boundaries & Manual
- Planar Milling
- Planar Profile
- Clean up corners
- Planer text
4. Cavity Milling

- Cavity Mill
- Rest Mill
- Z level profile
- Z level corner
- Fixed contour
- Contour area
- Contour steep & non steep
- Flow cut
- Solid profile 3D
- Contour text

5. Drilling

- Drilling (Spot drilling, Peck drilling, Break chip drilling)
- Countersinking
- Counter boring
- Tapping
- Hole milling
- Thread Milling
6. Turning

- Work piece Setup
- Machine Coordinate System
- Tool and Holder Creation
- Facing
- Rough OD
- Finish OD
- Drilling
- Rough ID
- Finish ID
- OD Groove
- OD Thread
- ID Thread
- In Process Work piece
- Tool path verification
7. Multi axis Strategies

- Variable contour
- Variable streamline
- Contour profile
- Fixed contour
- Z - Level 5 axis
- Mill turn programming

8. Mill Turn operations

9. Tool library creation

10. Tool Path Editing

11. Gouge and Collision Checking

12. Tool Path Verification

13. Shop Documentation
14. **Post Building Techniques**

- NX Post - postprocessor
- Building a postprocessor with the post builder.
- Post Builder for lathe applications (2-axis and 3 axis)
- Post building for 3axis, 4axis and 5 axis mills (machining Centers)
- Create mill-turn postprocessors
- Custom commands
- User-defined events and user-defined cycles (UDEs)
- A Guide to best practices of building a postprocessor

15. **Machine Simulation**

   **I. Basic Machine Tool Simulation Customization**

   - Create a kinematics model
   - Create kinematic chain for table ,Slide & tool as spindle
   - Kinematic chain to finding tool
   - Add X slide, Y slide, & Z slide
   - Add axis limits & angle limits
   - Define part, fixtures, & blank mounting
   - Define part mount Junction.
II. Create a machine tool in the library
   • Add Kinematic model & post processor in machine tool library

III. Use and Test new Machine tool with G code driven simulation