

**PROFORMA FOR ITEC/SCAAP/TCS
COLOMBO PLAN Courses 2017-18**

Annexure -I

<p><u>NAME OF THE INSTITUTE</u></p> <p>MSME-TOOL ROOM, HYDERABAD Central Institute of Tool Design (A Govt. of India Society – Ministry of MSME)</p> <p><u>FULL ADDRESS (WITH PIN CODE)</u></p> <p>A-1 to A-8, APIE, Balanagar Hyderabad – 500 037 , TELANGANA, India</p> <p><u>TELEPHONE NUMBERS</u> +91 040-23771959, 23776156, 23774536,</p> <p><u>FAX NUMBER</u> +91 040-23772658</p> <p><u>E-MAIL</u> citdplacements@citdindia.org</p> <p><u>WEBSITE</u> www.citdindia.org</p>	<p><u>HEAD OF THE INSTITUTE</u></p> <p>NAME : Shri Shujayat Khan TEL. No. : +91 040-23774536 (O) : +91 040-23771853 (R) FAX No. : +91 040-23772658 E-MAIL : pd@citdindia.org MOBILE : +91 9959148618</p>
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<p><u>24 HOURS EMERGENCY CONTACT NUMBERS / AFTER OFFICE / HOLIDAYS</u></p> <p>NAME : Shri M. Uday Kumar /Shri. K. Ramesh Babu/ Shri S.Anjaneyulu TEL. No.: +91 040-23776178, 23771959 , 23776156 MOBILE : +91 9989710105 / 9100498476 / 9949145889</p>	

MSME-TOOL ROOM, HYDERABAD

(Central Institute of Tool Design)

Balanagar, Hyderabad – 500 037

(An ISO 9001:2008 Institution)

Proposed Training Courses to be conducted for the year 2017 – 18

1	3 D Modeling and Surfacing Using Catia Software 05th June, 2017 to 11th August, 2017
2	CNC Programming Using MasterCam Software 17th August, 2017 to 23rd October, 2017
3	Design of Sheet Metal Forming Tools with Creo Parametric Software 17th August, 2017 to 23rd October, 2017
4	Programmable Logic Controllers for Advanced Automation 30th October, 2017 to 5th January, 2018
5	Mechatronics & its Applications 11th January, 2018 to 19th March, 2018

3D Modeling and Surfacing using CATIA Software

05th June, 2017 to 11th August, 2017

Duration: 10 Weeks

Intake Capacity: 15

Course Fee:

- a) Rs. 35,000/- per participant for fellowships under ITEC/SCAAP/TCS
- b) US \$ 3,500/- per participant for other agencies.

Admission Requirements:

Degree or Diploma in Mechanical Engineering or its equivalent .

Synopsis:

The Course is aimed for Design engineers for updating their skills in the area of 3D Modeling & Surfacing of various products.

Course Contents:

- Introduction to Catia, View tool bar, mouse functions,
- Sketch tool: Profile tools tool bar, operations toolbar, Constraints, etc
- Part modeling:
- Sketch based features: pad, pocket, Shaft, groove, hole, fillets etc.
- Reference elements(point, line, plane)
- Advanced Part modeling: Rib, Slot, Multi section solid, Remove Multi section solid, Boolean operations etc..
- Wire frame and Surfaces modeling: Creation of Wire frames.
- Creation of Surfaces. Advanced Surface modeling: Sweep, multi section surface etc..
- ASSEMBLY:
- Top Down Assembly, Bottom Up Assembly Concepts
- Drafting: Creation of views, dimensioning, annotation's etc..
- Case study, over view and discussion.

CNC Programming Using Master Cam Software

17th August, 2017 to 23rd October, 2017

Duration: 10 Weeks

Intake Capacity: 15

Course Fee:

- a) Rs. 35,000/- per participant for fellowships under ITEC/SCAAP/TCS
- b) US \$ 3,500/- per participant for other agencies.

Admission Requirements:

Degree or Diploma in Mechanical Engineering or its equivalent.

Synopsis:

The Course is aimed for Production engineers for updating their skills in the area of Manufacturing of various products.

Course Contents:

- Introduction to CNC Programming.
- Introduction to G – Codes, M- Codes etc..
- 2D programming, Sub Routines, Machine Cycles etc..
- **MasterCam:**
 - **Design:** Wireframe Modelling – Creating of points, Arcs, Lines, Fillets etc.
 - Solid Modelling – Extrude, Revolve, Sweep, Loft etc..
 - Surface Modelling – Ruled / Lofted, Revolved, Offset, Net, Fence etc..
 - **Milling:** 2D – Milling – Contour Mill, Drill, pocket Mill, Face Mill etc..
 - **2D High Speed:** Core Mill, Area Mill, rest mill, Blend Mill etc..
 - **3D- Milling:** Surface Rough – parallel, Project, Flow Line, Contour, etc..
 - Surface finishing: – parallel, Project, Flow Line, Contour, etc
 - Transforming Toolpaths, Trimming Tool Paths.
 - **Lathe Machining:** Facing, Roughing, Finishing, Threading, Drilling, Grooving etc.
 - Case study, over view and discussion.

Design of Sheet Metal Forming Tools with Creo Parametric Software

17th August, 2017 to 23rd October, 2017

Duration: 10 Weeks

Intake Capacity: 15

Course Fee:

- a) Rs. 35,000/- per participant for fellowships under ITEC/SCAAP/TCS
- b) US \$ 3,500/- per participant for other agencies.

Admission Requirements:

Degree or Diploma in Mechanical Engineering or its equivalent.

Synopsis:

The Course Theory and Design Practice presents a systematic approach in the development of various Press-Tools for sheet metal industry.

Course Contents:

- Theory of shearing, Force Analysis, Economic Strip layouts.
- Various Press-Tool Operations.
- Design Criteria of Shearing Dies. viz.
- Design approach of Bending, Forming Dies.
- Design Criteria of Draw-dies.
- Selection of Presses – Application – Types of Presses.
- USE of Standard DIE-SETS and Elements.
- Design Concepts of special blanking Tools.
- Modern Trends in metal forming.
- Faults and Remedies.
- Design Exercises – Case Studies.
- Application of Creo Parametric Software for Design of Sheet Metal Forming Tools.

Programmable Logic Controllers for Advanced Automation

30th October, 2017 to 05th January, 2018

Duration: 10 Weeks

Intake Capacity: 15

Course Fee:

- a) Rs. 35,000/- per participant for fellowships under ITEC/SCAAP/TCS
- b) US \$ 3,500/- per participant for other agencies.

Admission Requirements:

Degree or Diploma in Mechanical/ Production/ Electrical/ Electronics/ Instrumentation/ Automobile Engineering or its equivalent.

Synopsis:

The Course is aimed for Programming in PLC for controlling Automation systems.

Course Contents:

- Advantages of a PLC compared to conventional controls such as electrical, electro-pneumatic or electro-hydraulic controls.
- Function of the System components of a PLC
- Commissioning a PLC – Criteria for the use of mechanical, optical, capacitive and inductive proximity sensors.
- Circuit development –Circuit diagram design – Communication between the Personal computers and PLCs. Programming in Ladder Diagram, Function Chart and Statement List.
- Development of sequence and logic control systems. Defining appropriate control systems for a given control task. Modification of programmes by inserting or deleting control commands.
- Programming of counter functions – Programming of Timer functions. Display and modification of the status of the functional components and error messages in the PLC test system.
- Design and development of logic and sequence controls in combination with display and output elements.

Mechatronics & its Applications

11th January, 2018 to 19th March, 2018

Duration: 10 Weeks

Intake Capacity: 25

Course Fee:

- a) Rs. 35,000/- per participant for fellowships under ITEC/SCAAP/TCS
- b) US \$ 3,500/- per participant for other agencies.

Admission Requirements:

Degree or Diploma in Mechanical/ Production/ Electrical/ Electronics/ Instrumentation/ Automobile Engineering or its equivalent.

Synopsis:

The Course is aimed for upgrading the skills in development of Automation systems.

Course Contents:

- Applied Industrial Pneumatics: Compressors & Air line installation, Various types of actuators, Control Elements, Basic and Advanced circuits, Fluidics, Electro Pneumatics, Modular elements.
- Applied Industrial Hydraulics: Control valves, Accessories, Pumps, Circuits, Electro Hydraulics, Proportional Hydraulics, Servo Hydraulics, PID Controls.
- Mechanical Engineering, Materials, Heat treatment & Machining Processes
- Applied Electrical & Electronic controls including microprocessors & programmable logic controllers.
- Mechanisation, Exposure on NC & CNC and CAD/CAM, Robotics and their applications for automation, Flexible manufacturing systems
- Practical demonstration in the laboratories.