

# **ASSISTANT 3D DESIGNER Using PROE (CONSTRUCTION)**

Under  
**MODULAR EMPLOYABLE SKILLS (MES)**

Redesigned in  
**2014**

By  
**Government of India  
Ministry of Labour & Employment (DGE&T)**

## **PREFACE**

Good qualities are considered to be the backbone of any kind of development in any country. And, development is always, a continuous process. Hence, there are vast opportunities for 3D Advanced Designed ProE in getting employment. The trainees who successfully complete this Module, which is of 500 hours' duration, can independently 3D designed of details / features of construction.

## **GENERAL INFORMATION**

Name of Sector	Construction
Name of Module	Assistant 3D DESIGNER Using PROE
MES Code	CON701
Qualification Pack Code	
Competency as per NCO Code	
Duration of Course	500 Hrs
Entry Qualification of Trainee	10th Std.
Age	18 years & above
Unit Size	20
Power Norms	2 KW
Space Norms	60 sqm
Job Role	<ul style="list-style-type: none"><li>• Do the work on Mechanical 3D Advanced Modeling &amp; Assembly.</li><li>• Apply this knowledge to understand the engineering in the Assembly and Analysis in Manufacturing Industry</li></ul>

Instructor's Qualification	3 years Diploma in Civil Engg.
Desirable Qualification	CITS

### Course Contents for the Module of 3D ADVANCED DESIGNER Using PROE

PRACTICAL	THEORY
Basic Part design using pro-E	Theory related for the same.
Creating Sweep feature With Select Traj option With Sketching a Trajectory aligned to an Existing Geometry	1) Trajectory
Creating thin sweep protrusion Creating a sweep cut	Sl.no.1) Theory related to sweeping
Blend feature Parallel with straight and smooth option Rotational Blend with open and closed option Using blend vertex	Theory related to blend and about transition between sections
Shell option with constant and variable thickness	Theory related to shell and hollow sections
Datum curves Through points, with spine , with single radius, with multiple radius, single point, whole array, From equations	Mathematics / Theory behind the creation of the curves
Creating datum curves by sketching	Mathematics / Theory behind the creation of the curves
Creating draft feature Variable angle draft	Intersecting of features
Creating feature using the variable section sweep	Intersection between the solids and surfaces
Create features using swept blend option	Theory required for sweeping and blending since this is a combination of both
Create features using helical sweep option	Applications like springs and terms like coil dia, pitch etc
Create features using Section to Surface option	Intersection of surfaces
Create features using Surface to Surface option	Intersection of surfaces
Create features using from file option	Intersection of surfaces
Create features using toroidal bend option	Features with curved surfaces
Create spinal bend option	Repositioning cross sections along the curve(spine)
Create wrap transformation by using transformation tools.	Advanced modeling concepts
Creating assemblies using top down approach	Top down assembly approach
Creating assemblies using bottom up approach	Bottom up assembly approach

Creating components in the assembly mode	Part modeling
Inserting components in the assembly	Co-ordinate system
Placing components using constraints	aligning
Packaging Components	Assembly datum planes
Use the view manager	Part modeling
Edit assembly constraints after assembling	Part modeling
Modify components of the assembly with in the assembly	Part modeling
Create the exploded state of the assembly	Part modeling
Add offset lines to exploded components	Part modeling
Understand the Bill of materials in the assembly	About the product

### Tools and Equipment:

1. **Hardware:** 20 workstations of suitable configuration
2. **Software:** 20 licenses of 3D software