

**ANNEXURE – A**

**“CAD-CAE Software”**

Code No. \_\_\_\_\_

Qty. – 01 Set.

S.No.	Description of Requirement	Required
	<p>Software should be compatible with windows 10.</p> <p><b>Modules Required</b></p> <p>CAD modules- Create sophisticated part and assembly designs quickly and efficiently using powerful, easy to use software, with the help of easy sketch commands, Flexible 3D modeling tools and hardware library consisting of millions of in-built smart fasteners and tools and aid in animating to communicate design intent and functionality.</p> <p><b>Should support import of all standard format like :</b> DXF, DWG, Adobe Photoshop, Adobe Illustrator, Parasolid, STEP, ACIS,IGES,VDAFS(.vda), VRML(.wrl), STL(.stl), CATIA Graphics (.cgr), Pro/E Part (.prt), Pro/E Assembly (.asm), IFC (Industry Foundation Classes), Inventor Part (.ipt), Inventor Assembly (.iam), CADKEY (.prt, .ckd).</p>	<p>License- 02 No. (Perpetual License)</p> <p>Single window integration.</p> <p>Floating License</p>
	<p>Detailed specifications of the simulation and modeling software, suitable platforms and associated accessories required for mechanical development of various sub-system module of surveillance equipments.</p>	<p>Confirm</p>
	<p>The modeling software is required to cater for following capabilities:</p>	<p>Confirm</p>
<b>1</b>	<p><b>3D Solid Modeling</b></p> <p>Can create 3D solids models of any part assembly, no matter how large or complex keep all 3D models, 2D Drawings, and other design and manufacturing documents synchronized with associatively that automatically tracks and makes updates Directly edit your model by simply clicking and dragging model geometry.</p>	<p>Confirm</p>
<b>2</b>	<p><b>3D Assembly (Top Down &amp; Bottom Up)</b></p> <p>3D solid modeling must speeds the creation of complex parts and large assemblies which will allow to visualize how final product will look like.</p>	<p>Confirm</p>
<b>3</b>	<p><b>Mass properties and evaluation tools</b></p> <p>Tools can instantly analyze 3D model for any solid mass properties and</p>	<p>Confirm</p>

	volume (mass, density, volume, moments of inertia, and so forth)	
4	<p><b>Advanced surfacing&amp; flattening</b></p> <p>It must generate surfacing for any 3D geometry, even complex organic and stylized shapes and estimate the size and shape of the surfaces in their flattened state in order to be able cut the material from the flat sheet.</p>	Confirm
4	<p><b>Sheet Metal</b></p> <p>It can Design sheet metal parts and assemblies and automatically input your own bend radius, thickness, &amp; K-factor.</p> <p>Generate bends, including Lofted Bends, Sketched Bends, and more use Bend Tables for bend allowance/bend deduction.</p>	Confirm
5	<p><b>Weldments</b></p> <p>Design must functionality enables to design a weldment structure as a single multi-body part, sketching the basic frame work, creating structural members.</p> <p>Automate in generating drawings, BOMs, cut lists, and other manufacturing documentation.</p>	Confirm
6	<p><b>Check Manufacturability</b></p> <p>Software should help in getting thickness analysis, Compare parts and Drawings for Changes, Draft and Undercut Analysis, Sheet Metal checks and Flat Pattern.</p>	Confirm
7	<p><b>Kinematic motion simulation</b></p> <p>It should evaluate the forces generated by movement, as well as the movement itself. Software should provide Kinematic and Dynamic Analysis through Inputs, i.e. Forces, Springs, Dampers, Gravity, Contact, Bushings and provide results Outputs in Displacement, Velocities, Accelerations, Body Loads, Joint Forces.</p>	Confirm
8	<p><b>Hardware and fasteners library in Worldwide Standards</b></p> <p>It should contains standard library of fasteners and hardware in worldwide accepted standard, i.e. IS,ISO,ANSI,AS,BSI,CISC,DIN,GB,JIS,KS,MIL,PEM,SKF,TORRINGTON,TRUARC, UNISTRUT.</p>	Confirm
9	<p><b>Design Library</b></p> <p>It should have feasibility to create own design library, so that standard</p>	Confirm

	component can be stored at one place and can be used again.	
<b>10</b>	<p><b>Mold Design</b></p> <p>The software, which can be used for designing plastic, cast , stamped, formed, and forged designs, fully integrates product design, mold design, and validation in one package, saving time, reducing costs, accelerating the product development process, and increasing productivity.</p>	Confirm
<b>11</b>	<p><b>Read PCB data as 3D parts</b></p> <p>Can Import /Export of Printed Circuit Board (PCB) Designs, Two-Way Data Exchange : ECAD to MCAD – MCAD to ECAD.</p> <p>PCB Outlines, Keep –Out Areas, Maximum Heights, IDF, ProStep (IDX) or PADS (*.ASC)</p>	Confirm
<b>12</b>	<p><b>Piping/tubing Design</b></p> <p>Should be able to help in creating Detailed Piping Systems, Creating Flexible or Rigid Tubing Lines, Customizable Library of Piping Components, output tube bend data for manufacturing, automatic routing option for pipes and tubes, output of PCF files for ISOGEN piping software.</p>	Confirm
<b>13</b>	<p><b>2D Drawing Extraction</b></p> <p>Automatic drawing view creation, automatic drawing view updates, should support drafting standards: ANSI, ISO, DIN, JIS, BSI, GIS, and GB.</p> <p>Help in manual and automated dimensioning and tolerance, automatic bill of materials (BOM), Exploded views, Balloon notes, and automated creation of radial/cylindrical exploded views.</p>	Confirm
<b>14</b>	<p><b>Bills of Materials, Cut Lists, hole Lists ,Tables</b></p> <p>Must have functionality of extracting bills of materials, cut lists, hole lists automatically.</p>	Confirm
<b>15</b>	<p><b>Photo Realistic Rendering</b></p> <p>It should help in extracting photo quality images and animations, control camera view, lighting, materials, textures.</p>	Confirm
<b>16</b>	<p><b>Collision and Interference Detection</b></p> <p>It must perform collision and interference detection and can perform hole alignment and thread checks.</p>	Confirm
<b>17</b>	Draft and Undercut Analysis	Confirm
<b>18</b>	<b>Cost estimation</b>	Confirm

	It must compare manufacturing costs, automated manufacturing cost estimation, and can create output cost report.		
<b>19</b>	<b>Tolerance stack-up analysis</b> Identify Highest contributing tolerances and can check worst case and RSS Maximum/Minimum.		Confirm
<b>20</b>	<b>System Configuration for CAD-CAE Software :</b>		
	<b>Feature</b>		<b>Description</b>
20.1	<b>Processors</b>		Intel Xeon Processor E5, 6 Core or Above
20.2	<b>Mother Board</b>		MOTHERBOARD should be compatible to Processor (INTEL Boards are Recommended)
20.3	<b>RAM</b>		32 GB or Above
20.4	<b>Compatible O.S. Genuine</b>		Windows 10 Professional 64- Bit or above
20.5	<b>Graphics Card</b>		NVIDIA Quadro K 4200, 4.0 GB Graphics Card
20.6	<b>Monitor</b>		Dual Monitors 24"
20.7	<b>Key Board &amp; Mouse</b>		Confirm
20.7	<b>Others</b>	Internet Explorer	IE 9 or Above
		Network	Microsoft Windows Networking. Novell networks and non-Windows network storage devices are not supported
		Virtual Environments and storage devices	Support Storage Devices
<b>21</b>	<b>Installation and Commissioning</b>		
21.1	The complete installation and commissioning must be carried out by the supplier at the final destination/premises. Certificate of acceptance is to be signed by customer and supplier.		Confirm
<b>22</b>	<b>Training at installation place</b>		
22.1	Training on Software		05 days
22.2	Detailed invoice and packing list of all items and devices and detailed prospect of Table and all other accessories enclosed in respective boxes		Confirm
22.3	Complete training manual for all modules		Confirm

23	Warranty	12 months
----	----------	-----------

**DELIVERY PERIOD INCLUDING INSTALLATION & COMMISSIONING:**

The delivery period including installation & commissioning of all of the Items at the destination mentioned in Para 1 on page no. 02 of the tender documents will be 01 month from the date of placement of Purchase Order/work contract.

**WARRANTY**

The Entire Item inclusive of all system/accessories should be covered under warranty for a period of 12 months from the date of commissioning.