

## **Technical Specification for Hardware & Software**

**1**

### **ABACUS**

<b>S. No</b>	<b>Items</b>	<b>No. of Licenses</b>
1	Latest Academic version ABACUS software with complete modules for training purpose.	5
<b>GENERAL TERMS &amp; CONDITIONS</b>		
	a) The above Software should be supplied with latest versions	
	b) The quote shall be supplied with reference to the module	
	c) The Software should be supplied in DVD / CD media for latest windows OS	
	d) The license must be perpetual	
	e) Warranty & AMC : Bidder should specify the warranty period from the date of acceptance of installation and training .Also submit quote for AMC as option separately.	
	f) The Installation and training will be the responsibility of the supplier	
	g) During the above period of maintenance, any upgrades released will be supplied free of cost	
	h) Training : 7- Days Training shall be provided at the site after installation	

**2**

### **ANSYS**

<b>S. No</b>	<b>Items</b>	<b>No. of Licenses</b>
1	Latest Academic version ANSYS software with Mechanical, CFD, LS DYNA bundle for training purpose.	5
<b>GENERAL TERMS &amp; CONDITIONS</b>		
	a) The above Software should be supplied with latest versions	
	b) The quote shall be supplied with reference to the module	
	c) The Software should be supplied in DVD / CD media for latest windows OS	
	d) The license must be perpetual	
	e) Warranty & AMC : Bidder should specify the warranty period from the date of acceptance of installation and training .Also submit quote for AMC as option separately.	
	f) The Installation and training will be the responsibility of the supplier	
	g) During the above period of maintenance, any upgrades released will be supplied free of cost	
	h) Training : 7- Days Training shall be provided at the site after installation	

**3**

### **CATIA**

S. No	Items	No. of Licenses
1	Latest Academic version CATIA 3D experience software with complete modules for training purpose.	5
<b>GENERAL TERMS &amp; CONDITIONS</b>		
	a) The above Software should be supplied with latest versions	
	b) The quote shall be supplied with reference to the module	
	c) The Software should be supplied in DVD / CD media for latest windows OS	
	d) The license must be perpetual	
	e) Warranty & AMC : Bidder should specify the warranty period from the date of acceptance of installation and training .Also submit quote for AMC as option separately.	
	f) The Installation and training will be the responsibility of the supplier	
	g) During the above period of maintenance, any upgrades released will be supplied free of cost	
	h) Training : 7- Days Training shall be provided at the site after installation	

#### 4 CNC Milling with Simulator - Education Model

S. No	Items	Specification
1	Make	Bidder to specify
2	Model	Bidder to specify
3	<b>Axis Travel</b>	
3.1	X-Axis (mm)	400-425
3.2	Y-Axis (mm)	300-325
3.3	Z-Axis (mm)	250-300
4	<b>Feed</b>	
4.1	Rapid Feed (X, Y,Z Axes) (m/min)	25 or better
4.2	Max. Cutting Feed (X, Y,Z Axes) (m/min)	15 or better
5	<b>Spindle</b>	
5.1	Rating (KW)	5 or better
5.2	Max. Speed (rpm)	4000 or better
5.3	Taper	BT40
6	<b>Accuracy</b>	
6.1	Positioning (μm)	10 or better
6.2	Repeatability (μm)	10 or better
7	<b>Control System</b>	
7.1	Controller	Fanuc / Siemens /or equivalent OEM (Latest with complete module)
7.2	Part Program Storage (GB)	Capable to store large CAM programs for continuous running
7.3	Programming Functions with editor	Complete Module
8	<b>Essential Accessories</b>	

8.1	Voltage stabilizer	Bidder to specify and quote suitable for the machine
8.2	Ultra Isolation transformer	Bidder to specify and quote suitable for the machine
8.3	Compressor	Bidder to specify and quote suitable for the machine
8.4	Automatic centralized lubrication system	Bidder to specify and quote suitable for the machine
8.5	Touch Probe	Bidder to specify and quote Branded quality Touch Probe
8.6	Tool holding devices	Bidder to specify and quote Set of Cutting Tools Holder for 50 mm Face mill - 1 No Collect Holder - 5 Nos Set of Collects - 3 to 25 mm Drill Chuck - 2 Nos Pull stud- 20 nos
8.7	Cutting Tools	Bidder to specify and quote Set of Cutting Tools Face mill cutter(with replaceable inserts) - Dia 50 mm Bull nose cutter (with replaceable inserts)- Dia 25 mm Bull nose cutter (with replaceable inserts)- Dia 16 mm carbide End Mill cutter (each one)- Dia. 3, 4, 5, 6, 8, 10 mm carbide Ball End Mill cutter (each one)- Dia. 3, 4, 5, 6, 8, 10 mm HSS Drills ( one set) - Dia. 1 to 20 mm <del>Centre Drill, 3 Diff. Sizes</del>
8.8	Clamping Kit	Bidder to specify and quote Set of clamping kits
8.9	Others	Ethernet, USB ports, RS-232C
8.10	Simulator	CNC programming and operation simulator - 5 Nos

9	Any other accessories if available for better utilization	Bidder to specify and quote if any other accessories available /required for smooth running and better utilization of the machine.
10	Scope of supply	Bidder should submit complete scope of supply (Machine, standard accessories, Optional Accessories etc with make model) in the technical bid without price. Bidder should supply complete start up package necessary to prove the machine and provide training.
11	Installation requirements	Bidder to specify , pre-installation requirement
12	Installation & Training	Basic and Advanced training should be provided. Also the required operation, maintenance and other reference manuals should be provided for getting quality output and longer trouble free life of machine.
13	Technical support and service	Availability of technical support in the area of application and service both within the country. The tenderer shall have local service and application office and infrastructure to attend by visit within 48 hours of need.
14	Manufacturer's/ Supplier credential	Should have sizable installations of same model worldwide and at least five same model in India.
15	Warranty and guarantee	The machine shall be guaranteed for at least Two years for replacement and service against any design, manufacturing and workmanship defects.

S. No	Items	Specification
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	Make	Bidder to specify
	Model	Bidder to specify
1	<b>Capacity</b>	
1.2	Max. turning diameter (mm)	400-425
1.2	Chuck Size (mm)	175-200
2	<b>Travel</b>	
2.1	X-Axis Travel (Cross) (mm)	200-230
2.2	Z-Axis Travel (Longitudinal) (mm)	750-775
3	<b>Main Spindle</b>	
3.1	Spindle motor Power (kW)	7 or better
3.2	Max. Speed (RPM)	1800-2000
4	<b>Feed Rate</b>	
4.1	Rapid Traverse X axis (mts./min)	10 or better
4.2	Rapid Traverse Z axis (mts./min)	10 or better
4.3	Feed Rate (mm/min)	5000 or better
5	<b>CNC System</b>	
5.1	Controller	Siemens/Fanuc/ equivalent OEM
5.2	Part Program Storage (GB)	Capable to store large CAM programs
5.3	Programming Functions with editor	Complete module
6	<b>Essential Accessories</b>	
6.1	Programmable Tailstock with sleeves	one No.
6.2	Automatic Tool setter	one No.
6.3	Hydraulic 3 Jaw Chuck	one No.
6.4	Hydraulic 4 Jaw Chuck	one No.
6.5	Soft Jaws	two sets
6.6	Drill Chuck	one No.
6.7	Hydraulic Collet chuck with set of collets	One with various sizes
6.8	Set of standard Cutting Tools with holder for replaceable inserts (for Facing, Turning, boring, threading, grooving, parting, drilling etc)	Various operation suitable various size of jobs each one No. Drills- Centre Drill and 1to 20 mm drills
6.9	Coolant System	Bidder to specify and quote suitable for the machine
6.10	Start up Tool kit	Bidder to specify and quote suitable for the machine
6.11	Foot switch	Bidder to specify and quote suitable for the machine
6.12	Work light	Bidder to specify and quote suitable for the machine
6.13	Centralized lub. System	Bidder to specify and quote suitable for the machine
6.14	Set of Rubber mounts	Bidder to specify and quote suitable for the machine
6.15	Voltage Stabilizer	Bidder to specify and quote suitable for the machine
6.16	Ultra Isolation transformer	Bidder to specify and quote suitable for the machine
6.17	Others	Ethernet, USB ports, RS-232C Communication Ports, Set of manual (or) CD
6.18	Simulator	CNC programming and operation simulator - 5 Nos

6.19	Any Others Aecessories	Bidder to specify and quote if any other accessories available /required
7	Scope of supply	Bidder should submit complete scope of supply (Machine, standard aecessories, Optional Aecessories etc with make model) in the technical bid without price. Bidder should supply complete start up package necessary to prove the machine and provide training.
8	Installation requirements	Bidder to specify , pre-installation requirement
9	Installation & Training	Basic and Advanced training should be provided. Also the required operation, maintenance and other reference manuals should be provided for getting quality output and longer trouble free life of machine.
10	Technical support and service	Availability of technical support in the area of application and service both within the country. The tenderer shall have local service and application office and infrastructure to attend by visit within 48 hours of need.
11	Manufacturer's/ Supplier credential	Should have sizable installations of same model worldwide and at least five same model in India.
12	Warranty and guarantee	The machine shall be guaranteed for at least Two years for replacement and service against any design, manufacturing and workmanship defects.

## 6

## CREO

S. No	Items	No. of Licenses
1	Latest Academic version CREO software with complete modules for training purpose.	20

### **GENERAL TERMS & CONDITIONS**

	a) The above Software should be supplied with latest versions	
	b) The quote shall be supplied with reference to the module	
	c) The Software should be supplied in DVD / CD media for latest windows OS	
	d) The license must be perpetual	
	e) Warranty & AMC : Bidder should specufy the warranty period from the date of acceptance of installation and training .Also submit quote for AMC as option separately.	

	f) The Installation and training will be the responsibility of the supplier	
	g) During the above period of maintenance, any upgrades released will be supplied free of cost	
	h) Training : 7- Days Training shall be provided at the site after installation	

## 7

### Hyperworks

S. No	Items	No. of Licenses
1	Latest Academic version Hyperworks software with complete modules for training purpose.	5
<b><u>GENERAL TERMS &amp; CONDITIONS</u></b>		
	a) The above Software should be supplied with latest versions	
	b) The quote shall be supplied with reference to the module	
	c) The Software should be supplied in DVD / CD media for latest windows OS	
	d) The license must be perpetual	
	e) Warranty & AMC : Bidder should specify the warranty period from the date of acceptance of installation and training .Also submit quote for AMC as option separately.	
	f) The Installation and training will be the responsibility of the supplier	
	g) During the above period of maintenance, any upgrades released will be supplied free of cost	
	h) Training : 7- Days Training shall be provided at the site after installation	

## 8

### MSC Software

S. No	Items	No. of Licenses
1	Latest Academic version MSC software with Structures and Motion bundle for training purpose.	5
<b><u>GENERAL TERMS &amp; CONDITIONS</u></b>		
	a) The above Software should be supplied with latest versions	
	b) The quote shall be supplied with reference to the module	
	c) The Software should be supplied in DVD / CD media for latest windows OS	
	d) The license must be perpetual	
	e) Warranty & AMC : Bidder should specify the warranty period from the date of acceptance of installation and training .Also submit quote for AMC as option separately.	

	f) The Installation and training will be the responsibility of the supplier	
	g) During the above period of maintenance, any upgrades released will be supplied free of cost	
	h) Training : 7- Days Training shall be provided at the site after installation	

## 9

### Plastic Process Simulation

S. No	Items	No. of Licenses
1	Latest Academic version Plastic process Simulation software with complete modules for training purpose.	5
<b><u>GENERAL TERMS &amp; CONDITIONS</u></b>		
	a) The above Software should be supplied with latest versions	
	b) The quote shall be supplied with reference to the module	
	c) The Software should be supplied in DVD / CD media for latest windows OS	
	d) The license must be perpetual	
	e) Warranty & AMC : Bidder should specify the warranty period from the date of acceptance of installation and training .Also submit quote for AMC as option separately.	
	f) The Installation and training will be the responsibility of the supplier	
	g) During the above period of maintenance, any upgrades released will be supplied free of cost	
	h) Training : 7- Days Training shall be provided at the site after installation	

## 10

### Server (2 Nos.)

S. No	Items	Specification
1	Make	Bidders to Specify
2	Model	Bidders to Specify(Please attach the supporting documents like products and accessories catalog)
3	Processor	2 Intel Xeon E5-2600 v4 Core: 6 core Clock Speed: 1.9 GHz or above Cache: 15MB Cache or more
4	Chipset	Intel C610 series Chipset or better on OEM /Intel motherboard



5	Memory	32GB & upgradable
		2133 MHz or above
		DDR4 or above
6	Graphics card	Nvidia Quadro K4200 Graphics card with dedicated 4GB Graphics
7	Hard Disk	4* 4000GB Enterprise SATA 7.2K RPM
8	HDD bays	Up to 8.8 cm (3.5) SAS, SATA, nearline SAS,SSD drives with optional flex bay
9	Optical Drive	DVD RW drive / SATA / Internal
10	RAID	RAID 0,1,5 +1GB CACHE
11	Networking	2 x 1GbE LOMs
12	Operating System	Microsoft Windows Server
13	Security & Manageability	Hard Disk, BIOS Password,TPM 2.0,Virus protection for boot sector
14	Monitor	24" standard Monitor
15	Keyboard	OEM make standard Keyboard
16	Mouse	OEM make USB Optical Mouse
17	Form Factor	Minitower / Microtower (With Optimized thermal management, low-noise chassis and silent fans)
18	UPS	1000 VA / 230 V - APS or better
19	Accessories	Bidder to specify any other standard/optional accessories
20	Warranty	3 Years Onsite Warranty

## 11 Workstations (20 Nos.)

S. No	Items	Specification
1	Model	Bidder to specify
2	Make	Bidder to specify (Please attach the supporting documents like products and accessories catalog)
3	Processor	Intel Xeon Processor E3- 1200 v5
		Core: Quad core
		Clock Speed: 3 GHz or above
		Cache: 8MB Cache or more

4	Chipset	Intel C602 series Chipset or better on OEM /Intel motherboard
5	Memory	16GB & upgradable 2133 MHz or above DDR4 or above
6	Graphics card	NVIDIA Quadro K420 2 GB or Better
7	Hard Disk	256GB SSD 1 TB 7200 RPM
8	Optical Drive	DVD RW drive / SATA / Internal
9	RAID	SATA / SAS 6G Raid controller supporting RAID 0, 1 and 10
10	Networking	1x 1GB network controller & Compatible for 10 Gig Network Adapter
11	Operating System	Windows 10 Pro 64
12	Security & Manageability	User and supervisor BIOS password, Dynamic USB security for full hardware USB protection; Chassis Intrusion Switch; Performance Optimizer tool should be provided; should have intel Cache Accelerator Software or similar for faster read I/O with larger datasets; Trusted Platform Module 2.0 (TPM 2.0); I/O Interface Security; Kensington® lock slot, Padlock ring, lockable power supply
11	Monitor	24" standard Monitor
12	Keyboard	OEM make standard Keyboard
13	Mouse	OEM make USB Optical Mouse
14	Form Factor	Minitower / Microtower (With Optimized thermal management, low-noise chassis and silent fans)
15	UPS	1000 VA / 230 V - APS or better
16	Accessories	Bidder to specify any other standard/optional accessories
17	Warranty	3 Years Onsite Warranty