



झारखण्ड JHARKHAND

B 496048

The Agreement is executed on this 23rd day of November, 2016 (Effective Date) by and between:

DEPARTMENT OF HIGHER, TECHNICAL EDUCATION AND SKILL DEVELOPMENT (DHTE&SD), GOVERNMENT OF JHARKHAND, having its office at 3rd Floor, Yojana Bhawan, Nepal House Campus, Doranda, Ranchi - 834002 hereinafter called the "DHTE&SD" (which expression shall unless repugnant to the context or meaning thereof be deemed to mean and include its successors and assigns) of the first part;

And

SIEMENS INDUSTRY SOFTWARE (INDIA) PRIVATE LIMITED, having its corporate office at Tower D, 16th Floor, Global Business Park, MG Road, Gurgaon 122002, Haryana, India, hereinafter called "SISW" (which expression shall unless repugnant to the context or meaning thereof be deemed to mean and include its successors and assigns) of the second part;

And

DESIGNTECH SYSTEMS LIMITED, having its registered office at 6, Commerce Center, Paud Road, Pune 411038, Maharashtra, India, hereinafter called "DesignTech" (which expression shall unless repugnant to the context or meaning thereof be deemed to mean and include its successors and assigns) of the third part.



DHTE&SD, SISW and Design Tech, shall hereinafter be collectively referred to as parties and individually as party.

WHEREAS:

1. DHTE&SD is engaged in policy formulation, programme implementation, coordination with various stakeholders, knowledge management, research and innovation, creation of intellectual property, training and capacity building to improve the Quality and Quantity of Higher, Technical education and Skill development ecosystem in the state of Jharkhand.
2. SISW is engaged in the business of developing and licensing of PLM software to customers on a worldwide basis; and that it shall provide the PLM software to DHTE&SD and further act as a technology partner to actively collaborate and assist DesignTech in running of the various skill development centers (detailed hereinafter) in the state of Jharkhand.
3. DesignTech is engaged in the business of marketing and system integrating software applications and hardware, and providing associated value added IT services. DesignTech has agreed to set-up skill development centers in Jharkhand in active collaboration and assistance from SISW, whereby they will supply software, hardware and courseware, and operate the various skill development centers.
4. That SISW and DesignTech jointly submitted a proposal to the government of Jharkhand for setting up a proposal for implementation of skill development program by setting up of setting of 3 clusters, each cluster comprising of 1 CoE and 5 t-SDI in the state of Jharkhand
5. DHTE&SD, SISW and Design Tech have mutually discussed the proposal and agreed to enter into this agreement as detailed hereinafter. The proposal submitted will form part of this MOU

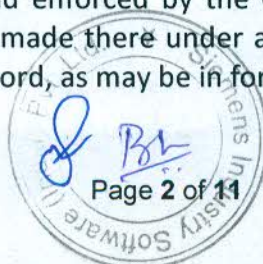
NOW, THEREFORE, in consideration of the mutual promises contained herein and other good and valuable consideration, the receipt of which is hereby acknowledged, the parties agree as follows:

1. DEFINITIONS:

In this Agreement, the following expressions shall have the meaning stated herein:

"Agreement" shall mean this agreement executed between DHTE&SD, SISW and Design Tech and shall include any written modifications thereof and the schedules attached hereto.

"Applicable Law" shall mean all the laws national and international, enacted or brought into force as the case may be and enforced by the GOI or GoJ as the case may be, and the regulations and notifications made there under and judgments, decrees, injunctions, writs and orders of any court of record, as may be in force and effect.



“Centres Of Excellence or COE & Technical Skill development Institute or t-SDI” shall mean industry linked Siemens Centres of Excellence for Government Engineering & Polytechnic Institutes. These COE’s are to be identified by DHTE&SD and to be established, maintained and run by DesignTech in active collaboration and assistance from SISW, as per the terms of this Agreement.

“Effective Date” shall mean the date mentioned at the beginning of this Agreement.

“DHTE&SD” means the Department and any agency, authority (including any regulatory authority) department, inspectorate, ministry or statutory person (whether autonomous or not) (including any successor thereof) under the control and direction of the Government of Jharkhand.

“GOI” means the Government of India and any of its duly authorised agency, authority, department, ministry or person (whether autonomous or not).

“GoJ” means the Government of Jharkhand and any of its duly authorised agency, authority, department, ministry or person (whether autonomous or not).

“Relevant Authorities” means the GOI or GoJ or any other regulatory authority appointed by GOI or GoJ having jurisdiction in relation to the subject matter of this Agreement under Applicable Law.

“Set-up” means the date from which each COE’s & t-SDIs has become operational, students have been enrolled and necessary approval, infrastructure and facilities to operate COE & t-SDIs have been obtained from DHTE&SD.

“t-SDI” means technical-Skill Development Institutes set up with the purpose of upgrading skills of students in technical vocational trades like Automotive, Electrical, Electronics & ICT, and Manufacturing & Fabrication.

2. INTERPRETATION

In this Agreement, unless the context otherwise requires:

- (a) Words denoting the singular number shall include the plural and vice versa.
- (b) Heading and bold typeface are only for convenience and shall not affect the construction of this Agreement.
- (c) References to the word “include” or “including” shall be construed without limitation.
- (d) References to this Agreement or to any other agreement, deed or other instrument shall be construed as a reference to such agreement, deed, or other instrument as the same may from time to time be amended, varied or supplemented.
- (e) A reference to a clause or schedule is, unless indicated to the contrary, a reference to a clause or schedule of this Agreement.
- (f) Words denoting a person shall include an individual, corporation, company, partnership, trust or other entity.



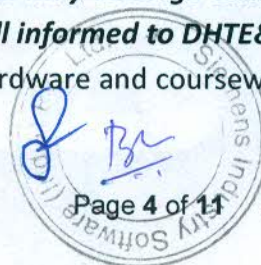
- (g) References to dates and times shall be construed to be references to Indian dates and time.
- (h) References to the word "days" shall, unless otherwise indicated, mean calendar days.
- (i) The schedules to this Agreement shall form an integral part of this Agreement and shall be read along with this Agreement and
- (j) In addition to terms defined in Clause 1, certain other capitalized terms are defined elsewhere in this Agreement and whenever such terms are used in this Agreement, they shall have their respective defined meanings, unless the context expressly or by necessary implication otherwise requires.

3. SCOPE OF SERVICES / PROJECT

- a. To make qualitative improvements in technical education by setting up of 03 CoEs and 15 t-SDIs in two phases with 01 CoE and 05 t-SDI in current Financial Year 2016-17 and rest 02 CoEs and 10 t-SDI in current as well as Financial Year 2017-18 by providing –
 - Infrastructure in college labs by adopting latest open technologies in engineering, design, manufacturing, planning, analysis and management in order to serve the needs of all the adjoining industrial units, irrespective of use of the machinery and technology;
 - Skill up-gradation of faculty by training;
 - Upgrade course curriculum to modern industrial practices;
 - Promote research & development and innovation for existing Industries.
- b. Promote Industry: Academia interface to improve relevance in technical education system, in line with industry requirements;
- c. Train students to improve their employability: enable students to compete in national and international employment market for better work opportunities, remuneration and growth;
- d. Enhance the reputation of technical institutions as modern and equipped with state of art technologies and industry processes;
- e. Create a pool of skilled manpower to cater to current and future industrial landscape of the state and country.

4. RESPONSIBILITIES OF DESIGNTECH AS PROPOSER

- a. It shall act as proposer, implementer and system integrator for the overall project in active collaboration and assistance with SISW. It shall be the primary partner to set-up the COEs & t-SDIs and to provide assistance to DHTE&SD.
- b. It shall set up the COEs and t-SDIs by supplying, installing and system integrating the hardware, software, and courseware from SISW and other suppliers in the state of Jharkhand. The details of hardware, software, courseware, and number of COE's and t-SDI's (which forms the BOM, bill of material) are detailed in Annexure – A of this Agreement.
Caveat: Some of the Lab Hardware especially in t-SDI's is linked to Industry Partner tie-ups. The current Bill of Material may undergo change as per the Industry Partner's specific requirements. The changes will informed to DHTE&SD through change request form.
- c. It shall supply the software, hardware and courseware to DHTE&SD for use within COEs & t-SDIs.



- d. It shall conduct training of faculty on SISW software applications and all supplied products at COEs & t-SDIs.
- e. It shall provide support under the academic program to assist DHTE&SD to :
 - Enroll students for training courses & provide course material.
 - Train the students on supplied products and courseware.
 - Certify the students upon successful completion of training as may be agreed between the parties herein.
 - It shall operate and maintain each COEs & t-SDIs for 2 years from the date of Set-up at its own cost and, thereafter shall provide assistance to trained staff of DHTE&SD or its authorized representatives for a period of 1 year. It shall thereafter hand over the assets at COE & t-SDIs in full working condition including the operational responsibilities to DHTE&SD or its nominee/ residing institutes, at no additional cost.
- f. It shall operationalize all COEs & t-SDIs within 6 months from receipt of approval and other infrastructural facilities from DHTE&SD, including but not limited to access of the ready site at the demarcated institutions/locations.
- g. It shall deploy its experienced personnel at each COEs & t-SDIs as per the details mentioned in Annexure - B attached to this Agreement.
- h. Annually a maximum of 11500 students/ candidates per Cluster i.e. 1 CoE and 5 t-SDIs at 100% utilization would be trained through this program. The skill development training would be imparted to current students, pass out students of technical institutions who are under employed/ unemployed and also to the students/ candidates not having formal degree/ diploma but living in the adjoining areas would. However, the mobilization of the students will be the joint responsibility of the proposer and GoJ.
- i. It shall be the duty of the proposer to provide soft skill training to the trainees as described in the proposal.
- j. The proposer will facilitate the placement of atleast 70% of those trained and certified students/candidates who are willing to be placed anywhere in India or abroad. (Ref Annexure - B)
- k. It shall assure that the assistance from the DHTE&SD is utilized in a proper way for the successful implementation of the project. It shall provide progress report on implementation of the project& utilization certificates of the assistance granted by the DHTE&SD from time to time.
- l. It shall be responsible to comply with all the Applicable Laws including all labour welfare legislations as may be applicable in the state of Jharkhand, in respect of its personnel deployed for imparting training at the skill centers.

5. RESPONSIBILITIES OF SISW :

- a. It shall act as technology partner and program advisor to DesignTech for the project implementation and operation.
- b. It shall train and certify DesignTech faculty to be posted on-site at the COEs & t-SDIs.
- c. It shall monitor quality of the training imparted by DesignTech and shall actively assist and collaborate with DesignTech for the overall implementation and operation of the COEs & t-SDIs.
- d. It dedicates itself to the project and agrees to timely disburse its In-kind grant as per the proposal to DesignTech. As per proposal submitted it stands at 1069.29 Cr rupees.
- e. It shall participate in the overall governance of the centers both at the State level and Local level.
- f. It shall ensure the yearly execution of provisions laid down under section 4(h) and 4(j)



6. RESPONSIBILITIES OF DHTE&SD :

- a. DHTE&SD will identify the institutes for setting up of the COEs & t-SDIs
- b. DHTE&SD will demarcate the required area for the set-up of the labs, and provide the necessary infrastructure as per project specifications outlined in the proposal, including electricity, water, plumbing/ pneumatic piping, furniture, fixtures and adequate security, internet and student training consumables (at actual usage) for the labs in the COEs & t-SDIs. DHTE&SD will also arrange to provide necessary approvals as required from various government departments in the state of Jharkhand.
- c. DHTE&SD shall sign the Software License and Services Agreement ("SLSA") and other terms related to use of hardware with SISW and shall comply by those terms. DHTE&SD and its institutes shall use software license(s) and hardware sold to it in accordance with the terms of the SLSA.
- d. In consideration of the above obligations agreed to be undertaken by SISW and DesignTech, DHTE&SD agrees to pay the total amount of (INR) 66.286 Crores (Rupees Sixty Six Crores two lakh and Eighty Six Thousand only, including taxes) in financial year 2016-17 for 01 CoE and 05 t-SDI and (INR) 132.572 Crores (One Hundred Thirty Two Crores Five Lakhs and Seventy Two Thousand only, including taxes) in Financial Year 2016-17 and 2017-18 for 02 CoEs and 10 t-SDI towards financial assistance for setting up 03 clusters in all (03 CoEs and 15 t-SDIs). DHTE&SD shall ensure timely disbursement of the sanctioned amount to DesignTech for arranging supplies and, to initiate the project.

The above said financial assistance is sanctioned for capital expenditures and recurring cost for three years incurred (acquired and paid) by SISW and DesignTech w.r.t the Project during the operative period of the scheme as a onetime grant.

- DesignTech and SISW hereby agree to comply with all the terms & conditions laid down in this Agreement. Breach of any of the conditions of this Agreement will authorize the state level approval committee and/or DHTE&SD to take over the project along with all the assets of the Project and other fixed assets, except other liabilities of SISW, DesignTech, and their promoters and employees.
- SISW and DesignTech shall assure that the above said financial assistance is utilized in a proper way for the successful implementation of the project.
- SISW and DesignTech shall provide progress report on implementation of the project & utilization certificates of the assistance granted by DHTE&SD from time to time.



7. PAYMENT TERMS AND APPLICABLE TAXES

DHTE&SD agrees to pay an amount of (INR) 66.286 Crores (Rupees Sixty Six Crores two lakh and Eighty Six Thousand only) immediately after of execution of the Agreement. Such amount shall be paid through an account payee cheque in favour of "DesignTech Systems Limited". Rest payment for (INR) 132.572 Crores (One Hundred Thirty Two Crores Five Lakhs and Seventy Two Thousand only) will be made on the basis of fund availability and satisfactory performance of the 1st cluster of 01 CoE and 05 t-SDI by 30th April 2017 or before based on the availability of funds in the fiscal year 2016.

8. MONITORING THE ACTIVITIES OF THE COEs &t-SDIs

a. State Level monitoring of the COEs &t-SDIs

This shall be monitored & reviewed at State Level by the committee under chairmanship of - Development Commissioner of GoJ. The review meeting shall be conducted quarterly. The committee shall advise/ direct the COEs & t-SDIs and resolve all issues arising during the implementation and operation of the project. The committee shall consist of persons as mentioned in Annexure- C

b. Local Board of Governance:

The parties will form a board of governance to oversee the implementation and operations of the COEs &t-SDIs. The review meeting shall be conducted monthly. The board will comprise of the following:

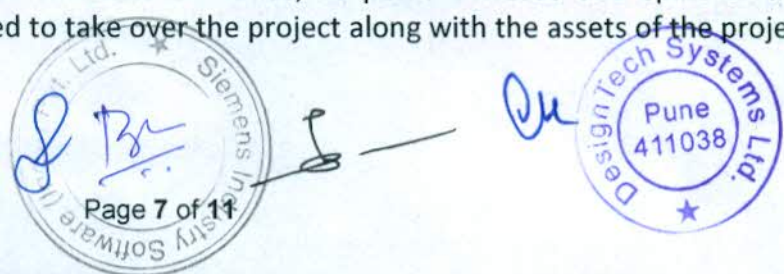
- One representative from SISW.
- One representative from DesignTech.
- Other members (not exceeding 2) to be mutually agreed upon among the parties.

9. UTILIZATION OF FUNDS

The activities carried out by the various COEs &t-SDIs will be reported quarterly to DHTE&SD through the State Level and Local Board of Governance meetings. DHTE&SD or its nominated institutions will be solely responsible for determination, charging and collection of the fees from the students, and maintaining the relevant records as per agreed norms. DesignTech will maintain separate accounts to record the operational expenditure of the COEs & t-SDIs for the entire project, which shall be certified by the statutory auditors and will be submitted to DHTE&SD at the end of each year.

10. BREACH OF AGREEMENT& REMEDIAL PERIOD

In case DesignTech and SISW commits breach of any condition as lay down in this Agreement, then DHTE&SD shall bring the same to the notice of DesignTech and SISW. In case the breach is not rectified within 60 days from the date of notice, as per the words and spirit of this Agreement, DHTE&SD is authorized to take over the project along with the assets of the project and other fixed assets.



11. CONFIDENTIAL INFORMATION

The parties recognize that in the course of providing the software and performing the services pursuant to this Agreement, all parties may have access to confidential information and trade secrets belonging to the other and each party desires that such confidential information and trade secrets remain confidential. Each party agrees that all confidential information and trade secrets communicated to the other in any manner (the "Confidential Information"), will be used by the recipient party only for the purposes allowed by this Agreement. The other party's Confidential Information will not be disclosed by the recipient party, other than to its employees and, in the case of SISW, to its consultants, agents, and contractors, without the prior written consent of the other party. Each party will advise its employees and, shall sign confidential agreement with those who receive any of the other party's Confidential Information. The confidentiality provisions of this Section will not apply to any Confidential Information that (i) was or becomes generally available to the public other than as a result of disclosure by the recipient party in violation of this Agreement; (ii) becomes available to the recipient party from a source other than the other party, provided that the recipient party has no reason to believe that such source is itself bound by a confidentiality or nondisclosure agreement with the other party or otherwise prohibited from disclosing such Confidential Information by a legal, contractual or fiduciary obligation; (iii) was in the recipient party's possession prior to receipt from the other party; (iv) is independently developed by the recipient party without the use of the other party's Confidential Information; or (v) is required to be disclosed by the recipient party by a governmental agency or law, so long as the recipient party provides the other party with written notice of the required disclosure promptly upon receipt of notice of the required disclosure. Upon demand, the parties shall comply with each other's instructions regarding the disposition or return of the Confidential Information in its possession or control.

Upon any actual or threatened violation of this Section by either party, the other party will have the right, in addition to such other remedies which may be available to it, to seek injunctive relief enjoining such acts or attempts, it being acknowledged and agreed that monetary damages are inadequate to protect the other party.

12. LIMITATION OF LIABILITY

Except as agreed and provided under this Agreement, neither party shall be liable to bear or pay any damages arising out of loss of income, loss of profit, special, incidental, indirect, punitive, exemplary or consequential, to any party including third parties, and all such damages are expressly disclaimed. The aggregate liability of DesignTech and SISW to DHTE&SD, in contract or tort or under statute or otherwise, for any direct loss or damage suffered by DHTE&SD arising from or in connection with this Agreement, however such loss or damage is caused will be limited to and will not exceed, in the aggregate the amount received by DesignTech and SISW respectively under the Agreement.



13. ASSIGNMENT

SISW and DesignTech hereby agrees that their rights and obligations under this Agreement shall not be assigned to or in favour of any third party or parties without the written consent of DHTE&SD, which shall not be unreasonably delayed or denied.

14. DISPUTE RESOLUTION

The parties shall endeavor to resolve all or any dispute arising out of or in connection with this Agreement amicably within 30 days of notice being issued by the non-defaulting party to the defaulting party. In case no amicable solution is arrived between the parties within the said 60 days, then such dispute/s shall be settled through the courts located in the state of Jharkhand.

15. UNCONTROLLABLE CIRCUMSTANCES

If the performance of any part of this Agreement by SISW or DesignTech is prevented or delayed by acts of civil or military authority, flood, fire, epidemic, war or riot, or other acts beyond the reasonable control of either party, the party affected shall be excused from such performance only during the continuance of any such event.

16. SEVERABILITY

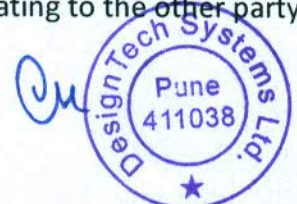
If any provision or provisions of this Agreement shall be held to be illegal, invalid or unenforceable, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired thereby and the parties hereto agree to replace the illegal or unenforceable provisions with valid provisions which are as close as possible to the illegal or unenforceable provisions in their respective meaning, purpose, and commercial effect within reasonable time.

17. GOVERNING LAW AND JURISDICTION

This Agreement shall be governed and construed in accordance with the laws of India, and the courts of Jharkhand shall have the jurisdiction to entertain any dispute or suit arising out of or in relation to this Agreement.

18. PUBLICITY

Neither party shall make any public disclosure, except as may be required by applicable law, relating to discussions and or terms related to this Agreement, without obtaining the prior written consent of the other party. Either party shall not use and shall not let their employees, agents and subcontractors from using the name, trademark or logo of other party in any sale, marketing publication, advertisement, or other publication. Either party shall not make, or let its employees, agents or subcontractors make, any public statement relating to the other party.



19. MODIFICATION, AMENDMENT, SUPPLEMENT OR WAIVER

No modification, amendment, supplement to or waiver of this Agreement or any of its provisions shall be binding upon the parties hereto unless made in writing and duly signed by the authorized representative of the party against whom enforcement thereof is sought. A failure or delay of any party to this Agreement to enforce at any time any of the provisions of this Agreement or to exercise any option which is herein provided, or to require at any time performance of any of the provisions hereof, shall in no way be construed to be a waiver of such provisions of this Agreement.

20. ENTIRE AGREEMENT

This Agreement together with all Appendices, Exhibits, Schedules, Attachments and Addenda attached hereto constitute the entire agreement between the parties and supersedes all previous agreements, promises, representations, understandings and negotiations, whether written or oral, between the parties with respect to the subject matter hereof.

This Agreement is prepared in three originals and each party shall retain one copy. Each copy shall be treated as original when taken separately and shall constitute as one when taken together.



In witness hereof, the Siemens Industry Software (India) Pvt. Ltd., DesignTech Systems Ltd. and DHTE&SD have executed those presently in manner hereinafter mentioned on the 23rd day of November, 2016 at Ranchi, Jharkhand.

SIGNED ON BEHALF OF

DHTE&SD, GOVERNMENT OF JHARKHAND

Name: _____

Signature: _____

Designation: _____
निदेशक
तकनीकी शिक्षा
उच्च एवं तकनीकी शिक्षा विभाग
झारखण्ड, राँची

DESIGNTECH SYSTEMS LIMITED

Name: Vikas Khanvelkar

Signature: Khanvelkar

Designation: Managing Director



SIEMENS INDUSTRY SOFTWARE (INDIA) PVT.LTD.

Name: _____

Signature: _____

Designation: BHASKAR PRASAD
Senior Director

Name : _____

Signature: _____

Designation: SANTOSH SAWANT
Chief Financial Officer

Witness

Name: _____

Signature: _____

Designation: _____

Name : _____

Signature: _____

Designation: _____

Annexure-A

1 BILL OF MATERIAL – SIEMENS CENTER OF EXCELLENCE IN JHARKHAND**1.1 PRODUCT DESIGN AND VALIDATION LAB**

S. No.	Particulars	Units
1	NX Academic Perpetual License Core+CAD	30
2	NX Academic Perpetual License CAE+CAM	30
3	Teamcenter Unified Academic Perpetual License	30
4	Geolus Academic Perpetual License	30
5	Tecnomatix Manufacturing Acad Perpetual License	30
6	JT Translator Academic Perpetual License	30
7	Femap with NX Nastran: Basic Educational License	03
8	Fibersim Legacy NX Academic Bundle (F)	30
9	Syncrofit for NX Perpetual Academic Bundle	30
10	SDE for NX Perpetual Academic Bundle	30
11	OEV Academic Bundle (VS) Perpetual License	30
12	Teamcenter Community Collaboration Bundle	30
13	JT Open Academic Perpetual License	30
14	Rulestream Rule Author	30
15	Rulestream End User	30
16	Rulestream Occasional User	30
17	Rulestream Automation for NX	30
18	Rulestream Automation for Solid Edge	30
19	Rulestream Automation for Creo	30
20	Rulestream Automation for Teamcenter	30
21	Rulestream Automation for Visio	30
22	Rulestream Automation for DWG	30
23	Rulestream Batch Job Processing	30
24	Rulestream Web Services	30
25	Teamcenter Deployment	30
26	Rulestream Automation for SolidWorks	30
27	TecnomatixRobcad Academic Perpetual License	30
28	Workstations (Students +Trainer) with Windows OS	31
29	MS Office	31
30	Oracle/SQL Database	30
31	AutoCAD	30
32	Antivirus	31
33	Server	1






Annexure-A

Workstation Configuration: (Preferred Brands: HP, Dell, IBM, Lenovo, Fujitsu)

Intel® Xeon® Quad Core (E5-1620, E5-1607, E5-1603)

Windows® 7 Professional 64 bit (English)

32GB DDR4 RAM

2 GB graphics Card

1TB HDD

Server Configuration: (Preferred Brands: HP, Dell, IBM, Lenovo, Fujitsu)

Intel® Xeon® Quad Core (E5-1620, E5-1607, E5-1603)

32GB RAM

1TB Hard Disk

16x SATA DVD +/- RW Drive

18.5" Monitor with LED backlight

USB Optical Mouse

USB Entry Business Keyboard

Microsoft® Windows Server(R) 2008x64 R2 SP1 Standard Edition Media, English

Dual LAN port required

AutoCAD configuration:

AutoCAD Architecture 2015 or 2016

MS Office

Antivirus

1.2 Advanced Manufacturing Lab

S. No.	Particulars	Units
1	NX Academic Perpetual License Core+CAD	30
2	NX Academic Perpetual License CAE+CAM	30
3	Teamcenter Unified Academic Perpetual License	30
4	Geolus Academic Perpetual License	30
5	Tecnomatix Manufacturing Acad Perpetual License	30
6	JT Translator Academic Perpetual License	30
7	Femap with NX Nastran: Basic Educational License	30
8	Fibersim Legacy NX Academic Bundle (F)	30
9	Syncrofit for NX Perpetual Academic Bundle	30
10	SDE for NX Perpetual Academic Bundle	30
11	OEV Academic Bundle (VS) Perpetual License	30
12	Teamcenter Community Collaboration Bundle	30
13	JT Open Academic Perpetual License	30
14	Rulestream Rule Author	30
15	Rulestream End User	30
16	Rulestream Occasional User	30
17	Rulestream Automation for NX	30
18	Rulestream Automation for Solid Edge	30
19	Rulestream Automation for Creo	30
20	Rulestream Automation for Teamcenter	30
21	Rulestream Automation for Visio	30



Annexure-A

22	Rulestream Automation for DWG	30
23	Rulestream Batch Job Processing	30
24	Rulestream Web Services	30
25	Teamcenter Deployment	30
26	Rulestream Automation for SolidWorks	30
27	TecnomatixRobcad Academic Perpetual License	30
28	Workstations (Students +Trainer) with Windows OS	31
29	MS Office	31
30	Oracle/SQL Database	30
31	AutoCAD	30
32	Antivirus	31
33	Server	1

Workstation Configuration: (Preferred Brands: HP, Dell, IBM, Lenovo, Fujitsu)

Intel® Xeon® Quad Core (E5-1620, E5-1607, E5-1603)
 Windows® 7 Professional 64 bit (English)
 32GB DDR4 RAM
 2 GB graphics Card
 1TB HDD

Server Configuration: (Preferred Brands: HP, Dell, IBM, Lenovo, Fujitsu)

Intel® Xeon® Quad Core (E5-1620, E5-1607, E5-1603)
 32GB RAM
 1TB Hard Disk
 16x SATA DVD +/- RW Drive
 18.5" Monitor with LED backlight
 USB Optical Mouse
 USB Entry Business Keyboard
 Microsoft® Windows Server(R) 2008x64 R2 SP1 Standard Edition Media, English
 Dual LAN port required

AutoCAD configuration:

AutoCAD Architecture 2015 or 2016

MS Office

Antivirus

Digital Product Design Suite

List of Software Modules in NX Academic Bundle

S. No.	Particulars
1	NX Mach 3 Progressive Die Design
2	NX Advanced Simulation - Add On
3	NX Knowledge Fusion Author
4	NX Open Toolkits Author
5	NX Open GRIP Author



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Annexure-A

S. No.	Particulars
6	NX Body Design
7	NX General Packaging
8	NX Human Modelling
9	NX Human Modelling Posture Prediction
10	NX Aerospace Sheet Metal
11	NX Weld Assistant
12	NX Electrode Design
13	NX WAVE Control
14	NX Drafting Plus
15	NX Issue Management
16	NX Integration to Geolus
17	HD3D Visual Reporting
18	NX Ship Design
19	NX Ship Structure Detail Design
20	NX Ship Structure Manufacturing Prep
21	NX Routing HVAC
22	NX Routing P&ID
23	NX Rules Based Structure Welding
24	NX Ship Drafting
25	NX Routing Cabling
26	NX Routing Base
27	NX Mold Wizard
28	NX Die Structure Design
29	NX Die Engineering
30	NX 5 Axis Machining Add-on
31	NX 3 to 5 Axis Milling Add-on
32	NX Wire EDM Add-on
33	NX 2.5 Axis Milling Add-on
34	NX 3 Axis Milling Add-on
35	NX NC Simulation Add-on
36	NX CAM Teamcenter Client Add-on
37	NX Design Simulation
38	NX Thermal Simulation
39	NX Flow Simulation
40	Ansys Environment
41	ABAQUS Environment
42	NX Motion Simulation-RecurDyn
43	NX Advanced Thermal Simulation
44	NX Space Systems Thermal Simulation
45	NX Electronic Systems Cooling Simulation
46	NX Response Simulation
47	NX Laminate Composites

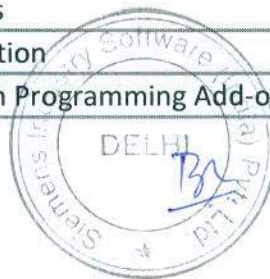


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Annexure-A

S. No.	Particulars
48	NX LS-Dyna Environment
49	NX Motion Control Simulation
50	Mechatronics Concept Designer for NX
51	NX Topology Optimization
52	NX One-Step Formability Analysis
53	NX Greater China Toolkit
54	CAM Express 3 to 5 Axis Milling Add-on
55	NX Nastran Desktop Advanced
56	NX Nastran Desktop Rotor Dynamics
57	NX Nastran Desktop Optimization
58	NX Nastran Desktop Advanced Nonlinear Solver
59	NX EPak
60	NX Schematics
61	Progressive Die Wizard Manufacturing Bundle
62	NX Render
63	NX Freeform Shape
64	NX Visualize Shape
65	NX Analyze Shape
66	NX Optimization Wizard
67	NX Turning
68	NX Post Builder
69	NX Post Adv Kinematics Library
70	Machining Wizard Builder
71	NX Fabric Flattener
72	NX Advanced FEM
73	NX Advanced Durability
74	NX Motion Flexible Body
75	NX EasyFill Analysis
76	NX Molded Part Validation
77	NX Routing Piping and Tubing
78	NX Routing Harness
79	NX Shape Optimization
80	NX CMM Inspection Programming Add-on



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Annexure-A

1.2.1 DIGITAL PRODUCT LIFECYCLE MANAGEMENT

List of Software Modules in Teamcenter Unified Academic Bundle

S. No.	Particulars
1	Teamcenter Author
2	Teamcenter Open (SDK)
3	Multi-Site Collaboration
4	STEP AP 203/214 Translator
5	Visualization Mockup
6	Teamcenter Visualization & Illustration
7	Visualization Quality Producer
8	NX Embedded Client
9	Integration for Mentor Board Station
10	Integration for Cadence Allegro
11	Integration for ClearCase
12	Simulation Author
13	RTT Author & Alignment
14	Process Simulate on Teamcenter Named User
15	Teamcenter Manufacturing Resource Library
16	As-Built Management User
17	Issue Management and CAPA
18	Teamcenter Consumer
19	MRO Materials Management
20	MRO Maintenance Planning & Execution
21	Logistics Records Management
22	Logistics Structure Management



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Annexure-A

1.2.2 DIGITAL MANUFACTURING PLANT SIMULATION AND OPTIMIZATION SUITE

List of Software Modules in Tecnomatix Manufacturing Academic Bundle

S. No.	Particulars
1	FactoryCAD Floating
2	In Context Editor (ICE) - AutoCAD/FactoryCAD - Node Locked
3	Jack
4	Jack Motion Capture Toolkit
5	Jack Occupant Packaging Toolkit
6	Jack Task Analysis Tool Kit
7	RealNC Float
8	Machine Configurator Advanced Float
9	RealNC Optimization Float
10	Process Designer Concurrent
11	Alternative Planning Concurrent
12	Process Simulate Concurrent
13	Process Simulate Spot Concurrent
14	Robotics Concurrent
15	Commissioning Concurrent
16	Process Simulate Human Concurrent
17	Process Simulate Human Advanced (Jack) Concurrent
18	KUKA KRC OLP Float
19	ABB Rapid OLP Float
20	KAWASAKI AS OLP Float
21	Plant Simulation Education Concurrent
22	Plant Simulation Options Pack for EDU. Licenses Concurrent
23	Process Simulate on Teamcenter Float
24	Teamcenter Visualization Mockup
25	Teamcenter Visualization Animation Creation Option
26	RobotExpert
27	KUKA KRC OLP for RobotExpert
28	ABB RAPID OLP FOR RobotExpert
29	FANUC RJ OLP for RobotExpert
30	YASKAWA INFORM OLP for RobotExpert
31	KAWASAKI AS OLP for RobotExpert



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1.2.3 DIGITAL MANUFACTURING ROBOTICS AND AUTOMATION SUITE

List of Software Modules in TecnomatixRobCAD Academic Bundle

S. No.	Particulars
1	Robcad Concurrent
2	Robcad Spot Concurrent
3	Arc Concurrent
4	Cut and Seal Concurrent
5	Paint Concurrent
6	Cable Simulation Concurrent
7	Rose Development Kit Concurrent
8	ABB Rapid S4 OLP Package Concurrent
9	ABB Rapid S4 Paint OLP Package Concurrent
10	Fanuc RG2 OLP Package Concurrent
11	Fanuc RJ OLP Package Concurrent
12	FANUC F100iA OLP Float
13	Kawasaki 400PC OLP Package Concurrent
14	Kawasaki AD OLP package Concurrent
15	Kawasaki C-CKE OLP Package Concurrent
16	Kobelco OLP Package Concurrent
17	Kuka OLP Package Concurrent
18	Nachi AP OLP Package Concurrent
19	Nachi AR OLP package Concurrent
20	Nachi AW OLP package Concurrent
21	Nachi AX OLP package Concurrent
22	Yaskawa NX OLP Package Concurrent
23	Yaskawa XRC OLP Package Concurrent
24	RobcadCatia V5 Interface Concurrent
25	Robcad Pro Engineer Interface Concurrent
26	Robcad Standard Interfaces Concurrent
27	Process Simulate Continuous Manufacturing Concurrent
28	Catia V5 Interface Concurrent
29	VKRC1/2 (KUKA - VW) OLP Float
30	COMAU PDL OLP Float
31	FANUC RJ OLP Float
32	YASKAWA INFORM OLP Float



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1.2.4 DIGITAL SIMULATION AND VALIDATION SUITE

List of Software Modules in NX Nastran Academic Bundle

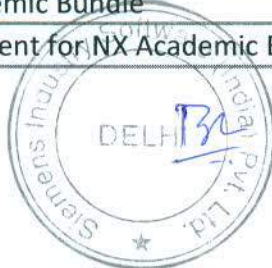
S. No.	Particulars
1	NX PCB Exchange
2	NX Nastran Basic
3	NX Nastran Advanced
4	NX Nastran Dynamic Response
5	NX Nastran Aeroelasticity
6	NX Nastran Optimization
7	NX Nastran Super Elements
8	NX Nastran DMAP
9	NX Nastran DMP
10	NX Nastran Rotor Dynamics
11	NX Nastran Advanced Nonlinear Solver

List of Software Modules in FEMAP Academic Bundle

S. No.	Particulars
1	FEMAP Flow Solver (Floating)
2	FEMAP with NX Nastran : Dynamic Response (Floating)
3	FEMAP with NX Nastran : Aeroelasticity (Floating)
4	FEMAP with NX Nastran : Design Optimization (Floating)
5	FEMAP with NX Nastran : Superelements (Node Locked)
6	FEMAP with NX Nastran: Super Elements (Floating)
7	FEMAP with NX Nastran : DMAP (Floating)
8	FEMAP with NX Nastran: Advanced Nonlinear Solver (Floating)
9	FEMAP with NX Nastran: Rotor Dynamics (Floating)
10	FEMAP with NX Nastran: Topology Optimization (Floating)

List of Software Modules in Vistagy Academic Bundle

S. No.	Particulars
1	Fibersim for NX Academic Bundle
2	Seat Design Environment for NX Academic Bundle



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1.3 Test & Optimization Lab		
S. No.	Particulars	Units
	LMS Scadas Hardware - 8 channel Data Acquisition System	
1	LMS SCADAS Mobile 1-slot mainframe	1
2	LMS SCADAS Mobile enhanced 8-channel V/ICP/TEDS input module	1
	LMS Test.Lab Academic bundle (50 seats - floating)	
3	TL academic bundle	30
	Sensors & Accessories	
4	Triaxial, ICP® accel., 100 mV/g, 1 Hz to 4k Hz, 10 ft mating cable supplied (2x)	2
5	1/2 prepolarized free-field condenser microphone (2x)	2
6	General purpose Modal Analysis impact hammer (1x)	1
7	Low-noise coaxial cable, blue TFE jacket, 20-ft, BNC plug to BNC plug (1x)	1
8	Miniature Shaker Kit, 31 N pk sine force, 13 mm pk-pk stroke, includes 2007E miniature shaker with 2100E21-100 power amplifier, trunnion mounting base and 2110G06 stinger kit. (1x)	1
9	Multi-purpose, ICP® force sensor, 10 lb comp., 10 lb tension, 500 mV/lbv (1x)	1
10	Low-noise coaxial cable, blue TFE jacket, 20-ft, 10-32 coaxial plug to BNC plug (1x)	1
11	ICP® LaserTach™ Kit, includes LaserTach™ with BNC output, 002T10 BNC (1x) cable, 1140C03 mini-tripod and retro-reflective tape.	1
12	TEST object - Rotor kit for Rotating machinery Analysis and Aircraft scaled model for Modal Testing	2
13	Samtech	30
14	Imagine. Lab	30
15	Virtual Lab	30
16	Workstations (Students + Trainer) with Windows OS	30
17	Laptop for Measurements	1
18	MS Office	30
19	PDF Reader	30
20	Antivirus	30

Workstation & Laptop configuration:

Workstation Configuration: (Preferred Brands: HP, Dell, IBM, Lenovo, Fujitsu)

Intel® Xeon® Quad Core (E5-1620, E5-1607, E5-1603)

Windows® 7 Professional 64 bit (English)

32GB DDR4 RAM

2 GB graphics Card

1TB HDD

LAPTOP WORKSTATION(Preferred Brands: HP, Dell, IBM, Lenovo, Fujitsu)

Intel i5 CPU – 2.53 GHz or better

8GB RAM or better

500 GB HDD or better

NVIDIA Graphics card with 1GB dedicated graphics memory

Ethernet Host Interface



Annexure-A

Resolution of 1280x1024 or better
Windows 7 64 bit Professional OS

MS Office

Latest PDF reader

Antivirus

1.4 Automation Lab		
S. No.	Particulars	Units
	SIMATIC S7 1200 PLC + HMI	
1	SIMATIC S7-1200 AC/DC/RELAIS or DC/DC/DC & accessories	6
2	SIMATIC Basic Panel KTP 700 for S7-1200 and accessories	1
3	Kit Simulator	1
	PLC SIMATIC S7-1500 with HMI	
4	SIMATIC S7 1516-3 PN/DP	1
5	SIMATIC ET 200 SP PN- PROFINET	1
6	SIMATIC Touch Panel KTP700 color with PROFINET/ PROFIBUS/MPI	1
7	Kit Simulator	1
	TIA Portal Version 13	
8	SIMATIC TIA portal Step-7 Prof V13	12
9	SIMATIC TIA portal WinCC V13	6
10	Workstations (Students + Trainer) with Windows OS	12
11	MS Office	12
12	Antivirus	12

Workstations configuration: (Preferred Brands: HP, Dell, IBM, Lenovo, Fujitsu)

Intel® Xeon® Quad Core (E5-1620, E5-1607, E5-1603)
Windows® 7 Professional 64 bit (English)
32GB DDR4 RAM
2 GB graphics Card
1TB HDD

MS Office

Antivirus



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1.5 Electrical & Energy Efficiency Lab		
S. No.	Particulars	Units
	SINAMICS G 120 with Induction Motor (5 kits)	
1	SINAMICS G120 standard drive 3AC 400V-Network-Content	5
2	Low Voltage Squirrel Cage Motor IP55 Type 1LA0	5
3	Kit simulator	5
	DC Drive 6RA80 with Motor	
4	Sinamics DC Master 6RA80	2
5	DC motor form Siemens approved vendor	2
6	Simulation training kit 6RA80	2
	Electrical Training Set-up - LV Switchgear & LV-AC Motors	
7	Air Circuit Breaker 3WL	1
8	Air Circuit Breaker 3WT	1
9	Molded case circuit breaker 3VT	2
10	Molded case circuit breaker 3VL	1
11	63 A SD	1
12	125 A HRC Fuse (DIN)	3
13	MPCB	3
14	MPCB	3
15	MPCB	3
16	Bimetallic OLR	1
17	Bimetallic OLR	1
18	Microprocessor based OLR	1
19	Microprocessor based OLR	1
20	Microprocessor based OLR	1
21	Soft starter	1
22	Soft starter	1
23	Soft starter	1
24	MCB 3P	3
25	MCB 2P	3
26	RCBO	4
27	S-D Starter Assembly	3
28	RLT Contactor	2
29	RDOL	3
30	3 phase electrical motor	3
31	Accessories for motor	3
32	SIMOCODE (Intelligent Motor Management System Kit)	2
33	PAC Meter	6
34	Energy Savings Training Kit	3
35	Workstations (Students + Trainer) with Windows OS	8
36	MS Office	8
37	Antivirus	8



Annexure-A

Workstations configuration: (Preferred Brands: HP, Dell, IBM, Lenovo, Fujitsu)

Intel Xeon Processor E3-1225 v3, Quad Core, 3.20 GHz
16GB RAM (2x8GB) 1600MHz DDR3 Non-ECC
500GB 3.5inch SATA (7,200 Rpm) Hard Disk
18.5" HD Monitor with LED
16x DVD +/- RW Drive
1 GB NVIDIA Quadro K600 – Graphics Card
USB Optical Mouse
USB Entry Business Keyboard
Windows ® 7 Ultimate 64 bit (English)

MS Office

Antivirus

1.6 Process Instrumentation Lab		
S. No.	Particulars	Units
	SIMATIC PCS 7	
1	PCS 7 Trainer Package	1
2	SIMATIC PCS 7 - Automation System 410 Smart	2
3	Kit Simulator	2
4	Process Instruments for PI Lab	1 Set
5	Workstations (Students + Trainer) with Windows OS	7
6	MS Office	7
7	Main Filter Regulator & Lubricator (FRL unit , 8 bar , 8mm line size)	1
8	Compressor – Common with the CNC Machine compressor	1
9	Antivirus	7

Workstations configuration: (Preferred Brands: HP, Dell, IBM, Lenovo, Fujitsu)

Intel® Xeon® Quad Core (E5-1620, E5-1607, E5-1603)
Windows® 7 Professional 64 bit (English)
32GB DDR4 RAM
2 GB graphics Card
1TB HDD

MS Office

Antivirus



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Annexure-A

1.7 Mechatronics Lab

S. No.	Particulars	Units
1	MMS (Mechatronics Modular System) consisting of : Feeder Station Inspection Station Buffer Station Processing Station Sorting Station Silent Compressor Tool kit SIMATIC S7-1200 PLC with Analogue Input TIA Portal Simatic Manager Version-13 (basic) License	1 Set
2	4 Work Benches (with Tool Box, Compressor) with S7-1200 PLC and TIA Portal Simatic Manager Version-13 (basic) License	
3	Workstations (Students + Trainer) with Windows OS	7
4	MS Office	7
5	Antivirus	7

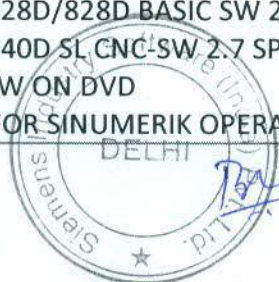
Workstations configuration: (Preferred Brands: HP, Dell, IBM, Lenovo, Fujitsu)

Intel® Xeon® Quad Core (E5-1620, E5-1607, E5-1603)
Windows® 7 Professional 64 bit (English)
32GB DDR4 RAM
2 GB graphics Card
1TB HDD
MS Office
Antivirus

1.8 Advanced Machine and Robotics Lab

1.8.1 CNC PROGRAMMING

S. No.	Particulars	Units
	808 D	
1	Turning Kit	2
	808D	
2	Milling Kit	2
	840 DSL	
3	Complete Kit with Motor & Drive	1
	Sinutrain 18 licenses	
4	SINUTRAIN COMPLETE PACKAGE SINUMERIK 828D/828D BASIC SW 2.7 SP2/4.4 SP2 SINUMERIK 840D SL CNC-SW 2.7 SP2/4.4 SP2 TRAININGS-SW ON DVD SINUTRAIN FOR SINUMERIK OPERATE	1



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	SHOPMILL/SHOPTURN FOR PC SOFTWARE 4.4 ED.2 MULTICHANNEL AND OTHER TECHNOLOGYS 16 LICENSES 6 LANGUAGES WINDOWS 7 32/64 BIT WINDOWS XP SP3 32BIT CLASSROOM LICENSE	
5	Workstations (Students + Trainer) with Windows OS – To be finalized	19
6	MS Office	19
7	Antivirus	19
8	Stabilizer & Isolation Transformer – 10 KVA	1

Workstations configuration: (Preferred Brands: HP, Dell, IBM, Lenovo, Fujitsu)

Intel® Xeon® Quad Core (E5-1620, E5-1607, E5-1603)

Windows® 7 Professional 64 bit (English)

32GB DDR4 RAM

2 GB graphics Card

1TB HDD

MS Office

Antivirus

1.8.2 CNC MACHINES

S. No.	Particulars	Units
1	JV 55 Vertical Machining Centre	1
	-Voltage Stabilizer	
	-Siemens 828D CNC System	
	Cutting tools and Inserts	
2	Dia 50 Face mill cutter	1 No
3	Inserts	10 Nos
4	BT 40 Face mill adaptor	1 No
5	BT 40 Collet chuck holder	2 nos
6	ER Collets range 3 -20 mm, in steps of 1 mm(18 nos)	1 No
7	M8 X1.25 HSS Tap	2 Nos
8	12mm Solid carbide end mill	2 Nos
9	6.8mm Solid carbide drill	2 Nos
10	Smarturn CNC Lathe	1
	-165mm x 3 Jaw Hollow Chuck and Hollow Cylinder with one set of hard and soft jaws	
	-Voltage Stabilizer	
	-Siemens 828D CNC System	
	Cutting Tools and Inserts	
11	Turning tool	1 No
12	Inserts	10 Nos
13	Threading Tool	1 No
14	Inserts	10 Nos
15	Boring Tool	1 No
16	Inserts	10 Nos



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17	Dia 20 mm insert type drill	1 No
18	Inserts	10 Nos
19	Compressor (8 bar pressure, 200 lpm flowrate with Main FRL unit for 8 bar, 8mm line size)	1

1.8.3 RAPID PROTOTYPING

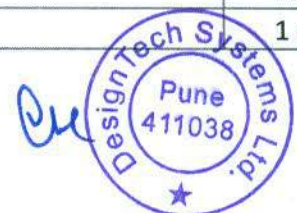
S. No.	Particulars	Units
1	Rapid Prototyping Machine - Stratasys	1
2	Workstation with Windows OS	1
3	MS office	1
4	Antivirus	1
5	Support Removal Tank	1
6	De-humidifier	1



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1.8.4 ROBOTICS

S. No.	Particulars	Units
	Spot Welding Robot Cell (Preferred Brands: Kuka, ABB)	
1	Robot (235Kg Payload/2650mm reach)	1 no
2	ARM Welders Make Pneumatic Operated Spot Welding Gun ,Transformer & related Accessories	1 set
3	Pedestal for Robot	1 no
4	Spot Welding Fixture with Indexer	1no
5	Cable tray	1 set
6	Electrical panel and accessories	1 set
7	Pneumatic accessories	1 set
8	Safety Fence	1 set
9	Installation and Programming support	1 set
10	Documentation	1 set
11	Warranty(1 year)	1 set
12	Spot welding machine consumables	1 set
13	MS Sheet 350mmX400mm , 2mm thick	100 nos
	Arc Welding Robot Cell (Preferred Brands: Kuka, ABB)	
14	Robot (4kg payload/150mm reach)	1 no
15	MIG/MAG welding machine and accessories	1 set
16	Welding Fixture table	1 no
17	Gas regulators	1 set
18	Wire spool	1 set
19	Cable tray	1 set
20	Electrical panel and accessories	1 set
21	Pneumatic accessories	1 set
22	Safety Fence	1 set
23	Installation and Programming support	1 set
24	Documentation	1 set
25	Warranty (1 year)	1 set
26	Welding machine consumables	1 set
27	MS Sheet 350mmX400mm , 2mm thick	100 nos
	Material Handling Cell (Preferred Brands: Kuka, ABB)	
28	Robot (12kg Payload/ 1850mm reach)	1 no
29	Pedestal for Robot	1 set
30	Air Operated 2 Jaw Gripper	1 no
31	Multi colour Pen Stand, Board & Holders	1 set
32	Cable tray	1 set
33	Electrical Panel & accessories	1 set
34	Pneumatic Accessories	1 set
35	Safety Fence	1 set
36	Installation and Programming support	1 set
37	Documentation	1 set



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38	Warranty (1 year)	1 set
39	Air compressor (320 ltrs, 5HP, 12Kg Pressure with installation and commissioning	1 no
40	Supply of Voltage Stabilizer 7.5KVA	3 nos
41	Air Dryer suitable to the above cell	1 no

1.9 Other items

One 3D Projector Per Centre of Excellence

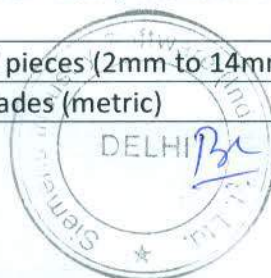
Total 6

1.10 T-SDI Lab 1- 4 Wheeler Body Repair

Sl No	Description
1	Pneumatic Dent Puller
2	Spot Welder with accessories
3	MIG MAG Welder
4	Body repair hand tools - Various hammers, dollies, spoons, Set of 16 PCS
5	Bonded auto glass removal & replacement tools
6	Caulking/ panel seam sealer/ panel adhesive application gun
7	Power hacksaw kit AT192
8	Random /dual action orbital sander (12-15cm) AT406
9	Electrician Screw Driver 250mm 826I
10	Philips Screw Driver set of 5 pieces (100 mm to 300 mm)862,864
11	Screw driver 20cm.X 8mm. Blade 827I
12	Screw driver 30 cm. X 8 mm. Blade 829I
13	Hammer Mallet WoOden
14	Hollow Punch set of seven pieces NO 4 to No 20
15	Spanner T. flocks for screwing up and up-screwing inaccessible 8-14MM

1.11 T-SDI Lab 1- 4 Wheeler Paint shop

Sl No	Description
1	Allen Key set of 12 pieces (2mm to 14mm)
2	Electrician Screw Driver 250mm
3	Philips Screw Driver set of 5 pieces (100 mm to 300 mm) 62-257,260,263,265,266
4	Pliers combination 20 cm. 70-461
5	Screw driver 20cm.X 8mm. Blade 62-253
6	Screw driver 30 cm. X 8 mm. Blade 62-255
7	Spanners socket with T-bar, ratchet and universal upto 32 mm set of 24 pieces with box
8	Allen Key set of 12 pieces (2mm to 14mm)
9	Feeler gauge 25 blades (metric)



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10	Granite surface plate 1600 x 1000 with stand and cover
11	Hammer Ball Peen 0.75 Kg 450 Grms
12	Hammer Plastic 35MM
13	Hand operated crimping tool (i) for crimping up to 4mm and (ii) for crimping up to 10mm
14	Philips Screw Driver set of 5 pieces (100 mm to 300 mm) 62-257,260,263,265,266
15	Spanner T. flocks for screwing up and up-screwing inaccessible, 8,10,12,13,14,
16	Spanners socket with T-bar, ratchet and universal upto 32 mm set of 24 pieces with box
17	Stud extractor set of 5 Nos
18	Paint Stand
19	Paint Gun - base coat
20	Paint Gun - top coat

1.12 T-SDI Lab 1- 4 Lift

	Item No	Description	Qty.
Equipment	1	Dumb Waiter Lift 100 Kgs	1
	2	Non-Working Dumb Waiter lift 100 Kgs	1
	3	Electrical Working simulator of a lift	1
General Tools	4	Steel tape 15 m length	1 set
	5	Plier insulated 150 mm	1 set
	6	Plier side cutting 150 mm	1 set
	7	Screw driver 100 mm	1 set
	8	Screw driver 150 mm	1 set
	9	Electrician connector screw driver insulated handle thin stem 100 mm	1 set
	10	Heavy duty screw driver 200 mm	1 set
	11	Electrician screw driver insulated handle thin stem 250 mm	1 set
	12	Punch centre 150 mm x 9 mm	1 set
	13	Knife double bladed electrician	1 set
	14	Neon tester	1 set
	15	Steel rule 300 mm	1 set
	16	Hammer cross peen with handle	1 set
	17	Hammer ball peen with handle	1 set
	18	Gimlet 6 mm	1 set
	19	Bradawl	1 set
	20	Scriber (Knurled centre position)	1 set
	General Tools	21	Pincer 150 mm
Lab specific	22	Pillar electric drill machine 12 mm capacity	1 set



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Tools	23	Allen key	1 set
	24	oil can 0.12 ltr	1 set
	25	Grease gun	1 set
	26	Outside micrometer	1 set
	27	Crimping tool	1 set
	28	Wire stripper 20 cm	1 set
	29	Chisel cold flat 12 mm	1 set
	30	Mallet hard wood 0.50 kg	1 set
	31	Hammer extractor type 0.40 kg	1 set
	32	Hacksaw frame 200 mm 300 mm adjustable	1 set
	33	Try square 150 mm blade	1 set
	34	Outside and inside driver caliper	1 set
	35	Pliers flat nose 150 mm	1 set
	36	Pliers round nose 100 mm	1 set
	37	Tweezers 100 mm	1 set
	38	Snip straight and bent 150 mm	1 set
	39	D.E. metric spanner	1 set
	40	Drill hand brace	1 set
	41	Drill S.S. twist block 2 mm 5 mm 6 mm set of 3	1 set
	42	Plane smoothing cutters 50 mm	1 set
	43	Gauge wire imperial	1 set
	44	File flat 200 mm 2nd cut	1 set
	45	File half round 200 mm 2nd cut	1 set
	46	File round 200 mm 2nd cut	1 set
	47	File flat 150 mm rough	1 set
	48	File flat 250 mm bastard	1 set
	49	File flat 250 mm smooth	1 set
	50	File rasp half round 200 mm bastard	1 set
	51	Industrial safety hat	1 set
	52	Industrial safety shoe	1 set
	53	Elevator rope cutter up to 32 mm	1 set
	54	Elevator limit switches	1 set
	55	Electric hand blower - 750W, 240V	1 set
	56	Rail alignment gauge	1 set
Ancillary	57	Virtual GI Shaft for movement of the lift to be constructed	2 set



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2 T-SDI LABS**2.1 2 WHEELER MECHANIC**

	Item No	Description	Qty.
Equipment	1	Bike	1
	2	Bike/ Scooter	1
	3	Live Engine	2
	4	Special Tools for the engine	2
General Tools Set	5	Allen key set of 12 pieces.(2mm to 14 mm)	1 set
	6	Caliper inside 15 cm spring	1 set
	7	Caliper outside 15 cm spring	1 set
	8	Center punch 10 mm. Dia. X 100 mm.	1 set
	9	Dividers 15 cm spring	1 set
	10	Electrical Screw drivers 250 mm	1 set
	11	Hammer ball pen 0.5 kg with handle	1 set
	12	Hands file 20 cm. Second cut flat	1 set
	13	Philips screw drivers set of 5 pieces (100 mm to 300 mm)	1 set
	14	Pliers combination 20 cm.	1 set
	15	Screw drivers 20 cm X 9 mm Blade	1 set
	16	Screw drivers 30 cm X 9 mm Blade	1 set
	17	Scriber 15 cm	1 set
	18	Spanner D.E set of 12 pieces (6mm to 32 mm)	1 set
	19	Spanner, ring set of 12 metric sizes 6 to 32 mm.	1 set
	20	Spanner socket with speed handle, T-bar, ratchet and universal up to 32 mm set of 28 pieces with box	1 set
	21	Steel rule 30 cm inch and metric	1 set
	22	Steel tool box with lock and key (folding type) 400X200X150mm	1 set
	23	Wire cutter stripper	1 set
	Lab specific tools & infra	24	Hydroelectric Scissor Lift With S.S. Checkered Top With Inbuilt Cylinder & Provision For Qrc-2 Nos. & Locks
25		Front Wheel Locking Vice	2
26		Hydraulic Power Pack With 1/2 HP Motor With Manual Pump Attached.(3phase)	1
27		Poly Hydro Hand Lever Valves To Operate Power Pack	2
28		Hydraulic Accessories :- Tubing, Fittings, Hose Pipes, Clamps, etc.	2
29		Pneumatic Hanger (Roof / Wall Mounted)	2
30		Hose Reel (Pu Tube Id 8 Od 12 & Length 5Mtr.)	2
31		Hose Reel Cover With Logo	2
32		Impact Wrench (I.R. Make/SNAP ON)	3



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Annexure-A

	33	Socket & Bits Set For Impact Wrench	3
	34	Filter Regulator	3
	35	Quick Release Coupler (Qrc)	6
	36	P.U. Coiled Hose With Blow Gun	3
	37	Pneumatic Line From Air Compressor To All Equipment	3
	38	Part Rack	2
	39	Cbu Tools Trolley	2
	40	Insert For Cbu Trolley	8
	41	Chain Cum Filter Cleaner Made Of S.S.	1
	42	Engine Work Station	0
	43	Spark Plug Cleaner & Tester	1
	44	Tyre Pressure Gauge analog	1
	45	Special Service Tool Board	1
	46	Exhaust Blower	1
	47	Work Table With Aluminum Checkered Sheet On Top & Inside	1
	48	Smokeless System Per Lift Set	2
	49	Engine Jig	1
Cut Sections		MODEL OF CUT SECTIONED ENGINE ASSEMBLY WITH CLUTCH AND GEAR Box (Working)	1
		DEMONSTRATION BOARD OF IGNITION SYSTEM (Working)	1
		MOCK LAYOUT OF A TWO WHEELER WIRING (ELECTRICAL SYSTEM) (Working)	1
Ancillary Items		Pneumatic Line From Air Compressor To All Equipment	1
		Air Compressors	1



Annexure-A

2.2 Four Wheeler Mechanic

S. No.	Particulars
1	Wheel Aligner 3D
2	Wheel Balancer
3	Tyre Changer
4	Paint Booth
5	Two Post Lift
6	Multi Scan hand tool
7	Arbor press hand operated 2 ton capacity
8	Grinding machine (general purpose) D.E. pedestal with 300 mm dia wheels rough and smooth
9	Hand operated Hydraulic press 20 Ton
10	Hydraulic jack HI-LIFT type -3 ton capacity,
11	Hydraulic jack HI-LIFT type 5 Ton capacity
12	Pipe Bending Machine (Hydraulic type) 12mm to 50mm
13	Pneumatic rivet gun CP9883
14	Car Jet washer with standard accessories HRK PRO
15	Chain Pulley Block-3 ton capacity with tripod stand
16	Work bench 8' X3'X3' With Rubber Mat
17	Bench Vice 150MM Jaw
18	TOOLS TROLLY 7 Drawers Red Colour
19	PART RACK 6*5*2 FT - SEN5944030K
20	Ultrasonic Injection cleaning equipment KEN5038640K
21	Allen Key set of 12 pieces (1.5mm to 14mm)
22	Caliper inside 15 cm Spring
23	Calipers outside 15 cm spring
24	Center Punch 10 mm. Dia. x 100 mm.
25	Dividers 15 cm Spring
26	Electrician Screw Driver 250mm 826I
27	Hammer ball peen 0.5 kg with handle
28	Hands file 20 cm. Second cut flat
29	Philips Screw Driver set of 5 pieces (100 mm to 300 mm)860,861,862,863,864
30	Pliers combination 20 cm.
31	Screw driver 20cm.X 10mm. Blade 927
32	Screw driver 30 cm. X 10 mm. Blade 929
33	Scriber 15 cm
34	Spanner D.E. set of 12 pieces (6mm to 32mm)
35	Spanner, ring set of 12 metric sizes 6 to 32 mm.
36	Spanners socket with speed handle, T-bar, ratchet and universal upto 32 mm set of 28 pieces with box
37	Steel rule 30 cm inch and metric
38	Steel tool box with lock and key (folding type) 400x200x150 mm

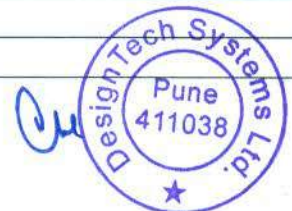


Annexure-A

39	Wire cutter and stripper
40	A/C COMP CLUTCH REMOVER KIT JTC1609
41	Adjustable spanner (pipe wrench 350 mm)
42	Air blow gun with 10 Meters Hose & Coupling
43	Air impact wrench 1/2" AT650 with 10 Meters Coiled Hose & 10 To 24MM Impact Socket & 125MM Extension Rod.
44	Air ratchet (Note: Accessories With Impact Wrench are suitable, so not included accessories.)
45	Allen Key set of 12 pieces (1.5mm to 14mm)
46	Anvil 50 Kgs
47	Battery –charger 72V, 6Amps
48	Caliper inside 15 cm Spring
49	Calipers outside 15 cm spring
50	Chisel 10 cm flat
51	Chisels cross cut 200 mm X 6mm
52	Circlip pliers Expanding and contracting type 15cm and 20cm each
53	Clamps C 100mm
54	Clamps C 150mm
55	Clamps C 200mm
56	Coil spring compressor for suspension spring
57	Depth micrometer 0-25mm
58	Dial gauge type 1 Gr. A (complete with clamping devices magnetic stand)and with
59	Dividers 15 cm Spring
60	Drill twist 1.5 mm to 12 mm (various sizes) by 0.5 mm SHR0258500K
61	Electric Soldering Iron 230 V 60 watts 230 V 25 watts
62	Electric testing screw driver
63	Feeler gauge 26 blades (metric)
64	File flat 20 cm bastard
65	File, half round 20 cm second cut
66	File, Square 20 cm second cut
67	File, Square 30 cm round
68	File, triangular 15 cm second cut
69	Files assorted sizes 200 & 250MM Rough & second Cut Set of 21 Nos
70	Flat File 25 cm second cut
71	Flat File 35 cm bastard
72	Garage stand (Vehicle stand 3 Ton)
73	Gloves for Welding (Leather and Asbestos)
74	Glow plug tester
75	surface plate 600X600MM Cast Iron
76	Grease Gun
77	Grease Gun heavy duty trolley type 10 kg capacity
78	Growler



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Annexure-A

79	Hacksaw frame adjustable 20-30 cm
80	Hammer Ball Peen 0.75 Kg
81	Hammer Chipping 0.25 Kg
82	Hammer Mallet Wooden
83	Hammer Plastic 40MM
84	Hand operated crimping tool 0.5 to 16MM
85	Hand reamers adjustable 3/8 to 21X32 Set of 6 Nos
86	Hand vice – 75 mm
87	Hollow Punch set of seven pieces NO4 to No 20
88	Impact screw driver With 8 Bits
89	Insulated Screw driver 20 cm x 8mm blade 827I
90	Insulated Screw driver 30 cm x 8mm blade 829I
91	Lifting jack screw type 3 ton, 5ton & 20 Ton capacity
92	Multimeter digital
93	Oil can 0.5/0.25 liter capacity
94	Outside micrometer 0 to 25 mm
95	Outside micrometer 25 to 50 mm
96	Outside micrometer 50 to 75 mm
97	Outside micrometer 75 to 100 mm
98	Petrol nozzle
99	Philips Screw Driver set of 5 pieces (100 mm to 300 mm) 860,861,862,863,864
100	Pipe cutting tool
101	Piston ring compressor
102	Piston Ring expander and remover.
103	Pliers combination 20 cm.
104	Pliers flat nose 15 cm
105	Pliers round nose 15 cm
106	Pliers side cutting 15 cm
107	Portable electric drill Machine 10MM
108	Scraper flat 25 cm
109	Scraper half round 25 cm
110	Scraper Triangular 25 cm
111	Scriber 15 cm
112	Scriber with scribing black universal
113	Spanner D.E. set of 12 pieces (6mm to 32mm)
114	Spanner T. flocks for screwing up and up-screwing inaccessible 8 -14MM
115	Spanner, adjustable 15cm.
116	Spanner, ring set of 12 metric sizes 6 to 32 mm.
117	Spanners socket with speed handle, T-bar, ratchet and universal upto 32 mm set of 28 pieces with box
118	Spark plug spanner 14mm x 18mm x Size
119	Steel measuring tape 10 meter in a case
120	Steel rule 15 cm inch and metric
121	Steel rule 30 cm inch and metric
122	Straight edge gauge 2 ft.



Annexure-A

123	Stud extractor set of 4 Nos
124	Stud remover with socket handle
125	Surface gauge with dial test indicator plunger type i.e. 0.01 mm
126	Taps and Dies complete sets BSF 1/4" To 3/4"
127	Taps and wrenches - metric 6-24
128	Telescope gauge
129	Temperature gauge with sensor 0-100 deg c
130	Timing lighter
131	Toe-in, toe-out gauge
132	Torque wrenches 5-35 Nm, 12-68 Nm & 50-225 Nm
133	Tubeless tyre repair kit
134	Tyre pressure gauge with holding nipple
135	Universal puller for removing pulleys, bearings
136	V' Block 75 x 38 mm pair with Clamps
137	Valve spring compressor universal.
138	Vernier caliper 0-300 mm with least count 0.02mm
139	Vice grip pliers
140	Air Compressors CPM5D With Dryer
141	Pneumatic line air compressor to all equipment in M S Seamless accessories such as ball valves extra



Annexure-A

2.3 Manufacturing & Production

S. No.	Particulars	Units
1	JV 55 Vertical Machining Centre	1
	Along with Voltage Stabilizer	
	Along with Siemens 828D CNC System	
	Cutting tools and Inserts	
2	Dia 50 mm Face mill cutter	1
3	Inserts	10
4	BT 40 Face mill adaptor	1
5	BT 40 Collet chuck holder	2
6	ER Collets range 3 -20 mm, in steps of 1 mm(18 nos)	1
7	M8 X1.25 HSS Tap	2
8	12mm Solid carbide end mill	2
9	6.8mm Solid carbide drill	2
10	Smarturn CNC Lathe	1
	Along with 165mm x 3 Jaw Hollow Chuck and Hollow Cylinder with one set of hard and soft jaws	
	Along with Voltage Stabilizer	
	Along with Siemens 828D CNC System	
	Cutting Tools and Inserts	
11	Turning tool	1
12	Inserts	10
13	Threading Tool	1
14	Inserts	10
15	Boring Tool	1
16	Inserts	10
17	Dia 20 mm insert type drill	1
18	Inserts	10
19	Compressor (Along with FRL unit)	1



Annexure-A

2.4 Welding

	Item No	Description	Qty.
Equipment	1	Oxy Acetylene Gas welding	1
	2	Gas Cutting Machine	1
	3	MIG/MAG Welding Machine	2
	4	TIG/ GTAW Welding Machine	2
	5	MMA Welding Machine	3
Tools (PPE)	6	Welding Helmet	12
	7	Hand Shield Armor	10
	8	Welding Goggles	12
	9	Safety Shoes	15
	10	Hand Gloves	50
	11	Apron	50
Accessories	12	Holder Confront	50
	13	Earth Clamp	50
	14	Welding Cable -CU	50 mts
	15	Hose - Oxygen	50 mts
	16	Hose - Acetylene	50 mts
	17	Protex RA (protection from reverse flow) - Acetylene	4
	18	Protex RA (protection from reverse flow) - Oxygen	4
	19	Regulator - Acetylene	5
	20	Regulator - Oxygen	5
	21	Regulator - CO2	5
	22	CO2 Heater	5
Miscellaneous Items	23	Electrode/Flux Oven	1
	24	Cylinder Keys	10
	25	Lighter	10
	26	Big Hammer	1
	27	Hack Saw Frame	2
	28	Hack Saw Blade	5
	29	Cylinder-Trolley-Single Cylinder	6
	30	Spanner Set	1
	31	Screw Driver Set	1
	32	Pliers	2
Spare Parts	33	Hand Grinding Machines-100mm	2
	34	Adjustable Wrench	5
	35	Torch for TIG welding	2
	36	Collet	5
	37	Collet Body	5
	38	Ceramic Nozzle Size 11.2	5



Annexure-A

	39	Ceramic Nozzle Size 6.4	15
	40	Tungsten Electrode	25
	41	Torch for MIG/MAG	2
	42	Liner-1.2mm 3mtrs	4
	43	Nozzle	5
	44	Contact Tip	15
	45	Feed Roll	15
Other Items	23	Exhaust Lining - Extract Fans	1+7
	24	Ducting for exhaust air	100 sqmt
	25	Welding tables	7



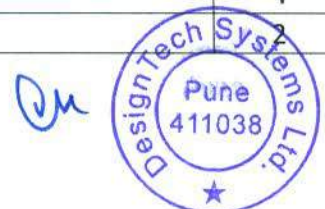
Annexure-A

2.5 Electronics

	Item No	Description	Qty.
Equipment	1	CCTV set up (4 camera)	1 system
	2	Washing machine (auto and semi-automatic)	1
	3	Vacuum cleaner	2
	4	Microwave oven 20 liters (two technologies)	1
	5	Mixer cum grinder	2
	6	Steam iron	4
	7	Electric rice cooker	3
	8	Water purifier (RO and UV technologies)	1
	9	Immersion Heater	4
	10	Induction cooktop	2
	11	Home theatre system including CD Player	1 Set
	12	Printers (DMP, laser)	1 each
	13	LCD/LED Projector	1
	14	DTH with accessories	1 Set
	15	LED TV	
	16	LCD TV	
General Tool	17	Connecting screwdriver 100 mm	10
	18	Neon tester 500 V	6
	19	Screw driver set (set of 5)	10
	20	Insulated combination pliers 150 mm	6
	21	Insulated side cutting pliers 150 mm	8
	22	Long nose pliers 150 mm	6
	23	Soldering iron 25 W. 240 V	10
	24	Electrician knife	6
	25	Tweezers 100 mm	10
	26	Digital Multimeter (3 one /two digit)	10
	27	Soldering Iron Changeable bits 10 W	6
	28	De- soldering pump	10
	29	Steel rule 300 mm	4
	30	Steel measuring tape-3 m	4
	31	Tools makers vice 100 mm (clamp)	1
	32	Tools maker vice 50 mm (clamp)	1
	33	Crimping tool (pliers)	2
	34	Magneto spanner set	2
	35	File flat 200 mm bastard	2
	36	File flat 200 mm Second cut	2
	37	File flat 200 mm smooth	2
	38	100 mm flat pliers	4
	39	100 mm round Nose pliers	4
	40	Scriber straight 150 mm	2

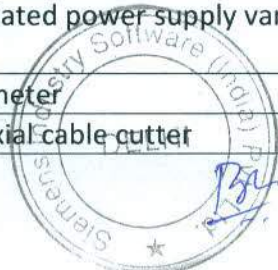


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Annexure-A

	41	Hammer ball pen 0.5 kg	1
	42	Allen key set (set of 9)	1
	43	Tubular box spanner (set of 6Nos)	1 Set
	44	Magnifying lenses 75 mm	2
	45	Continuity tester	6
	46	Hacksaw frame adjustable	2
	47	Cold chisel 20 mm	1
	48	Scissors 200 mm	1
	49	Handsaw 450 mm	1
	50	Hand Drill Machine	2
	51	First aid kit	1
	52	Fire Extinguisher	2
	53	Bench Vice	1
	54	Dual DC regulated power supply 30-0-30 V 2 Amps	4
	55	DC regulated variable power supply 0-24 V, 1 Amps	2
	56	LCR meter (Digital)	1
	57	CRO Dual Trace 20 MHz (component testing)	2
	58	Signal Generator, 0-100 KHz	2
	59	Battery Charger	1
	60	Analogmultimeter	4
	61	Function generator (Triangular, square and sine wave) Or ELECTRONIC WORK BENCH Instead of sr no (26,27,29,31,34)	2
	62	Dimmer start 3 Amps	2
	63	Analog Component Trainer	4
	64	Op Amp trainer	3
	65	Digital IC Trainer	4
	66	Digital IC Tester	1
	67	Digital and Analog Bread Board Trainer	6
	68	Rheostats various values and ratings	2
	69	POWER ELECTRONICS TRAINER with at least 6 n0's of onboard applications	4
Lab Specific Tool	70	Fiber optic communication trainer	2
	71	SMPS trainer	1
	72	SMPS of different make (Set of 4)	4
	73	UPS trainer	1
	74	Precision set of screw drivers- T5, T6, T7	2
	75	LCD TV (Trainer kit)	1
	76	LED TV (Trainer kit)	1
	77	LCD and LED TV	1 each
	78	Allen key screw driver	1
	79	Regulated power supply variable for cell phone repair	1
	80	SAT meter	1
	81	Co-Axial cable cutter	1



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Annexure-A

82	Jacket stripper/Coring tool for 500 series cable	1
83	Centre conductor cleaner	1
84	Universal drop trimmer for RG 6/11 cables	1
85	F-connector tool for RG 6/11 cables	1
86	F-connector compression tool for RG 6/11 cables	1
87	DSO (colour)	1
88	Soldering & De soldering Station	1
89	SMD Soldering & De soldering Station with necessary accessories	2
90	DOL starter	1
91	AC motor 1/4 HP	1
92	Frequency modulator and Demodulator trainer kit	2
93	PAM, PPM, PWM trainer kit	2
94	AM/FM Commercial radio receivers	2
95	Microcontroller kits (8051) along with programming software (Assembly level Programming)	4



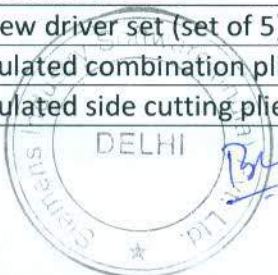
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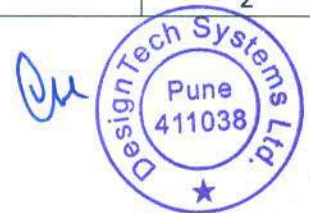
2.6 Information Communication & Technology

	Item No	Description	Qty.
Equipment	1	Server Computer	1
	2	Desktop Computer	10
	3	Laptop, Notebook	1 each
	4	Intel Mobile Desktop based PC with LCD monitor	1
	5	Tablet	2
	6	Printers: Laserjet, deskjet, passbook, mfd	1 each
	7	Network Printer	1
	8	5 KVA online UPS	2
	9	LAN cards, Wi- fi LAN cards	6
	10	LCD/DLP Projector	1
	11	UPS trainer	1
	12	UPS 3 KVA	1
General Tools Set	13	Steel rule 300 mm	4
	14	Steel measuring tape-3 m	4
	15	Tools makers vice 100 mm (clamp)	1
	16	Tools maker vice 50 mm (clamp)	1
	17	Crimping tool (pliers)	2
	18	Magneto spanner set	2
	19	File flat 200 mm bastard	2
	20	File flat 200 mm Second cut	2
	21	File flat 200 mm smooth	2
	22	100 mm flat pliers	4
	23	100 mm round Nose pliers	4
	24	Scriber straight 150 mm	2
	25	Hammer ball pen 0.5 kg	1
	26	Allen key set (set of 9)	1
	27	Tubular box spanner (set of 6Nos)	1 Set
	28	Magnifying lenses 75 mm	2
	29	Continuity tester	6
	30	Hacksaw frame adjustable	2
	31	Cold chisel 20 mm	1
	32	Scissors 200 mm	1
	33	Handsaw 450 mm	1
	34	Hand Drill Machine	2
	35	First aid kit	1
	36	Fire Extinguisher	2
	37	Bench Vice	1
	38	Connecting screwdriver 100 mm	10
	39	Neon tester 500 V	6
	40	Screw driver set (set of 5)	10
	41	Insulated combination pliers 150 mm	6
	42	Insulated side cutting pliers 150 mm	8



Annexure-A

	43	Long nose pliers 150 mm	6
	44	Soldering iron 25 W. 240 V	10
	45	Electrician knife	6
	46	Tweezers 100 mm	10
	47	Digital Multimeter (3 one /two digit)	10
	48	Soldering Iron Changeable bits 10 W	6
	49	De- soldering pump	10
Lab Specific Tools	50	Wireless Network Adapter	6
	51	Wireless Access Point	6
	52	Router	6
	53	Managed Layer 2 Ethernet Switch 8/16/24 port	2
	54	Managed Layer 3 Ethernet Switch 8/16/24 port	2
	55	Network Training System	2
	56	LAN Protocol Simulation and Analyzer Software	2
	57	Network and Internet security trainer	2
	58	LAN cable tester	2
	59	Network cables - UTP	1 mtr
	60	Network Cables - Coaxial, flat, ribbon	As required
	61	LAN Cards, wi-fi LAN Card	5 each
	62	Connectors For cables	As required
	63	Power Meter	2
	64	Media Convertor	4
	65	8/16/24 port UTP jack panel	2
	66	SC Couplers	12
	67	SC Pigtails	12
	68	RJ-45 connector	As required
	69	Fluke Meter	2
	70	Crimping Tools	6
	71	Switch with POE port	2



Annexure-A

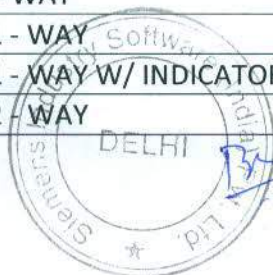
2.7 Electrician – Home & Industrial

	Item No	Description	Qty.
Equipment	1	Electrical Working Board (Similar Attached Design)	1
	2	Display Boards for working Tools	1
	3	Electrical Rubber Mat	1
	4	Packs motor starter-Basic	1
	5	Packs motor starter-Tesys	1
	6	Packs motor starter -Speed driver	1
	7	DG Sets	1
	8	Transformers	1
	8.1	Thermal Imaging	1
	8.2	Insulation resistance	1
	8.3	Turns ratio test	1
	8.4	Magnetic Balance test	1
	8.5	Tan delta test	1
	8.6	Transformer oil break down voltage test	1
	9	Pumps	1
	9.1	Submersible pump 1hp with starter	1
	Electrical Accessories	10	Single core Multi strand wire - Grey colour
11		Single core Multi strand wire - Green colour	90 Mtrs
12		Single core Multi strand wire - Red colour	90 Mtrs
13		Single core Multi strand wire - Black colour	90 Mtrs
14		Single core Multi strand wire - Red colour	90 Mtrs
15		Single core Multi strand wire - Black colour	90 Mtrs
16		PVC Conduits	10 lengths
17		Elbow	12
18		Collar	12
19		Bend	12 nos
20		3 Way Junction Box	16
21		4 Way Junction Box	16
22		Casing & capping	2 Lengths
23		Saddle (Metal)	24
24		3 Pin Plug	3
25		3 Pin Plug	2
26	Lamp Holder	10	
27	Ceiling rose	4	
28	Adaptor	3	
29	Tube light frame with choke	1	
30	Calling bell	1	
31	Ring Lugs for cable	10	
32	Fork Lugs for cable	10	
33	Pin Lugs for cable	10	



Annexure-A

	34	Ring Lugs for cable	10
	35	Fork Lugs for cable	10
	36	Pin Lugs for cable	10
	37	Ring Lugs for cable	10
	38	Fork Lugs for cable	10
	39	Pin Lugs for cable	10
	40	Cable ties with holder	12 each
	41	Twin tube light fitting box type	1 no
	42	Soldering iron	1 no
	43	Lead & paste / flux	1 each
	44	Lamp holders	12 nos
	45	Cable splitter	1 each
	46	Cable splitter	1 each
	47	Coaxial cable	10 mts
	48	Cable splitter connectors	24 nos
	49	Cable plugs	5 nos
	50	Cable plugs	5 nos
	51	Insulation tapes	6 nos
	52	Insulation tapes	6 nos
	53	Multi meter leads	1 no
	54	Tube light holders	4 nos
	55	Wiring spring	1 no
Safety Equipment	56	Safety gears, (Helmet)	5
	57	Gloves	5
	58	Earthing Kit	1
	59	First Aid Box	1
	60	Fire extinguisher	1
Tools	61	Combination Plier 8" - TAPARIA	10 Nos.
	62	Screw Driver Set - TAPARIA	10 Nos.
	63	Screw Driver 903 - TAPARIA	10 Nos.
	64	Knife Big -BEST	10 Nos.
	65	Cutter 7 in 1 Stripper tool - POWERGRIP- PGCT - 8	10 Nos.
	66	Wire Stripper - NAGPAL	10 Nos.
	67	Junior Saw Frame GB	10 Nos.
	68	Blade packet - CROWN	10 Nos.
	69	Ball Pein Hammer 500 gms TIGER	10 Nos.
	70	Multi-meter 10 A range MASTECH- 830BZ/Equivalent	10 Nos.
	71	Rawal jumper with bits no 8 -TIGER	10 Nos.
	72	Double End Spanner Set "6-22"-Eastman	5 Nos.
	73	Drilling machine 10mm - Black & Decker /Equivalent	5 Nos.
Switches	74	6A 1 - WAY	9
	75	6A 1 - WAY W / INDICATOR LAMP	8
	76	6A 2 - WAY	9
	77	16A 1 - WAY	8
	78	16A 1 - WAY W/ INDICATOR LAMP	4
	79	16A 2 - WAY	4



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Annexure-A

	80	6A 1-WAY SWITCH, 2 MODULE	1
	81	16A 1-WAY SWITCH, 2 MODULE	1
	82	6A 1-WAY SWITCH, 2 MODULE WITH INDICATOR	1
	83	16A 1-WAY SWITCH, 2 MODULE WITH INDICATOR	1
	84	20A DP W / INDICATOR LAMP	1
	85	32A DP SWITCH	1
Sockets	86	6A 2-PIN/3-PIN (SHUTTERED)	1
	87	6A UNISOCKET (SHUTTERED)	1
	88	16A 3-PIN (SHUTTERED)	1
	89	6A / 16A 3-PIN (SHUTTERED)	1
	90	13A BS FLAT - PIN (SHUTTERED)	1
	91	20A 3-PIN SOCKET OUTLET WITH SHUTTER	1
	92	25A 3-PIN SOCKET OUTLET WITH SHUTTER	1
Bell Push	93	13A MULTI-PIN SOCKET OUTLET WITH SHUTTER	1
	94	6A BELL PUSH	1
	95	6A BELL PUSH 92 M SIZE 0	1
	96	6A BELL PUSH W / INDICATOR	1
Dimmer/FZ & Buzzer	97	6A BELL PUSH W / INDICATOR (2 M SIZE)	1
	98	DIMMER 400W	1
	99	DIMMER1200W	1
	100	STEP TYPE FAN REGULATOR	1
	101	DIMMER 400W IN SINGLE MODULE	1
Data/ TV/ Communication	102	BUZZER	1
	103	RJ 11 (NO SHUTTER)	1
	104	RJ 11 (SHUTTERED)	1
	105	TWIN RJ11 (NO SHUTTERS) 1M	1
	106	RJ 45 (SHUTTERED)	1
	107	TV SOCKET	1
	108	RJ 45 COVER FOR KEY STONE TYPE	1
	109	GRIPPED CORD OUTLET	1
Cover + Grid Frame	110	BLANK OFF UNIT	1
	111	ADAPTER PLATE FOR 30 SERIES MECHANISM	1
	112	1-2M GRID & 1 M CF COMBINED	1
	113	1 - 2 M GF & 2 M CF	1
	114	3 M GF & 3 M CF	1
	115	3 MODULE UNIVERSAL GF AND 3 M CF	1
	116	4 M GF & 4 M CF	1
	117	6 M GF & 6 M CF	7
	118	8 M GF & 8 M CF - LINEAR	1
	119	8 M GF & 8 M CF - SQUARE	1
	120	12 M GF & 12 M CF	1
Metal Boxes	121	18 M GF & 18 M CF	1
	122	METAL BOX 1 & 2 MODULE	1
	123	METAL BOX 3 MODULE	1
	124	METAL BOX 4 MODULE	1
	125	METAL BOX 6 MODULE	1



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	126	METAL BOX 8 MODULE, LINEAR	1
	127	METAL BOX 8 MODULE, SQUARE	1
	128	METAL BOX 12 MODULE	1
	129	METAL BOX 18 MODULE	1
Neon	130	NEON PHASE INDICATOR RED	1
	131	NEON PHASE INDICATOR GREEN	1
	132	NEON PHASE INDICATOR YELLOW	1
Hotel Series	133	DND PANEL	1
	134	DND SWITCH	1
	135	MMR PANEL	1
	133	MMR SWITCH	1
	134	KEYTAG SWITCH (MECHANICAL TYPE 20A)	1
	135	SHAVER SOCKET	1



Annexure-A

2.8 Refrigeration and Air conditioning (RAC)

	Item No	Description	Qty
Equipment	1	Scroll Chiller (Air cooled) -10 TR	1
	2	VRF IV Plus system - 8 HP	1
	3	Ducted split unit - 5.5TR	1
	4	Cassette unit - 1.5 TR	1
	5	High wall split (2 star) - 1 TR	1
	6	Window unit (2 star) - 1 TR	1
	7	Deep Freezer Hard Top - 100 Lts	1
	8	Bottle Cooler Hard Top - 300 Lts	1
	9	Bottle Water Dispenser - 20/20 Lts	1
	10	Cold room - 6000 BTU/ hr	1
Low Side Works	11	Ducting	30 sqmt
	12	Grilles / Diffusers	1 mt
	13	Insulation	20 sqmt
	14	Drain piping	30 rmt
	15	Electrical Wiring	300 mts
	16	Canvas Connection	1
Tools	17	Flaring tool	
	18	Pipe bender	
	19	Spring bender	
	20	Tube cutter	
	21	Swaging tool	
	22	Pinching tool	
	23	Running capacitor 36 mfd	
	24	Starting capacitor 45 mfd	
	25	Anemometer	
	26	portable air blower	
	27	Nitrogen gas cylinder with accessories	
	28	clamp on meter	
	29	hammer ball type	
	30	cotton waste	
	31	bench wise	
	32	anchor fastener	
	33	portable drill machine 13 mm	
	34	measuring tape	
	35	spirit level 1 m	
	36	spirit level 1/2 m	
	37	steel scale	
	38	steel scale ft	
	39	screw drivers	
	40	cutting pliers	
41	electrical tester		
42	files set		



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Annexure-A

	43	double spanner
	44	screw spanner 6"
	45	screw Spanner 8"
	46	Allen Keys
	47	sheet cutter
	48	hacksaw frame
	49	electronic weighing scale
	50	wooden mallet
	51	scissors
	52	3/2 bolt & nut
	53	gauge manifold
	54	R-22 cylinder
	55	sling sychometer
	56	micron gauge
	57	capillary tube finder
	58	fin comb
	59	vacuum pump
	60	plumb
	61	ratchet
	62	thermometer
	63	PVC tube
	64	tool bag
	65	adjustable screw spanner
	66	double end spanner
	67	screw driver star
	68	Screw driver flat
	69	ratchet spanner
	70	Compound pressure gauge
	71	pressure gauge with hose
	72	clamp on meter
	73	tester
	74	cleaning brush
	75	starting capacitor 45 mfd
Other Items	77	Stands
	78	Racks

2.9 Agro and Farm Equipment (Preferred brands: John Deere, Escorts, Mahindra)

	Item No	Description	Qty
Equipment		Tractor	1
		9 tine Std Rigid Cultivator Make Green System	1
		9 tine Zero Seed cum Ferti Drill Make Green System	1
		Harrow 7x7 Disc without tyre	1
		Harrow 7x7 Disc without tyre	1
		Fodder Harvester	1



Annexure-A

	Multi Crop Thresher	1
	Centrifugal Pump With Electric Motor	1
	Submersible Pump Complete Unit	1
	DG Set 2.2KVA 5Hp Air Cooled Engine	1
	Sprinkler Type Irrigation Systems Complete Set	1
	Drip Irrigation Systems Complete Set	1
	Allen Key Set Of 12 Pieces(2mm to 14mm)	6
	Caliper Inside 15 cm Spring	6
	Caliper Outside 15 cm Spring	6
	Center Punch 10 mm Dia *100 mm	6
	Dividers 15 cm Spring	6
	Electrician Screw Driver 250 mm	6
	Hammer Ball Peen 0.5kg With Handle	6
	Hand File 20cm Second Cut File	6
	Philips Screw Driver Set Of 5 Pieces 100mm to 300mm	6
	Pliers Combination 20cm	6
	Screw Driver 20cm*9mm. Blade	6
	Screw Driver 30cm*9mm. Blade	6
	Scriber 15cm	6
	Spanner D.E Set Of 12 Pieces(6mm to 32mm)	6
	Spanner Ring Set of 12 Metric Sizes 6 to 32mm	6
	Spanner Socket With Speed Handle, T-Bar, Ratchet And Universal Upto 32 mm Set Of 28 Pieces With Box	6
	Steel Rule 30 cm Inch And Metric	6
	Steel Tool Box With Lock and Key (Folding Type) 400*200*150mm	6
	Wire Cutter And Stripper	6
	Fuel feed pump for Diesel	1
	Fuel injection pump (Diesel) inline	1
	Glow plug tester	2
	Granite surface plate 1600X1000 with stand and cover	1
	Grease gun	2
	Grover -3, 4, 6mm	1 each
	Growler	2
	Hacksaw frame adjustable 20-30 cm	10
	Hammer ball Peen 0.75 kg	4
	Hammer Chipping 0.25 kg	4
	Hammer copper 1 kg with handle	4
	Hammer mallet	4
	Hammer Plastic	2
Tools Set	Hand operated (i)for crimping up to 4 mm and (ii) for crimping up to 10 mm	2



Annexure-A

	Hand remers adjustable 10.5 to 11.25 mm, 11.25 mm to 12.75mm 12.75 to 14.25 mm and 14.25 to 15.75 mm	2 Set
	Hand shear Universal 250 mm	2
	Hand vice - 37 mm	2
	High rate discharge tester (cell tester)	1
	Hollow Punch Set Of Seven Pieces 6mm to 15mm	2 Set each
	Hydraulic jack HI-LIFT type -3 ton capacity	1
	Multimeter digital	5
	Oil can 0.5/0.25 liter capacity	2
	Oil pump dismantling and assembling	2
	Oil stone 15X5X2.5 cm	1
	Oscilloscope 20MHz	1
	Outside micrometer 0 to 25 mm	4
	Outside micrometer 25 to 50 mm	4
	Outside micrometer 50 to 75 mm	1
	Outside micrometer 75 to 100 mm	1
	Pat melting	2
	Phlips Screw Drivers set of 5 pieces (100 mm to 300 mm)	2 Set
	Pipe cutting tool	2
	Pipe flaring tool	2
	Spl tools for John Deere Tractor	1 set
Ancillary	Compressor 5 Bar	1
	Pneumatic Linining	1 Set
	Radiator	1
Cut Section	Engine	1



Annexure-A

2.10 Engineering Design & Engineering Drawing Lab

84 workstations which will run the Computer based training modules and Engineering Design and drawing courses.

Workstations configuration: (Preferred Brands: HP, Dell, IBM, Lenovo, Fujitsu)

- Intel® Xeon® i5 processor
- Windows® 7 Professional 64 bit (English)
- 16 GB DDR4 RAM
- 2 GB graphics Card
- 500 GB HDD
- 19 inch TFT Monitor

MS Office

Antivirus



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Annexure – B

Table 1: Manpower deployment for One COE

S. No.	Particulars	Nos.	Salary Expenditure (3 Years) (INR)	Total Salary Expenditure (INR)	Contribution by Government (INR)
1	Centre Head	1	2,13,50,000	2,13,50,000	0
2	Senior Trainers	6			
3	Trainers	4			
4	Assistants	4			
Total Manpower Expenditure		15	2,13,50,000	2,13,50,000	0

Table 2: t-SDI – Manpower Deployment

S.No.	Particulars	Nos.	Salary Expenditure (3 Years) (INR)	Total Salary Expenditure (INR)	Contribution by Government (INR)
1	Center Manager	1X5	6,43,21,520	6,43,21,520	0
2	Senior Trainers	6X5			
3	Trainers	4X5			
4	Assistants	4X5			
Total Manpower Expenditure for 5 t-SDIs		75	6,43,21,520	6,43,21,520	0

Table 3: Centre Staff and Trainer Profiles

Designation- Role	Expertise	Number per cluster	Minimum qualification	Minimum experience
Cluster Head/COE Center head:	People & channel mgt., training, project management	1	Graduate / Post graduate in engineering	6 to 8 years of experience 2 to 3 years' experience in project management



Annexure – B

Centre Head for t-SDI	Domain skills, Teaching, people mgt., general administration	5	Graduate / Post graduate in engineering	4 to 6 years of experience with at least 2 to 3 year's experience in teaching & centre handling
COE Sr. Trainer	Good written & oral communication, domain expertise, flair for teaching & conversant with engineering software.	6	Diploma/B.E.	3 to 4 years of industry experience, 1 year training experience is desirable
COE Trainer	Good written & oral communication, domain expertise, flair for teaching & conversant with engineering software.	3	Diploma/B.E.	1 to 2 years of industry experience, 1 year training experience is desirable
COE Assistant	Equipment handling & operation	2	I.T.I / Diploma	2 to 3 years of industry experience, 1 year training experience is desirable
Cluster Coordinator	Good written & oral communication, filing system, documentation handling, operation	1	Graduate in any discipline	2 to 3 years of experience In counseling, coordination & documentation



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Annexure – B

Project Manager	Good leader, capable to define processes, project management techniques, operations handling, analytical, report writing	1 overall for entire project	Graduate in any discipline, PMP certification desirable	10 to 15 years of experience Managing large scale projects
Subject matter Expert	Technically strong, real time work experience, teaching skills	1 for each trade	B.E. with domain expertise	8 to 10 years of industry experience with at least 3 years in training, module creation, T3
t-SDI Trainer	Good written & oral communication, domain expertise, flair for teaching, filing system, documentation handling, operation		I.T.I / Diploma	2 to 3 years of industry experience, 1 year training experience is desirable

Placement Facilitation Process Ref Clause 4(j):

The proposer will assist the GoJ and DHTE&SD to provide internship and placement assistance to the trained and certified students of various CoEs and t-SDIs under this program. This assistance will comprise of providing access to technology e-platform where successful students can upload their resume and seek employment from the participating companies and recruitment agencies, involvement of industry partners at the GoJ sponsored / affiliated job fairs and self-employment assistance programs, and interaction between students and industry partners during industry seminars.



Annexure-C

State Project Implementation committee (Quarterly Meeting)

Development Commissioner, Jharkhand	Chairman
Secretary, DHTE&SD, Ranchi	Member
Secretary, Department of Industries, Ranchi	Member
Mission Director - Jharkhand Skill Development Mission, Ranchi	Member
Nominated officer of NSDC	Independent Member
Siemens nominated Representative (Director Level)	Member
Design Tech nominated Representative (Director Level)	Member
Director (Technical) DHTE&SD, Ranchi	Member Secretary

Cluster level (CoE& t-SDI) Project Implementation Committee(Monthly/Weekly Meeting)

Director/ Principal of host CoE Institution	Chairman
Principals of respective t-SDIs	Member
Nominated representative of Jharkhand Skill Development Mission, Ranchi	Member
General Manager, District Industries Centre (of the concerned District)	Member
Labour Superintendent of the concerned district	Member
Siemens nominated Representative (Program Manager Level)	Member
Project Implementation Companies nominated Representative (Program Manager Level)	Member

