**proposal**

The proposal aims to modernize the Laboratories / Workshops/ Computing facilities so as to enhance the functional efficiency of Technical Institutions for Teaching, Training and experimenting purposes. It Ensures development of Lab Instructional Material and appropriate Technology to ensure that the practical work and project work to be carried out by students is contemporary and suited to the needs of the Industry. The equipment could be ideally used for up gradation of equipment in existing laboratories, enhancement of performance parameter specification of existing equipment, incorporation of latest development in the field. It also can be used for indirect benefit to Faculty / Students through Continuing Education programs, Training programs for local industry and consultancy work.

**The requirement mentioned in the following document are categorized into 3 categories.**

Category I – **Natural growth PC software** requirement and breakdown issues and replacement conditions.

Category II – **Expected requirement for hardware** and upgrade purpose including requirement for conduction of PBL’s

Category III – **Excited Requirement for Advancement**, research and development, consultancy and fund generation, value added courses etc.

**Lab 07**

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| **Lab Name** | Laboratory 07 |
| **Lab In charge** | Prof Shruti Agrawal |
| **Lab Assistant** | Ms Nutan Sawant |

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| **Lab Number** | **Lab name** | **Desktop system available** | **Available Configuration** |
| Lab 07A | Network and Mobile Communication Laboratory | 20 | **Processor: -** Acer Veriton M200 7th generation Intel®Core™ I3 processors  **RAM: -** 4 GB  **HardDisk: -** 1 TB  **MotherBoard: -** Intel Core 7th Generation  **Operating System: -** Dual Boot Windows 10 Pro & Ubuntu 19.04 |
| Lab 07B | Computer Programming Laboratory | 20 | **Processor: -** Acer Veriton M200 7th generation Intel®Core™ I3 processors  **RAM: -** 4 GB  **HardDisk: -** 1 TB  **MotherBoard: -** Intel Core 7th Generation  **Operating System: -** Ubuntu 19.04 |
| Lab 07C | Software Engineering Laboratory | 20 | **Processor: -** Acer Veriton M200 7th generation Intel®Core™ I3 processors  **RAM: -** 8 GB  **HardDisk: -** 1 TB  **MotherBoard: -** Intel Core 7th Generation  **Operating System: -** Dual Boot Windows 10 Pro & Ubuntu 19.04 |
| Lab 07D | Robotics Laboratory | 20 | **Processor: -** Acer Veriton M200 7th generation Intel®Core™ I3 processors  **RAM: -** 4 GB  **HardDisk: -** 1 TB  **MotherBoard: -** Intel Core 7th Generation  **Operating System: -** Dual Boot Windows 10 Pro & Ubuntu 19.04 |
| Lab 07E | Computer Programming Laboratory | 20 | **Processor: -** Acer Veriton M200 7th generation Intel®Core™ I3 processors  **RAM: -** 8 GB  **HardDisk: -** 1 TB  **MotherBoard: -** Intel Core 7th Generation  **Operating System: -** Ubuntu 19.04 |

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| **Name of Instrument / Software** | **Approx. Cost\*** | **Category of requirement** | **Compliance with PBL**  **(if any)** | **Compliance with Value added course (if any)** | **Justification** | **Remarks** |
| Ceiling Mount Projectors | 39000 | I | - | Yes | Needed for various hands-on session conducted in lab | Strongly recommended |
| 16 GB RAM | 8000 | III | Yes | Yes | It is required for better execution of heavy software like Cloudera and other data analytics tool. | Very helpful for research-based activities. |
| 4 GB GPU | 26500\* | III | Yes | Yes | Good GPU configuration make the dataset training easy and fast. | Very helpful for research-based activities. |
| Tableau Licence | 2259/month | III | Yes | Yes | Tableau is a visual analytics engine that create interactive visual analytics in the form of dashboards. It is a very helpful tool of data visualization. | Very helpful for research-based activities |
| White Boards with Markers | 2000 | III | Yes | Yes | It is recommended to replace green board with white boards to avoid dust and maintain cleanliness | Highly recommended |
| Notice Board | 600 | I | - | - | Lab 7D require notice board for timetable experiment list and other related documents. | Highly required. |
| Acrylic Boards of A4 size |  | I | - | - | 3 labs require acrylic board for the placement of timetable. | Highly required |
| Acrylic Boards of A2 size |  | I | - | - | Recommender to display the lab posters that can be reused again and again. | Highly recommended |
| AC |  |  |  |  |  |  |
| Power Switch needed | I | - | - | In Lab 7D power switch required | Highly required |
| Telephone Extension | I | - | - | Telephone extension is there but stopped working during lockdown | Highly required |

**Lab CC**

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| **Lab Name** | Laboratory CC |
| **Lab In charge** | Ms Rasika Ransing |
| **Lab Assistant** | Ms Nikita Ahire |

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| --- | --- | --- | --- |
| **Lab Number** | **Lab name** | **Desktop system available** | **Available Configuration** |
| Lab CC 01 | Browsing Lab | 10 | **Processor: -** Acer Version G41, Processor- Intel Pentium (R) Dual core CPU E6600@ 3.06 GHz  **RAM: -**  2 GB  **HardDisk: -** 260 GB  **Operating System: -** Windows 10 |
| Lab CC 02 | Computer Centre | 20 | **Processor: -** Acer Version G41, Processor- Intel Pentium (R) Dual core CPU E6600@ 3.06 GHz  **RAM: -** 8 GB  **HardDisk: -** 1TB  **Operating System: -** Ubuntu 19.04 |
| Lab CC 03 | Language Lab | 20 | **Processor: -** Acer Version G41, Processor- Intel Pentium (R) Dual core CPU E6600@ 3.06 GHz  **RAM: -** 4 GB  **HardDisk: -** 500 GB  **Operating System: -** MAC OS & Virtual Box |

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **Name of Instrument / Software** | **Quantity** | **Approx. Cost\*** | **Category of requirement** | **Compliance with PBL**  **(if any)** | **Compliance with Value added course (if any)** | **Justification** | **Remarks** |
| Ceiling Mount Projectors | 2 | 39000\*2= 78000 | I | - | Yes | Needed for various hands-on session conducted in lab | Strongly recommended |
| 16 GB Pen-Drive for software installation | 2 | 350\*2= 700 | I | - | - | It is required to lab assistants for the installation of software in the lab. | Strongly recommended |
| Computer System (Processor Intel Pentium (R) Dual core CPU E6600@ 3.06 GHz Ram -2GB ,Hard Disk-260 GB, Keyboard & Mouse, OS- Windows 10) | 15 | 25000\*5 = 125000 | I | Yes | Yes | 4 Pcs are scrapped so new PCs are required. | - |
| USB Mouse | 20 | 1000\*20=20000 | I | Yes | Yes | Magic Mouse connected to Apple Pcs have battery issues so permanent USB mouse is required. | Strongly recommended |
| USB Keyboard | 20 | 1000\*20=20000 | I | Yes | Yes | Magic Keyboard connected to Apple Pcs have battery issues so permanent USB Keyboard  is required. | Strongly recommended |
| White Boards with Markers | 2 | 2000\*1= 2000 | I | Yes | Yes | Required for explanation of Experiments to the students. | Highly recommended |
| Acrylic Boards of A2 size | 6 | 370\*6= 2220 | I | - | - | Recommender to display the lab posters that can be reused again and again. | Highly recommended |
| Lab Assistant Seating Arrangement | 1 | - | I | - | - | Seating arrangement space is already there in the lab 7 | Highly required |
| AC Maintenance required | 3 | 50000 | I | - | - | AC maintenance should be done on the regular intervals of 2 to 3 months | Highly required |
| Wall cracks need to be fixed | - | 50000 | I | - | - | Plaster and painting is required. | Highly required |

**Lab 11**

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| **Lab Name** | Laboratory 11A/ 11B |
| **Lab In charge** | Prof Debarati Ghosal |
| **Lab Assistant** | Ms Nutan Sawant |

**Lab 11 Availability**

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| --- | --- | --- | --- |
| Lab Number | Lab name | Desktop system available | Configuration |
| Lab 11A | Project Laboratory | 20 | **Processor:**Acer Veriton, M200 ,  **Ram** -16 GB ,  **Hard Disk**-1TB  **Motherboard**:7th generation Intel®Core™I3 processors,  **Operating system**:Ubuntu 19.04 |
| Lab 11B | Project Laboratory | 18 | **Processor** Acer Computers:  **Ram**-4 GB,  **Hard Disk**-500 GB,  **Motherboard**- Acer, Intel®Core™ I3, Intel core i34130 CPU @3.40GHz Monitor-Acer LCD Keyboard & Mouse-Acer PS,  **Operating system** - Ubuntu 19.04 |

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| --- | --- | --- | --- | --- | --- | --- | --- |
| Name of Instrument / Software | Quantity | Approx. Cost\* | Category of requirement | Compliance with PBL  (if any) | Compliance with Value added course (if any) | Justification | Remarks |
| SMPS component | 39 | 11\*6000=66000 | I | Yes | Yes | The SMPS failed to work during lockdown so recommended to be replaced | Highly required Component is out of warranty. |
| 2PC in lab 11B | 20 | 02\*30000=60000 | II | Yes | Yes | 2 more PC required in lab as per student count . | Highly required |
| 2 White boards with marker | 2 | 2\*2000 = 4000 | I | Yes | Yes | Required for explanation of Experiments to the students. | Strongly recommended |
| Wall maintenance required | - | 3000 | I | - | - | Plaster and painting is required crack repair. | Highly required |
| Light fixing | 11 | 100 | I | - | - | Tube-lights stopped working during lockdown | Highly required |
| Table | 1 | 2000 | I | - | - | Required for the faculty and display in lab. | Highly required |
| AC maintenance required | 2 | 50 | I | - | - | AC maintenance should be done on the regular intervals of 2 to 3 months | Strongly recommended |
| Acrylic Boards of A2 size | 2 | 370\*2=470 | I | - | - | Recommender to display the lab posters that can be reused . | Highly recommended |
| Ceiling Mount Projectors | 2 | 39000\*2=78000 | I | - | Yes | Needed for various hands-on session conducted in lab | Strongly recommended |
| 16 GB Pen-Drive for software installation | 1 | 350 | I |  | Yes | It is required to lab assistants for the installation of software in the lab. | Strongly recommended |
| Ram -12 GB | 38 | 18\*3000=54000 | II | Yes | Yes | It is required for better execution of virtualization experiments software’s. | Highly required |
| 4 GB GPU | 02 | 26500\*02=53000 | III | Yes | Yes | Good GPU configuration make the dataset training easy and fast. | Very helpful for research-based activities. |
| Tableau Licence | 1 | 2259/  month | III | Yes | Yes | Tableau is a visual analytics engine that create interactive visual analytics in the form of dashboards. It is a very helpful tool of data visualization. | Very helpful for research-based activities |
| Telephone Extension | 2 | - | I | Yes | Yes | Telephone extension is there but stopped working during lockdown | Highly required |

**Lab 05 Requirements**

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| **Lab Name** | Laboratory 05A/05B/05C/05D/05E |
| **Lab In charge** | Prof Vinita Bhandiwad |
| **Lab Assistant** | Ms Sonal Gawande |

**Lab 05 Availability**

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| --- | --- | --- | --- |
| Lab Number | Lab name | Desktop system available | Configuration |
| Lab 05A | Data Warehousing & mining Job Lab | 00 |  |
| Lab 05B | Database Lab | 00 |  |
| Lab 05C | Image Processing Lab | 20 (After repairing still there is problem in the functioning of the systems) | **Processor:** Lenovo Veriton, M200 ,  **Ram** -16 GB ,  **Hard Disk**-1TB  **Motherboard**:7th generation Intel®Core™I3 processors,  **Operating system**: Windows |
| Lab 05D | Mobile Computing Lab | 20 (After repairing still there is problem in the functioning of the systems) | **Processor** Lenovo Computers:  **Ram**-4 GB,  **Hard Disk**-500 GB,  **Motherboard**- Lenovo, Intel®Core™ I3, Intel core i34130 CPU @3.40GHz Monitor-Acer LCD Keyboard & Mouse-Acer PS,  **Operating system** – Windows |
| Lab 05E | Computer Programming Lab | 20 with Raspberry Pi | **Processor** Lenovo Computers:  **Ram**-4 GB,  **Hard Disk**-500 GB,  **Motherboard**- Lenovo, Intel®Core™ I3, Intel core i34130 CPU @3.40GHz Monitor-Acer LCD Keyboard & Mouse-Acer PS,  **Operating system** – Windows |

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **Name of Instrument / Software** | **Required Quantity** | **Approx. Cost\*** | **Category of requirement** | **Compliance with PBL**  **(if any)** | **Compliance with Value added course (if any)** | **Justification** | **Remarks** |
| PC in lab (Processor Intel Pentium (R) Dual core CPU E6600@ 3.06 GHz Ram -2/4GB ,Hard Disk-260 GB, Keyboard & Mouse, OS- Windows 10) | 140 | 80\*25000= 20,00,000 | II | Yes | Yes | Lab 05 two sections has no PC’s as it was not working so was moved in scrap, two sections of Lab contain 20 PC each after repairing which doesn’t work well the system gets turned off in between the process. Hence, to make Lab 05 in between condition all 4 sections need to have a good PC | Highly required |
| Cupboard | 3 | 2000 | I | - | - | Green board stand needs to be fixed | Highly required |
| Chairs | 50 | 30000 | I | - | - | Many chairs are broken in the lab and also keyboard drawers need to be fixed. | Highly required |
| Ceiling Mount Projectors | 4 | 39000\*3= 117000 | I | - | Yes | Needed for various hands-on session conducted in lab | Strongly recommended |
| White Boards with Markers | 4 | 2000\*4= 8000 | III | Yes | Yes | It is recommended to replace green board with white boards to avoid dust and maintain cleanliness | Highly recommended |
| Notice Board | 5 | 600 | I | - | - | Lab 7D require notice board for timetable experiment list and other related documents. | Highly required. |
| Acrylic Boards of A4 size | 7 | 135\*5=675 | I | - | - | 3 labs require acrylic board for the placement of timetable. | Highly required |
| Acrylic Boards of A2 size | 5 | 370\*5= 1850 | I | - | - | Recommender to display the lab posters that can be reused again and again. | Highly recommended |
| Tube Lights repairing | 15 (approx.) | 40000 | I | - | - | Many tube-lights stopped working during lockdown period. | Highly required |
| AC Maintenance required | 4 | I | - | - | AC maintenance should be done on the regular intervals of 2 to 3 months | Highly required |
| Telephone Extension need to be fixed | 1 | I | - | - | Telephone extension is there but stopped working during lockdown | Highly required |
| Wall cracks need to be fixed | - | 8000 | I | - | - | Plaster and painting is required. | Highly required |
| Lab Assistant Seating Arrangement | 1 | - | I | - | - | Need a separate seating arrangement for Lab assistant | Highly required |