

Orientation Program 2023

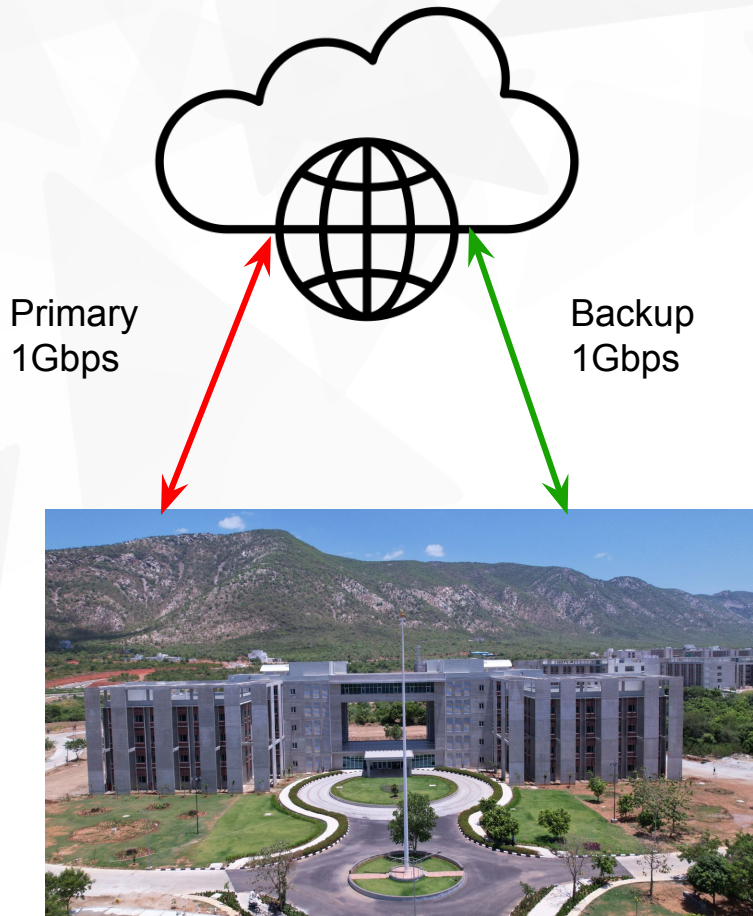
Computing & Networking Facilities at IIT Tirupati

*By
The Computer Center*

Outline

- Networking infrastructure
- Computer labs (common)
- High-end computing infrastructure
 - for computing intensive jobs - HPC
 - for data-intensive jobs - GPU
- Software / Services
- Registering Service Requests / Complaints

Networking



- Internet
 - Primary Internet link: 1 Gbps
 - Backup Internet link: 1 Gbps
 - Current utilization: 80%
 - Plans to upgrade the primary link to 10 Gbps
- LAN
 - 1 Gbps wired LAN
 - Latest WiFi connectivity in Hostels
- Backbone
 - Fully protected optical fiber backbone connectivity

Computer Laboratories

Labs, Capacity, Location

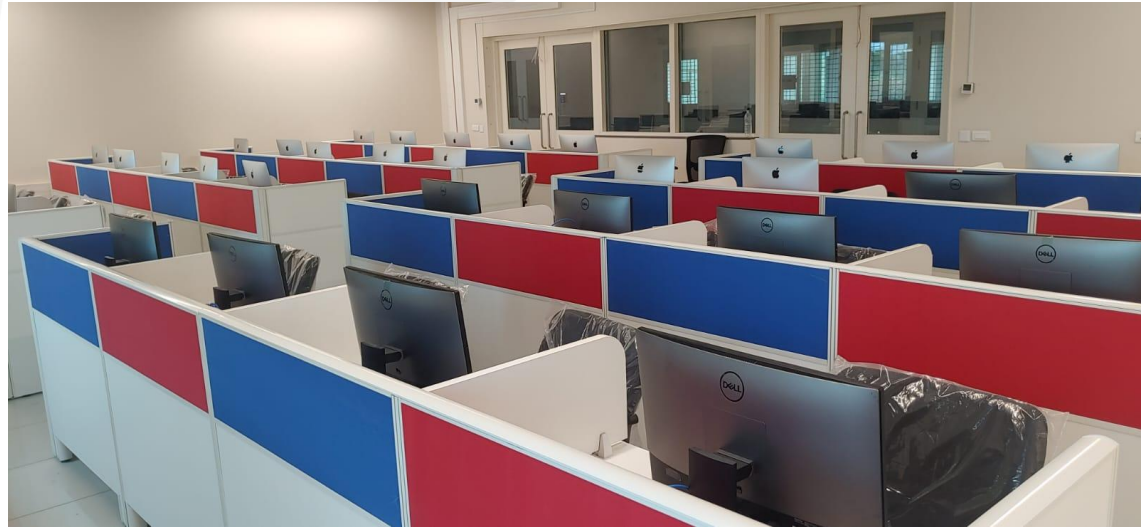
- Computer Lab 1, (63 no.), DB2
- Computer Lab 2, (56 no.), DB2
- Computer Lab 3, (28 no.), DB2
- South Campus Lab (30 no.), South Campus

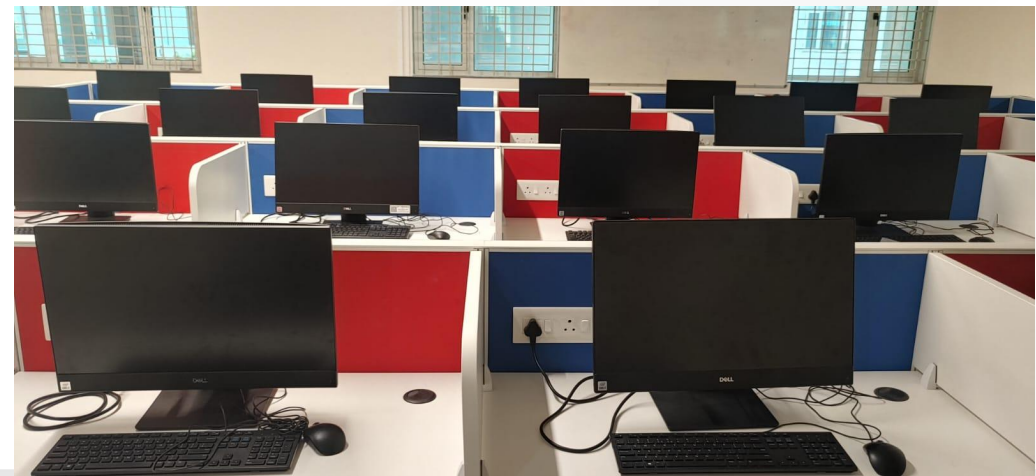
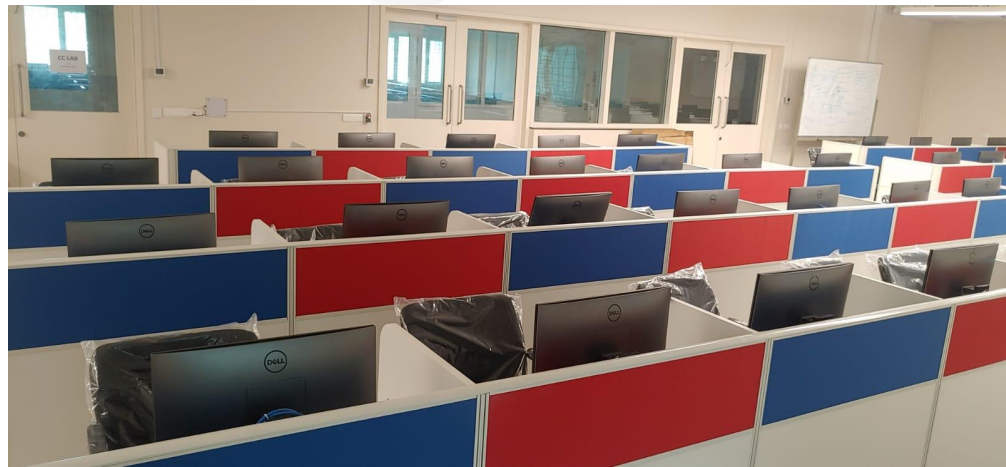
Typical Configuration

- i7 processors
- 16 GB RAM
- 1 TB SSD storage
- Interfaced with Wired LAN 1 Gbps and WiFi
- Dual OS (Windows and Linux)
- AutoCAD, Matlab, Creo, Comsol, Ansys, ...

Operational Times

- 9am - 6pm and 6pm - 2am (with the help of student volunteers)





High-end Computing Facilities

HPC, Cloud Infra, GPU Infra



HPC Infrastructure (Lotus)

High Performance Computing (HPC) Facility

- For high end computing intensive programs
- 24 compute nodes and 2 GPU nodes
- Each compute node – 24 cores, 96 GB RAM
- Combined Capacity: **576 cores** and **2 TB RAM (52 Tflops)**
- Home: 10 GB per User
- Storage: 2 TB per User
- Operating System: RHEL
- Job Scheduler: PBS
- All essential software like
 - Ansys, Matlab,
 - GCC, Open MPI compiler...



GPU HPC Cluster (Orchid)

Configuration

- 1 Master and 5 GPU nodes.
- Nodes with mixed configuration
 - 20/40/44 CPU cores
 - 128/512 GB memory
 - Nvidia GeForce GTX 1080Ti / Tesla P100 GPU

Combined Capacity

- 204 CPU cores
- 1.5 TB memory
- GPU cards
 - 12 x Nvidia GeForce GTX 1080Ti 11GB
 - 8 x NVIDIA TESLA P100 GPU 12GB



Cloud (Virtualization) Infrastructure

VM Cluster (Physical Infrastructure)

- 6 servers + 1 GPU server
- 220 processor cores
- 2.5 TB RAM
- 40 TB SAN storage

Virtual Machine (VM) Configuration:

- 2 – 32 virtual CPUs
- 4 – 32 GB RAM
- 50 GB to 1 TB storage
- Linux / Windows
- Loaded with essential software
- 6 months lease and can be renewed further



Software

Software

- Matlab
- Origin Pro
- Mathematica
- Autocad
- Kaspersky-Antivirus
- Creo
- COMSOL Multiphysics
- OrCAD
- Simulia Abaqus
- Ansys
- PLECS
- ASPENOne
- Bentley
- ChemDraw
- GeoStudio
- Cadence
- TCAD
- Turnitin-Plagiarism Check software
- More Details: <https://cc.iittp.ac.in/software>

Software and Storage Policy


- Email: Google Email
 - GSuite Education Plus
- Google Drive+Gmail Storage Limit
 - 70 GB for Research Scholars
 - 30 GB for MS Scholars
 - 20 GB for MTech/BTech/MSc/MPP
- MS Office 365: Campus-wide license
 - Word, Excel, Powerpoint
 - One Drive: 1 TB
 - Can use on 5PC and 5 Mobiles/Tablets
- Matlab: Campus-wide license
 - A few tutorials from matlab
 - Matlab Drive+Online Matlab
- Please avoid using pirated software
- Other Policies: <https://cc.iittp.ac.in/policies>
- FAQs: <https://cc.iittp.ac.in/faqs>

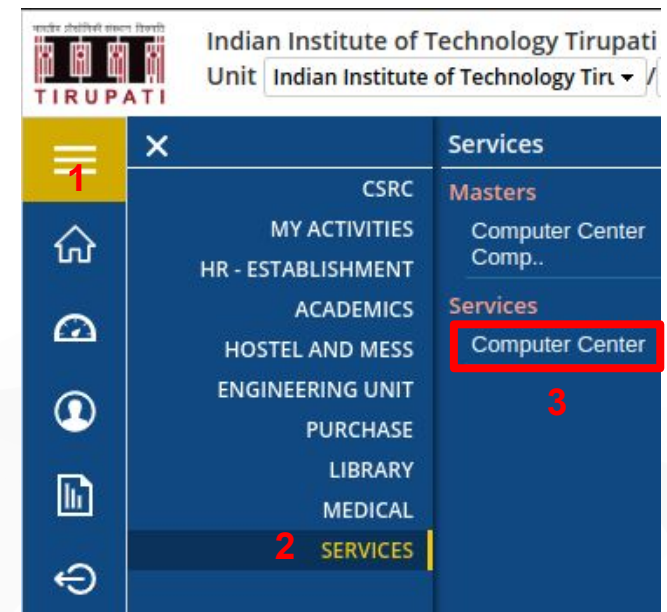
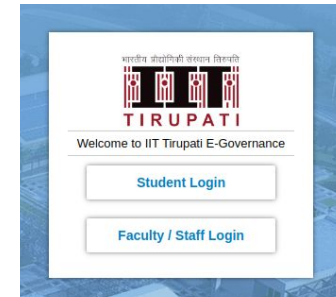
Services

Automation (95% is completed, 4 crores)

- Academics
- Placements, Student Affairs, Hostel Management,
- Health Centre,
- Library Management,
- International and Alumni Affairs,
- Finance, Accounts, and Audit,
- Stores, purchase and Inventory Management,
- Human Resources,
- Engineering Unit,
- System Administration and Integration,
- General Administration, and
- SRC-Projects and CEP.

Requesting the CC resources

- You must use **Workflow Website** to request access to computing resources.
- Go to <https://iittp.plumerp.co.in/prod/iittirupati/>
- Login with your User ID and Password
- Once you login,
 1. Click on the hamburger icon  at the top left for navigation menu
 2. Select SERVICES in the Menu
 3. Then, click "Computer Center"
- Click on **Add New** at the top right, a form will be shown to the left. Select appropriate CC-Vertical in the Nature of Request, Fill in the details, and click **Insert** to submit a request with the CC
- Once your request is reviewed, you will be notified through an email from the Workflow System



How to Raise Service and Complaints Requests

IIT ERP System

<https://iittp.plumerp.co.in/prod/iittirupati/>

The screenshot displays the IIT Tirupati ERP system interface. The browser address bar shows the URL: <https://iittp.plumerp.co.in/prod/iittirupati/do?Ld2en0MebivR//6Dym/dcnhjXCmuSN2ZUBV0+OMiYtfBpnVhQR4Nv05isYybjkqy7FA7uj5...>. The page header includes the IIT Tirupati logo and navigation options: Unit (Indian Institute of Technology Tiru...), Year (2022-23), and User Role (As Individual (00043)). The user name BADARLA VENKATA RAMANA is visible in the top right.

The main content area is titled "Computer Center Collaborator Form". It features a "Computer Center Status" dropdown menu set to "Pending". There are buttons for "FAQs", "Help Document", and "Add New". A search bar is present with a pagination indicator showing "1 Page(s) | 0 Rec(s)".

Below the search bar is a table with the following columns: Requester Name, Request No., Date, Nature of Request, Complaint Type, Status, and #. The table currently displays "No Data Available".

On the right side, there is a "Computer Center" form with the following fields:

- Requester Name: BADARLA VENKATA RAMANA
- Department: Computer Science and Engineering
- Subject: Wifi issue
- Nature of Reque.: Networks
- Complaint Type: WiFi-Hostel
- Location: H2 1234 (with a "Please Enter location Manually" prompt)
- Request Details: (Empty text area)

At the bottom of the form, there are buttons for "Insert", "Reset", "Cancel", and "Attach..".

Powered by plumbbee (v4iittp)

Reaching Out CC Team / Help Desk

For Any Unresolved Queries:

CC Advisor, Network	Dr. Mahendran V.	cca_networks@
CC Advisor, Computers	Dr. Roshan K Srivastav	cca_computers@
CC Advisor, Systems	Dr. Ajin George	cca_systems@
CC Advisor, Software	Dr. Panchatcharam M	cca_software@
CC Advisor, Workflow	Dr. Ramakrishna G	cca_workflow@
CC Head	Dr. VenkataRamana Badarla	head_cc@

For More Details: <https://cc.iittp.ac.in/>



Thank You ...!
Have a great time ahead..!