MGU Innovation Foundation
Inspiring By Innovations

MAHATMA GANDHI UNIVERSITY
KOTTAYAM
विद्या अमृतमश्नुते

PARAMASTRA

HIGH PERFORMANCE COMPUTING FACILITY

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PARAMASTRA – HIGH PERFORMANCE COMPUTING FACILITY

High Performance Computing (HPC) has an impact on research, innovation and societal progress across different fields. Its computational power and capabilities empower scientists,researchers,engineers,innovators and industry to tackle research problems through simulated real world scenarios.

PARAMASTRA is an approach to cloud computing that focuses on achieving scalable computing performance. Hybrid Cloud Computing refers to a computing model that brings together the benefits of both on premise facility and cloud infrastructure.This approach offers flexibility, control and efficiency in managing and deploying IT resources, thus benefitting the users.

The system is currently equipped with various cutting edge scientific software and other resources which are relevant to fields like Material Science, Nanotechnology, Statistical Analysis, Image Processing, Telecommunication Methods, Solid State Device Analysis, IoT, Mechatronics and Robotics etc.

For Further details visit: https://hpcparamastra.mguif.com

ABOUT PARAMASTRA- HYBRID HPC

The High Performance Computing facility PARAMSTRA HPC is configured in a hybrid model by establishing a unique gateway between on premise computing infrastructure withthe cloud. The system was designed and implemented by MGUIF HPC team in collaboration with Altair PBS and AWS.

On Premise HPC - Hardware Specifications

* Master Node - 1 No
* AI Server - 1 No
* Visualization Node - 1 No
* Scientific Application Node - 4 Nos
* General Purpose Server - 1 No

500TFLOPS computing power

PAN INDIA REMOTE CLOUD ACCESS

PARAMASTRA provides access to the customers to cloud by enabling the unlimited infrastructure on AWS, without limiting the on-premises hardware resources. Providing access to various types of instances in a secure gateway, users can specify and customize the hardware variable as per their computational requirement. Furthermore, the workstation can be configured by one click process and initiate the system in a matter of minutes, as compared to lengthy initial environment setup.

Services offered in the following domains

- **IT :** *Block Chain, Artificial Intelligence,Machine Learning, Generative AI*
- **Telecom :** *Image Processing, Statistical Analysis, Depixalate*
- **Structural :** *Mechanical, CIVIL. Production, Thermal*
- **Composites :** *Molecular Dynamics, Interface Energy Calculations, Modus Calculations*
- **Molecular :** *DFT, Energy Calculation, Spectral Observations, MD- Polymer, MD – Small Molecule*
- **Analytics :** *Statistical Analysis, Data Mining, Regression Analysis*

Academic Scientific Simulation Software available for Researchers & Industry

Quantum ATK
Simulation software
Solid state electronic calculations
Classical empirical potentials
Electrostatic models
NEGF method for two-probe systems
Surface Green's function method for single surfaces
Quantum-mechanical computational methods

Gaussian
Simulation software
Semi empirical calculations
Energy calculations
Chemical reaction modeling
Spectral and ONIOM calculations
Hartree-Fock/DFT & TD~DFT calculations
Solvation Models and Molecular Dynamics

VASP
Simulation software
Structure relaxation modeling
Magnetism calculations
Many-body perturbation theory
Optical/dielectric properties calculations
Berry phases identification
Compute the band structure using a hybrid functional

Scan For more details

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HPC PARAMASTRA ACADEMIC PLAN DETAILS

BASIC	
INR	6000
Coin	3000
Node count	1
CPU Core	64
GPU	0
OS	Red Hat (Version-8.4)
Storage	500 MB
Validity	30 days

ADVANCED	
INR	17000
Coin	9000
Node count	2
CPU Core	128
GPU	0
OS	Red Hat (Version-8.4)
Storage	500 MB
Validity	90 days

PROFESSIONAL	
INR	28000
Coin	15000
Node count	2
CPU Core	128
GPU	1
OS	Red Hat (Version-8.4)
Storage	500 MB
Validity	120 days

BASIC-PUI-D	
INR	7000
Coin	3300
Node count	1
CPU Core	64
GPU	0
OS	Red Hat (Version-8.4)
Storage	500 MB
Validity	30 days

ADVANCED-PUI-D	
INR	18500
Coin	9900
Node count	2
CPU Core	128
GPU	0
OS	Red Hat (Version-8.4)
Storage	500 MB
Validity	90 days

PROFESSIONAL-PUI-D	
INR	30000
Coin	16500
Node count	2
CPU Core	128
GPU	1
OS	Red Hat (Version-8.4)
Storage	500 MB
Validity	120 days

Exclusive Offer

MGUIF is offering an exclusive 20% discount to the Students of Mahatma Gandhi University Main Campus and Affiliated Colleges only

FOR MORE DETAILS

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