

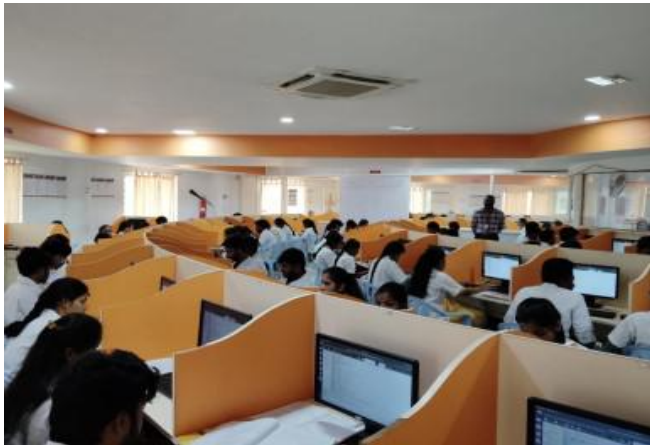
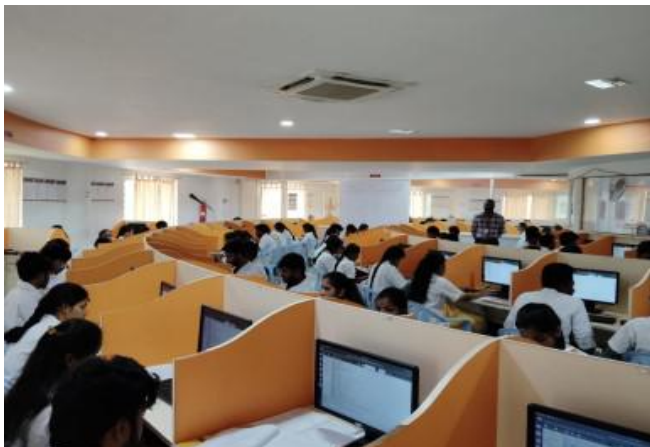

MADANAPALLE INSTITUTE of TECHNOLOGY & SCIENCE



(UGC-AUTONOMOUS INSTITUTION)

Affiliated to JNTUA, Ananthapuramu & Approved by AICTE, New Delhi
 NAAC Accredited with A+ Grade, NIRF India Rankings 2024 - Band: 201-300 (Engg.)
 NBA Accredited - B.Tech. (CIVIL, CSE, ECE, EEE, MECH, CST), MBA & MCA



S. No.	Name of the Laboratory	Slot/Capacity	Configuration Details
1	COMPUTER PROGRAMMING LAB 	I/33	Dell Vostro 3902 Model , I3 4th Gen Processor 250 GB SSD SATA,10 GB DDR3 RAM DELL 19” Monitor, Keyboard and Mouse, Delta-UPS- 20KVA
		II/33	Dell Vostro 3902 Model, I3 4th Gen Processor,250 GB SSD SATA,10 GB DDR3, RAM DELL 19” Monitor, Keyboard and Mouse, Delta- UPS- 20KVA
2	COMPUTER PROGRAMMING LAB 	I/33	Dell Vostro 3902 Model, I3 4th Gen Processor’ 250 GB SSD SATA,10 GB DDR3, RAM DELL 19” Monitor, Keyboard and Mouse, Delta-UPS- 20KVA
		II/33	Dell Vostro 3902 Model , I3 4th Gen Processor, 250 GB SSD SATA,10 GB DDR3 RAM DELL 19” Monitor, Keyboard and Mouse, Delta-UPS- 20KVA
3	ADVANCED PROGRAMMING LAB 	I/33	Dell Vostro 3902 Model, I3 4th Gen Processor,250 GB SSD SATA,10 GB DDR3 RAM DELL 19” Monitor, Keyboard and Mouse, Delta UPS- 20KVA
		II/33	Dell Vostro 3902 Model, I3 4th Gen Processor,250 GB SSD SATA,10 GB DDR3 RAM DELL 19” Monitor, Keyboard and Mouse, Delta UPS- 20KVA

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4	<p>SYSTEM ENGINEERING LAB</p> 	I/36	DELL VOSTRO 3681 DESKTOP,I3 10th Gen,1TB SATA HDD,8GB DDR4 RAM,Dell 19.5" Monitor, Mouse, and Keyboard, Delta UPS-20KVA
		II/36	DELL VOSTRO 3681 DESKTOP,I3 10th Gen,1TB SATA HDD,8GB DDR4 RAM,Dell 19.5" Monitor, Mouse, and Keyboard, Delta UPS-20KVA
5	<p>APPLICATION DEVELOPMENT & PROJECT LAB</p> 	I/36	DELL OPTIPLEX 3050MT DESKTOP,I5 7th Gen Processor, 1TB HDD,16 GB DDR4 RAM, Dell 22 Inc Led monitor, Mouse, Keyboard, Delta UPS-20KVA
		II/36	DELL OPTIPLEX 3050MT DESKTOP,I5 7th Gen Processor, 1TB HDD,16 GB DDR4 RAM, Dell 22 Inc Led monitor, Mouse, Keyboard, Delta UPS-20KVA
6	<p>SOFT COMPUTING LAB</p> 	I/36	HP Z2 G9 Tower Workstation PC,I7 14th Gen,1TB HDD,32GB DDR5RAM, NVIDIA RTX A1000 8GB,HP 21.5 FHD Monitor, Mouse, Keyboard, Delta UPS-20KVA
		II/36	HP Z2 G9 Tower Workstation PC,I7 14th Gen,1TB HDD,32GB DDR5RAM, NVIDIA RTX A1000 8GB,HP 21.5 FHD Monitor, Mouse, Keyboard, Delta UPS-20KVA



Software Procurement:

Name of the Department	Software	Software Name	No. of Users	Date of Purchase
Computer Science & Engineering	IBM Rational Rose Software	Rational Rose Software	30	30-01-2008
	Adobe Web Premium CSS / Acrobat Professional	Adobe/Acrobat Software	2	01-12-2010
	ORACLE Standard Edition(CASA)	Microsoft campus Agreement	30	07-09-2019
	Microsofte CASA and GGS (Common to All)	Microsoft campus Agreement	75	11-04-2021

COMPUTER PROGRAMMING LAB PRACTICALS:

This lab is to apply the concepts of computer programming in a practical approach; the emphasis of this course is on techniques of program development within the structure and object-oriented paradigm. Implementation of program include C program basics, control structures, arrays, files, pointers, objects, classes, inheritance, and data structures. Also, this lab is to implement basic linear and nonlinear data structures like stack, queue, list, sorting techniques, binary search trees, and balanced search trees.

Objectives:

1. To make the student learn C Programming language.
2. To make the student solve problems, implement those using C & C++ programming languages.
3. To strengthen the ability to identify and apply the suitable data structure for the given real world problem.

Required Software:

Geany Application Environment

ADVANCED PROGRAMMING LAB PRACTICALS

This Lab is aimed to provide hands on experience to implement reinforcing theoretical concepts of JAVA programming like OOP principles-Class & Objects, Interfaces, polymorphism, Inheritance and encapsulation, etc. through practical implementation. And also, for the concepts of Advanced Data structures like Array, Queue, Linked List, Graphs, etc., Using Full stack Web development, students can start developing static and dynamic web pages using CSS and Java script

Objectives:

1. To develop a strong understanding of Java programming concepts through practical implementation.
2. To gain experience in Full Stack Web Development, including frontend and backend development.
3. To implement and analyze Advanced Data Structures including Arrays, Stacks, Queues, Linked Lists, Trees, and Graphs.

Required Software:

1. Geany Application Environment
2. ECLIPSE
3. JDK 1.7



SYSTEM ENGINEERING LAB PRACTICALS

This lab provides a hands-on learning environment, reinforcing theoretical concepts of Computer Networks, Operating systems, Compiler Design through practical implementation. Also demonstrate basic OS concepts using Linux commands etc., designed solutions for process synchronization problems.

Objectives:

1. To gain a comprehensive understanding of networking principles, including protocols, architectures, data transmission, and security, while implementing socket programming and simulating routing and error detection techniques.\
2. To acquire hands-on experience in operating system concepts, including process scheduling, synchronization, deadlock management, and memory management techniques such as paging and segmentation.

Required Software:

1. Geany Application Environment
2. NS2
3. WIRESHARK
4. JDK 1.7
5. PUTTY

APPLICATION DEVELOPMENT & PRACTICAL LAB:

This Lab course is designed to provide hands-on learning environment, reinforcing theoretical concepts of 'Python for Data Science', 'NoSql' and 'Database Management System' through practical implementation.

Objectives:

1. To develop proficiency in Python programming for data analysis and visualization.
2. To implement data manipulation techniques using libraries like Pandas and NumPy.
3. To apply statistical and machine learning algorithms for data-driven decision-making.
4. To know the components of DBMS, ER Diagrams and represent using Relational model, normal forms in the design of databases, etc.,
5. NoSQL lab is to explore and understand the functionalities, advantages, and practical applications of NoSQL databases for handling diverse and large-scale data efficiently.

Required Software:

1. ORACLE 11g
2. Geany Application Environment.
3. CASSANDRA
4. MongoDB

SOFT COMPUTING LAB PRACTICALS:

This Lab provides a hands-on learning environment, reinforcing theoretical concepts of Machine Learning, Python for data Science, Internet of Things, AI Tools, Techniques and Applications through practical implementation.

Objectives:

1. To gain hands-on experience in building and deploying machine learning models using python.
2. To master Python's data science ecosystem for data manipulation, analysis, and visualization.
3. To develop practical skills in building and deploying IoT solutions.

Required Software:

1. Geany Application Environment.
2. AUTOCAD-TINKERCAD
3. Jupiter
4. Anaconda3