



JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR

(Established by Govt. of A.P., Act.No.30 of 2008)

Ananthapuramu- 515002, Andhra Pradesh, INDIA

RESEARCH FACILITIES

CIVIL ENGINEERING

S.No.	Research Equipment available
1.	Automatic Compression Testing Machine, 3000 KN capacity with stress & strain controlled.
2.	Profometer- 5 (Model "S")
3.	Tile Abrasion Testing Machine
4.	Relative density apparatus
5.	Electronic consolidation test for soils
6.	Impact Tester for pipes
7.	High arm Electrically operated digital CTM of 3000 KN to test 3m columns
8.	Core case (core cutter)
9.	Universal Triaxial outfit
10.	Compression Testing Machine
11.	Flexural Beam Testing Setup with Proving Rings of various capacities
12.	Analogue Hydrostatic Pressure testing equipment
13.	Universal testing machine
14.	Impact Testing Machine
15.	Spring Testing Machine
16.	Elongation gauge
17.	Flakiness gauge
18.	Los angles Abrasion test machine
19.	Bitumen penetration test setup.
20.	Bitumen Ductility test setup.
21.	Ring and ball apparatus
22.	Marshall Stability Test apparatus with digital display
23.	Benkelman Beam
24.	Bitumen Extractor
25.	Rebound hammer apparatus
26.	Ultrasonic pulse velocity equipment
27.	Compression Testing Machine Flexural Testing Machine
28.	Triaxial Apparatus Direct Shear Apparatus Vane Shear Apparatus

	Consolidation Apparatus CBR Apparatus
29.	Flash N Fire For Bitumen Bitumen Ductility Test Softening Point
30.	DIGITAL Universal Testing Machine 1000 kN
31.	DIGITAL Compression Testing Machine 3000 kN
32.	Flexural Testing machine
33.	NDT equipment- UPV
34.	Marshal stability
35.	Ductility Test
36.	TOTAL STATION
37.	DIGITAL TRI AXIAL TEST
38.	ELECTRONIC CONSOLIDOMETER
39.	COD & BOD testing

ELECTRICAL & ELECTRONICS ENGINEERING

S.No.	Research Equipment Available in the Department
1.	Wind Emulator
2.	Solar PV Emulator
3	Solar Water Pumping System
4	Wind Turbine Emulator
5	Solar PV Emulator
6	Solar PV Training & research System
7	MATLAB / Simulation – 2017b
8	MATLAB / Simulation – 2017b
9	MATLAB / Simulation – 2017b and Experimental Kit
10	MATLAB / Simulation – 2017b

MECHANICAL ENGINEERING

S.No	Name of the Major Equipment available
1	Internal Combustion Engines, Exhaust Gas analyzer, Smoke meter, Octane Number
2	Siemens centre of Excellence Laboratories on Automation ,Robotics, Mechatronics, CNC Machines, Modelling and Analysis Softwares
3	Electric Discharge Machine (EDM)
4	CNC XL Mill
5	CNC XL Turn
6	3D Printing – Fused Deposition Modelling
7	Aristo 6 – Axis Pick and Place Robot
8	Universal Milling Machine
9	Universal Testing Machine
10	Tool Maker's Microscope
11	Talysurf Surface Roughness Tester
12	Metallurgical Microscopes

13	ANSYS Introduction Version – 32,000 Nodes
14	ANSYS Advanced Version – 2,56,000 Nodes
15	CATIA V5 Software
16	Automation Studio Software
17	Work Space LT Software
18	<ol style="list-style-type: none"> 1. Thermal Engineering Lab <ol style="list-style-type: none"> a. Four stroke Diesel engine test rig. b. Four stroke Petrol engine test rig. c. Two stroke Petrol engine test rig. d. Four stroke twin cylinder Diesel engine test rig. e. Four stroke four-cylinder Petrol engine test rig. f. Four stroke Variable compression ratio Diesel engine test rig. g. Four stroke Variable compression ratio Petrol engine test rig. h. Refrigeration & air conditioning test setup i. Air compressor test (Rotary & Reciprocating)
19	Manufacturing (Machines & Plastic moulding)
20	CAD/CAM Lab with CNC Machine

ELECTRONICS & CUMMUNICATION ENGINEERING

S. No	Name of the Research lab	Facilities Available	
1.	VLSI Design Lab	EDA Tools: 1. Xilinx Vivado 2. Mentor Graphics FPGA Kits: Xilinx Zynq 7000	
2.	Communications Lab	Hardware: 1. Spectrum Analyzer with Tracking Generator RF Signal Source 2. Spectrum Analyzer (5KHz, 3GHz), 3. Vector Analyzer (1MHz,3GHz) 4. Antenna Set 5. Preamplifier 6. Modulation Analyzer 7. Vector Reflection measurement 8. Receiver mode Software: MATLAB with Signal Processing and Filter Design Toolboxes	
3		Xilinx Vivado Software	25 users
4		Mentor Graphics Front end Tools	25 users
5		Mentor Graphics Back end Tools	25 users
6		Dell Desktop Computers with i5 processor chipset	30
7		Reflex klystron based Microwave bench setup	07
8		Antenna Trainer kit	01
9		RF Power Meter	01
10		Arbitrary Wave form generator	01
11		Arbitrary Function Generator 2 channel 16Mhz	
12		Vector Signal Generator	
13		Mixed Domain Oscilloscope Usb Real Time signal analyser	
14		9khz-6.2 Ghz	

COMPUTER SCIENCE ENGINEERING

S.No.	Research Equipment available
1	<p style="text-align: center;"><u>Dell Desktop Optiplex 3080 Systems</u></p> <ul style="list-style-type: none"> • Intel Core 7th Generation i7-7700 • 3.6 GHz, 8M Cache, 65W AMD Radeon • RAM : 16 GB • Hard Disk Capacity: 1 TB • Monitor screen Size : 19.5-inch <p style="text-align: center;">(41- Systems)</p> <p style="text-align: center;"><u>HP Pro Desk 600 GS</u></p> <ul style="list-style-type: none"> • HP 9 th generation, Processor: Intel® Core™ i7-9700 supports Octacore Core i9 Processor • RAM Size: 16GB DDR4 Upgradable to 128 GB • Hard Disk: 1 Terabyte • Chipset: Intel Q370 • Integrated Dual Band wireless 802.11 a/b/g/n/ac wireless controller • Integrated Ethernet LAN 10/100/1000 • Monitor: hp v193 18.5 inch <p style="text-align: center;">(10- Systems)</p> <p style="text-align: center;">Total:- 70</p>
2	<p style="text-align: center;"><u>Dell Desktop Optiplex3080 Systems</u></p> <p>Intel Core 7th Generation i7-7700 & 7820 3.6 GHz, 8M Cache, 65W AMD Radeon</p> <ul style="list-style-type: none"> • RAM : 16 GB • Hard Disk Capacity: 1 TB <p>Monitor screen Size : 19.5-inch / 21 - Inch</p> <p>Total:- 80 System</p>
3	<ul style="list-style-type: none"> • HP 9 th generation, Processor: Intel® Core™ i7-9700 supports Octacore Core i9 Processor • RAM Size: 16GB DDR4 Upgradable to 128 GB • Hard Disk: 1 Terabyte • Chipset: Intel Q370 • Integrated Dual Band wireless 802.11 a/b/g/n/ac wireless controller • Integrated Ethernet LAN 10/100/1000 • Monitor: hp v193 18.5 inch v193 18.5 inch (37- Systems) <p>Dell Desktop Systems 7040 I7 Processor, 16 GB RAM, 3.6 GHz Speed, 1 TB Hard Disk 19.5 inch Monitor. (4 Systems)</p> <p>Total:- 41 Systems</p>
4	<p style="text-align: center;"><u>Dell Desktop Systems 7040</u></p> <ul style="list-style-type: none"> • I7 Processor • 16 GB RAM, 3.6 GHz Speed • 1 TB Hard Disk • 19.5 inch Monitor. <p>Total:- 75 Systems</p>

5	<p>Internet of Things (IoT) DIY Wireless Lab Kit (TECHNORISE EMBTECH) (ED-5032) DIY Internet of Things (IoT) Robotics Lab Kit (jmd) (ED-5032) Internet of Things (IoT) DIY Wireless Lab Kit (Xtrans) (ED-5032) DIY Internet of Things (IoT) basic electronic Lab Kit (CDAC) (ED-501) Arise technology Package No. 1 - Atal Tinkering Lab (Arise technology) (AT 1000) DIY IOT Electronics kit (mLabs) (DIY-E55) HANSCO Package No. 1 - Atal Tinkering Lab (HANSCO) (Package No. 1 - ATAL TINKERING LAB OF NITI AAYOG) Arduino Uno (mLabs) (ST1001) Virtual Reality based Vestibular Rehabilitation Module (NeuroEquilibrium) (NeuroEquilibrium VVR 101)</p>
6	<p>CPU: HP ProDesk 600G5 MT PC</p> <ul style="list-style-type: none"> • Monitor: HP P204 V 19.5 Inch Monitor • Processor Core I7 CFL-R • RAM:16GB DDR4 2666 • Hard Disk 1TB SATA HDD • Graphics 4GB DP + HDMI Graphics <p>Total:- 80 Systems</p>
7	<p><u>HP ProDesk 600G5 MT PC</u></p> <ul style="list-style-type: none"> • Monitor: HP P204 V • 19.5 Inch Monitor • Processor Core I7 CFL-R • RAM:16GB DDR4 2666 • Hard Disk 1TB SATA HDD • Graphics Rdn RX 550X 4GB DP + HDMI Graphics <p>Total:- 30 Systems</p>
8	<p>190 Systems 4GB RAM, Intel I core3 Processor, Wired Keyboard and Mouse</p>
9	<p>Software (online resources)</p> <ol style="list-style-type: none"> 1. Aneka Cloud software(Cloud) 2. Anakonda(Python) 3. R-Tool(Data Mining) 4. MYSQL(DBMS) 5. SQL Developer(DBMS) 6. Oracle RDBMS(DBMS) 7. Ecilipse(JAVA) 8. C 9. C++ 10. IoT(online resources) 11. MS Office <p>NS2(online esource)</p>
10	<p>Operating System</p> <ol style="list-style-type: none"> 1. Windows10 2.Ubantu

11	<p>Servers -03</p> <p>Processor –Intel Xeon CPU E5-2620 V4@ 2.10GHZ 2.10GHZ</p> <p>RAM-32 GB</p> <p>HDD-3 TB</p> <p>1) Operating System: Windows Server 2012 R2</p> <p>2)Operating System: Red hat Linux Server 7.3 version</p>
12	<p>Client Configuration</p> <p>Processor –Intel Core i7-6700 CPU@3.40GHz3.40GHz</p> <p>RAM-8 GB</p> <p>HDD-500GB</p> <p>64 Bit Operating system</p> <p>1) Operating System: Windows 10 Pro</p> <p>2)Operating System: Ubuntu 14.0.1</p>
13	<p>Software's:</p> <p>Python 3.9.0</p> <p>Java 18</p> <p>Oracle 18g</p> <p>Weka3.9</p> <p>MS office 2016</p> <p>Android Studio 4.0</p> <p>Turbo C++ 3.0</p>

CHEMICAL

S.No.	Research Equipment Available
1	X-Ray Powder Diffraction System
2	UV- Visible Spectrophotometer
3	Gas Chromatography
4	High Performance Liquid Chromatography
5	Atomic Absorption Spectrophotometer
6	Potentiostat
7	Autoclave
8	Pervaporation Set up
9	Ultrafiltration Set up
10	Water Analysis Kit
11	Micro reactor
12	Fluidized Bed
13	Bio reactor

PHYSICS

S.No.	Research Equipment Available
1	Hot Air Oven
2	Muffled Furnace

3	DC-Conductivity Measurement setup Pellet making Machine
4	UV-Spectrophotometer
5	LCR Bridge
6	Plate Reader
7	Cold Cabinets
8	Deep Freezers
9	Centrifuges
10	Shaker-Incubators
11	Ice Maker
12	Oven
13	Spin Coating Unit
14	Magnetic Stirrer with hot plate
15	Electronic weighing machine
16	Motor pestle
17	Furnace
18	Vacuum Coating Unit
19	Pico ammeter
20	Sono-chemical Reactor
21	Electronic Analytical balance

MATHEMATICS

S.No	Name of the Major Equipment available
1	10 desk top computers with mat lab

CHEMISTRY

S.No	Name of the Major Equipment available
1	Oven
2	Magnetic Stirrer with hot plate
3	Electronic weighing machine
4	Motor pestle
5	Electronic Analytical balance
6	Gas Chromatography
7	UV-Visible Double beam spectrophotometer
8	Fourier-transform infrared spectrometer
9	Electrochemical Workstation
10	Double distillation unit
11	Ion-Exchanger
12	Fuming cupboard
13	Colorimeters
14	Conductivity meters

15	Water kit Analyzer (Systronic)
16	BOD Incubator
17	Potentiometer

FOOD TECHNOLOGY

S.No.	Name of the Equipment
1	Rotary Evaporator
2	Deep Freezer (Vertical)
3	Hot air oven
4	Water bath
5	Vortex mixer (2 No.s)
6	ELISA Reader/ELISA washer -(Microbiology)
7	Bio Safety Cabinet- (Microbiology)
8	Incubator-(Microbiology)
9	Water bath (Microbiology)
10	BOD Incubator (Microbiology)
11	Weighing balance (Microbiology)
12	Shake Incubator (Microbiology)
13	Hot air oven (Microbiology)
14	Real time PCR (RT PCR) (Microbiology)