



**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR
ANANTHAPURAMU- 515 002 (A.P) INDIA**

Metric No: 3.1.5.

Institution has the following facilities to support research

- 1. Central Instrumentation Centre**
- 2. Animal House/Green House**
- 3. Museum**
- 4. Media laboratory/Studios**
- 5. Business Lab**
- 6. Research/Statistical Databases**
- 7. Mootcourt**
- 8. Theatre**
- 9. Art Gallery**
- 10. Any other facility to support research**

HEI Inputs: B. 3 of the above

DVV Comment: Provide Videos and geo-tagged photographs of each of the facilities available in the HEI. Provide Details of the each of the facilities available in the HEI.

HEI Response: Provided Videos and geo-tagged photographs of each of the facilities available in the HEI. Provided Details of the each of the facilities available in the HEI.


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Brief report

The University having the different facilities in the departments. The university is having central instrumentation facility, Business laboratory and CM Skill Excellent center, Dassault Systems lab and Seimens laboratory. All these facilities with sophisticated instruments are available to carry our research and students projects. The list of equipments available, geotag photographs shared in SSR. The same is herewith appended.

1. Central Instrumentation Facility;

The University has provided the required instrumental facilities at each constituent units as well as at University level. The University has procured XRD, HPLC, UV-Visible spectrophotometer, Fourrier Tranform Infra Red Spectrometer, gas Chromatography, High Arm Digital CTM of 300 KN to test 3m column. Digital Triaxial test, COD & BOD incubator, Solar PV Emulator, CNC XL Mill, CNC XL Turn, IC Engines, CATIA V5 software, EDA Tools, Xilinx, Mentorgraphics, Matlab software 2017 version, Texas Instruements, IoT kits, Spectrim Analyzer. Antenna Kit have been provided to carryout research in the specific domain. IoT and Arudino Kits has been provided to takeup latest technologies like Artificial Intellegience and Machine learning areas.

2. Business Laboratory:

Business lab has been established to cater the needs of management graduates and postgraduates and faculty members. It is mainly focusing on digital marketing, computer applications for BLM, Human resource management, International marketing and Enterprenuriship, Marketing Analysis, Financial Analysis, Data Analytics, Financial Technologies are the latest thrust areas hence much helpful to carryout research and job oriented technologies.


3. Any other facility to support research

a) CM Skill Excellent center

b) Dassault Systems lab

c) Seimens laboratory

The Government of Andhrap Pradesh has supporting under AP Skill Development Corporation to mainly providing Knowledge in Innovation, Incubation strategies in the latest technologies. The above facilities provided Startup ideas, nurturing of ideas into commercialization. These laboratory provided advanced techonologies like 3D printing, Design Aspects, Artificial Intelligence, Big Data. These advanced facilities will enhance the awareness on latest technologies and establishment of research in the specified domains.


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Jawaharlal Nehru Technological University Anantapur

Ananthapuramu - 515002, Andhra Pradesh, India.

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

Research Facilities

Department of 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 guage
17.	Flakiness guage
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


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	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

Department of 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

Department of Mechanical Engineering

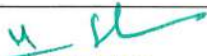
S.No	Name of the Major Equipment available
1	Internal Combustion Engines, Exhaust Gas analyzer, Smoke meter, Octane Number
2	Siemens centre of Excellence Laboratories on Automation ,Robotics, Mechatronics, CNC Machines, Modelling and Analysis Softwares
3	Electric Discharge Machine (EDM)
4	CNC XL Mill
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


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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	1. Thermal Engineering Lab 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

Department of Electronics & Communication 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


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8		Antenna Trainer kit	01
9		RF Power Meter	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		
10		Arbitrary Wave form generator	01

Department of Computer Science and Engineering

S.No.	Research Equipment available
1	<p><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>(41- Systems)</p> <p><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:1 6GB DDR4 Upgradable to 128 GB • Hard Disk: I 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>(10- Systems)</p> <p>Total:- 70</p>
2	<p><u>Dell Desktop Optiplex3080 Systems</u></p> <ul style="list-style-type: none"> • Intel Core 7th Generation i7-7700 & 7820 • 3.6 GHz, 8M Cache, 65W AMD Radeon • RAM : 16 GB • Hard Disk Capacity: 1 TB • Monitor screen Size : 19.5-inch / 21 - Inch <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: I Terabyte • Chipset: Intel Q370


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	<ul style="list-style-type: none"> • 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 <p>(37- Systems) Dell Desktop Systems 7040 I7 Processor, 16 GB RAM, 3.6 GHz Speed, 1 TB Hard Disk 19.5 inch Monitor.</p> <p>(4 Systems) Total:- 41 Systems</p>
4	<p>Dell Desktop Systems 7040</p> <ul style="list-style-type: none"> • I7 Processor • 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>


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9	Software (online resources) 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 NS2(online esource)
10	Operating System 1. Windows10 2.Ubantu
11	Servers -03 Processor –Intel Xeon CPU E5-2620 V4@ 2.10GHZ 2.10GHZ RAM-32 GB HDD-3 TB 1) Operating System: Windows Server 2012 R2 2)Operating System: Red hat Linux Server 7.3 version
12	Client Configuration Processor –Intel Core i7-6700 CPU@3.40GHz3.40GHz RAM-8 GB HDD-500GB 64 Bit Operating system 1) Operating System: Windows 10 Pro 2)Operating System: Ubuntu 14.0.1
13	Software's: Python 3.9.0 Java 18 Oracle 18g Weka3.9 MS office 2016 Android Studio 4.0 Turbo C++ 3.0



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Department of Chemical Engineering

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

Department of 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


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16	Motor pestle
17	Furnace
18	Vacuum Coating Unit
19	Pico ammeter
20	Sono-chemical Reactor
21	Electronic Analytical balance

Department of Mathematics

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

Department of Chemistry

S.No	Name of the Major Equipment available
1	Oven
2	Magnetic Stirrer with hot plate
3	Electronic weighing machine
4	Muffle furnace
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


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Department of 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)

Department of Pharmaceutical Sciences

S.No.	Name of the Equipment
1	Rotary Evaporator
2	Deep Freezer (Vertical)
3	Hot air oven
4	Water bath
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	High Performance Liquid Chromatography (HPLC)


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15	Dissolution Chamber
16	Punching Machine (8 stations)
17	Hardness tester
18	Disintegration Unit
19	UV-Visible Double Beam Spectrophotometer
20	Karl Fishers Unit
21	Sonicator
22	Colorimeter
23	Conductometers
24	pH meters
25	Polarography
26	Laminar Air Flow
27	Autoclave
28	Melting Point Apparatus
29	Muffle Furnace
30	Soxhlet Apparatus
31	UV Chamber
32	Fluid Viscometers
33	Environmental Testing chamber
34	Heating Mantles
35	Double distillation unit
36	Ball Mill
37	Nephelometric Turbidity Unit


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Links for all supporting documents

Facilities	Year	Documents
Research facilities available in the University at respective departments	2017-2022	https://jntua.ac.in/qa1.html?link=4-2023-17-1914-JA Research Facilities signed.pdf https://jntua.ac.in/qa1.html?link=8-2023-10-251-Instrum Lab 1.jpg https://jntua.ac.in/qa1.html?link=8-2023-10-313-Instrument Lab 2.jpg https://jntua.ac.in/qa1.html?link=8-2023-10-338-uv visible spectroscopy.jpg https://jntua.ac.in/qa1.html?link=8-2023-10-359-XDR- Chem Dept.jpg https://jntua.ac.in/qa1.html?link=8-2023-10-420-Mass Transfer Operation lab.jpg