**LABORATORIES OF H & S DEPARTMENT**

All the academic labs are filled with required equipment and are updated regularly according to the global education standards. The following laboratories are established under H & S department.

1. Applied physics Lab

2. Engineering physics lab

3. Chemistry lab

4. Engineering chemistry lab

5. Communicative English lab

APPLIED PHYSICS LAB

LIST OF EXPERIMENTS

1. The thickness of the wire using wedge shape method.
2. The radius of curvature of the lens by Newton’s ring method.
3. Diffraction grating-wave length of LASER.
4. The dielectric constant by charging & discharging method.
5. B-H Curve for Transformer Core.
6. The numerical aperture of a given optical fiber & find it’s acceptance angle.
7. The energy gap of a semi conductor.
8. Magnetic field along the axis of a current carrying coil-Stewart &Gee’s method.
9. Resolving power of a grating.
10. Dispersive power of a diffraction grating.

APPLIED PHYSICS LAB EQUIPMENT LIST

Traveling Microscope (T.M ), Identical optically plane rectangular glass plates, Stand with a turning glass plate, Reading lens, Sodium vapor lamp, plane-convex or double-convex lens of about 100 cm, focal length & 4 or 5 cm, diameter, convex lens 20cm, focal length, thick glass plate, thin glass plate, diode LASER, Plane diffraction grating, thin rope, meter scale, Screen, Capacitor, Resistor, Two way toggle switch, voltmeter, stop watch, B-H Curve Unit, transformer core, translucent paper, CRO, Optical fiber kit, Numerical aperture measurement Jig, p-n diode, Power Supply, Voltmeter, Micro ammeter, thermometer, heating arrangement diode, stewart, Gee’s galvanometer, Battery eliminator, Ammeter, Rheostat, Commutator, plug-key & Thread, Spectrometer, Diffraction Grating, mercury vapour lamp, Reading lens, Spirit level, …………..etc

**ENGINEERING PHYSICS LAB**

**LIST OF EXPERIMENTS**

1. Torsional pendulum.
2. Magnetic field along the axis of a current carrying coil –stewart &gee’s method.
3. Diffraction Graling-wave Length of laser.
4. Particle size – Diode Laser.
5. Dielectric constant By charging & Discharging method.
6. B-H Curve for Transformer core.
7. Optical fibers – Numerical Aperture.
8. Hall Effect in Semi conductor.
9. Velocity of Ultrasonic Sound.
10. Spring constant.

**ENGINEERING PHYSICS LAB EQUIPMENT LIST**

Circular disc, Metal wire, Stop clock, Meter Scale, Screw gauge, Vernier Calipers, Stewart &Gee’s galvanometer, Battery eliminator, Ammeter, Commutator, Rheostat, Plug keys, Scale, Connecting wires, diode LASER, Plane diffraction grating, Screen, Diode Laser Source, Glass slide containing particle, Retort stand, Capacitor, Resistor, toggle switch, Voltmeter, B-H Curve Unit, transformer core, translucent paper, meters of a step index optical fiber, Digital multi meter, Adaptors, Connectors, D.C Power Supply, Fiber optic trainer module, N.A. Measurement Jig, Electromagnet, Power Supply of electromagnet, Gauss meter, Semi conducting Crystal & constant power supply, Ultrasonic interferometer, Sample Liquids, High Frequency generator, Springs, Weight Hanger, Slotted Weights,………….etc.

**ENGINEERING CHEMISTRY LAB**

**LIST OF EXPERIMENTS**

1) Preparation of Standard solution.

2) Determination of Hardness of Ground water Sample.

3) PH- Metric –part (a) Strong Acid vs Strong Base (b) Weak Acid vs Strong Base.

4) Conductometry – Determination of cell Constant & Conductance of Solution.

5) Potentiometry – Determination of Redox Potentials & Emfs.

6) Determination of Strength of an Acid in Lead-acid Battery.

7) Proximate Analysis of Coal - Determination of percentage of Moisture Content in a Coal Sample.

8) Redwood Viscometr - Determination of viscosity of Lubricating Oil.

9) Adsorption of Acetic Acid on Activated Charcoal.

10) Preparation of Bakelite.

ENGINEERING CHEMISTRY LAB EQUIPMENT LIST

Burette, Pippette, Volumetric Flask , Measuring Cylinders , beakers plastic ,Electronic Balance, Glass beaker, Hot plate, Stop clock, pH meter, Electrode, Conductivity cell, Thermo meter, Potentio meter, Platinum, & Calomel electrodes, Standard cell, Viscometer-1 , Charcoal, ……………..etc.

**CHEMISTRY LAB**

**LIST OF EXPERIMENTS**

1. Preparation of standard solution
2. Dichrometry – Estimation of Ferrous Iron.
3. Conductometry – Part (a): Titration of HCL Vs NaOH.
4. Conductometry – Determination of Cell Constant &Conductance of Solutions.
5. Potentiometry – Determination of Redox Potentials &EMFs – [FeSO4 (NH4)2SO4 Vs K2Cr2O7] .
6. Determation of Strengthof an Acid in Lead –Acid Battery.
7. Colorimetry – Verify Lambert – Beer’s Law.
8. Preparation of Bakelite.
9. Thin Layer Chromatography [TLC] .
10. High Performance Liguid Chromatography [HPLC].

**CHEMISTRY LAB EQUIPMENT LIST**

Burette, Pippette, Volumetric Flask , Measuring Cylinders , beakers plastic ,Electronic Balance, Glass beaker, Hot plate, Stop clock, Electrode, Conductivity cell, Thermo meter, Potentio meter, Platinum, & Calomel electrodes, Standard cell, Viscometer-1 , Charcoal, ……………..etc.

### 1. FIRST B.Tech COMMUNICATIVE ENGLISH LAB COURSE R19

### Unit 1

1. Phonetics for listening comprehension of variousaccents
2. Readingcomprehension
3. Describingobjects/places/persons

### Unit 2

1. JAM
2. Small talks on generaltopics
3. Debates

### Unit 3

1. Situational dialogues – Greeting andIntroduction
2. Summarizing and Notemaking
3. VocabularyBuilding

### Unit4

1. Asking for Information and GivingDirections
2. InformationTransfer
3. Non-verbal Communication – DumbCharade

### Unit 5

1. OralPresentations
2. Précis Writing andParaphrasing
3. Reading Comprehension and spottingerrors

**EQUIPMENTS**

**English Lab Profile**

The lab has 60 computer systems with recommended configuration. All of them are LAN connected with internet access. We work with K-Van solutions software which is one of the JNTUA recommended.

THIRD B.Tech Common to all branches.

**2. Advanced English Communication Skills (AECS) Lab:**

# UNIT-I: COMMUNICATION SKILLS

* W Reading Comprehension W Listening comprehension W Vocabulary Development W Common Errors

# UNIT-II: WRITING SKILLS

* W Report writing
* W Resume Preparation
* W E-mail Writing

# UNIT-III: PRESENTATION SKILLS

* W Oral presentation
* W Power point presentation
* W Poster presentation

# UNIT-IV: GETTING READY FOR JOB

* W Debates
* W Group discussions
* W Job Interviews

# UNIT-V: INTERPERSONAL SKILLS

* Time Management
* Problem Solving & Decision Making Etiquettes

# W LEARNING OUTCOMES:

* Accomplishment of sound vocabulary and its proper use contextually
* Flair in Writing and felicity in written expression. Enhanced job prospects.
* Effective Speaking Abilities

# W MINIMUM REQUIREMENT:

* The Advanced English Communication Skills (AECS) Laboratory shall have the following infra-structural facilities to accommodate at least 60 students in thelab:
* Spacious room with appropriate acoustics. Round Tables with movable chairs
* Audio-visual aids LCD Projector
* Public Address system