# Vision of the Institution

To ignite the minds of the students through academic excellence so as to bring about social transformation and prosperity.

# Mission of the Institution

- To expand the frontiers of knowledge through Quality Education.
- To provide valued added Research and Development.
- To embody a spirit of excellence in Teaching, Creativity, Scholarship and Outreach.
- To provide a platform for synergy of Academy, Industry and Community.
- To inculcate high standards of Ethical and Professional Behavior.

# **Vision of IT Department**

To be leaders in Information Technology through excellence in education, research and community outreach.

# **Mission of IT Department**

- To provide quality education in the core principles of Information Technology.
- To enable the students to apply the core concepts to solve real world problems.
- To amplify their potential through research and continuous learning for high quality career.
- To mould them as professionals with ethics and morals.

# **Program Educational Objectives(PEOs)**

**PEO1**: To provide students with a strong foundation in the mathematical, scientific and engineering fundamentals necessary to formulate, solve and analyze engineering problems.

**PEO2**: Graduates will succeed in entry-level engineering positions in IT industry and with government agencies.

**PEO3**: Graduates will succeed in the pursuit of advanced degrees in engineering or other fields and will have skills for, continued independent, lifelong learning to become experts in their profession.

**PEO4**: Empower students with effective teamwork, communication skills, leadership skills, ethical values and high integrity to serve the interests of the society and nation.

# **Program Outcomes(POs) of IT Department**

## **Engineering Graduates will be able to:**

- 1. **Engineering knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- 2. **Problem analysis**: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- 4. **Conduct investigations of complex problems**: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- 5. **Modern tool usage**: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
- 6. **The engineer and society**: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
- 7. **Environment and sustainability**: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- 8. **Ethics**: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- 9. **Individual and team work**: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- 10. **Communication**: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- 11. **Project management and finance**: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
- 12. **Life-long learning**: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

# **Program Specific Outcomes (PSOs) of IT Department**

- 1. An ability to demonstrate basic knowledge in databases, programming languages, common business functions and algorithm analysis to design and develop appropriate Information Technology solutions.
- 2. Ability to organize an IT Infrastructure, manage and monitor resources and secure the data.

# **ACADEMIC REGULATIONS**

# **B.Tech FOUR YEAR DEGREE COURSE**

# **R19 Regulations**

(Applicable for the batches admitted from 2019-2020)



# **VISHNU INSTITUTE OF TECHNOLOGY :: BHIMAVARAM**

(Autonomous)

Approved by AICTE & Affiliated to JNTUK, Kakinada Accredited with 'A' Grade by NAAC & NBA

Vishnupur, Bhimavaram, West Godavari Dist., Andhra Pradesh, India. PIN - 534202

Email: info@vishnu.edu.in, Website: www.vishnu.edu.in

	I YEAR II SEMESTER							
S.No	Subject	L	T	P	С	I	E	
1	Communicative English	2	-	-	2	40	60	
2	Mathematics –II (Probability and Statistics)	3	1	-	4	40	60	
3	Applied Physics	3	-	-	3	40	60	
4	Python Programming	3	-	-	3	40	60	
5	English Communication Skills Lab	-	-	3	1.5	40	60	
6	Applied Physics Lab (Virtual Lab)	-	-	3	1.5	40	60	
7	Python Programming Lab	-	-	3	1.5	40	60	
8	Engineering Workshop and IT Workshop	-	-	3	1.5	40	60	
9	Constitution of India / Essence of Indian Traditional Knowledge	3	-	-	-	0	0	
	Total	14	1	12	18	320	480	
						80	00	

Subject	Applied Physics				
Year/Semester	I B. Tech/IISem	L	T	P	С
Regulation Year	2019-20	3	0	0	3

#### **COURSE OBJECTIVES:**

- To highlight the importance of physics concepts in Engineering & Technology.
- > To facilitate the students with the aid of advanced insight in the applied science.
- To focus the real time applications of physics in engineering fields.
- > To prepare the students to face the challenges in core fields with the support of physical principles.
- > To motivate the students to understand the Engineering Principles through basic ideas in Physics.

## **UNIT-I: WAVE OPTICS**

Interference-Principle of Superposition-Interference of light-Theory of Interference fringes-Conditions for Sustained Interference -Interference in thin films (reflected light)-Newton's Rings-Determination of Wavelength. Diffraction- types of Diffraction, Fraunhofer Diffraction-Single slit, Double slit -Diffraction Grating -Determination of Wavelength. Polarization- types of polarized light, Polarization by reflection, refraction and double refraction-Nicol's prism-Half wave and Quarter wave plate- Engineering applications of Interference, Diffraction and Polarization.

# **UNIT-II: DIELECTRICS**

Introduction to Dielectrics--Electric polarization-Dielectric polarizability, Susceptability and

Dielectric constant- Types of polarizations with mathematical Derivations –Frequency dependence of polarization-Lorentz(internal) field-Claussius -Mosotti equation-Applications of Dielectrics.

# **UNIT-III: MAGNETIC MATERIALS**

Introduction -Magnetic dipole moment-Magnetization-Magnetic susceptibility and permeability-Origin of permanent magnetic moment -Classification of Magnetic materials-Weiss theory of ferromagnetism (qualitative)-Hysteresis-soft and hard magnetic materials-Ferrites-Magnetic device applications.

## **UNIT-IV: FIBER OPTICS**

Introduction to Optical Fibers-Total Internal Reflection- Construction of optical fibers - Acceptance angle-Numerical Aperture-Classification of fibers based on Refractive index profile, modes - Propagation of electromagnetic wave through optical fiber -l Applications -Block Diagram of Fiber optic Communication.

#### **UNIT-V: SEMICONDUCTORS**

Origin of energy bands - Classification of solids based on energy bands - Intrinsic semiconductors - density of charge carriers-Fermi energy - Electrical conductivity - extrinsicsemiconductors - P-type & N-type - Density of charge carriers - Dependence of Fermi energy on carrier concentration and temperature- Direct and Indirect band gap semiconductors-Hall effect- Hall coefficient - Applications of Hall effect - Drift and Diffusion currents - Einstein's equation - Applications of Semiconductors.

## **UNIT-VI: SUPERCONDUCTORS**

Introduction to Superconductors-Properties-Critical parameters of Superconductors- Meissner's effect-BCS Theory-Josephson effect (AC & DC)-Types of Superconductors-High Tc Superconductors-SQUID- Superconductors Applications

#### Text books:

- 1. M.N. Avadhanulu, P.G.Kshirsagar "A Text book of Engineering Physics"-S.ChandPublications,2017
- 2. H.K.Malik&A.K.Singh "Engineering Physics",- McGraw Hill Publishing Company Ltd, 2018

#### **Reference Books:**

- 1. David J.Griffiths, "Introduction to Electrodynamics" 4/e, Pearson Education, 2014
- 2. Gerd Keiser "Optical Fiber Communications" 4/e, Tata Mc GrawHill ,2008
- 3. Charles Kittel "Introduction to Solid State Physics", Wiley Publications, 2011
- 4. S.M.Sze "Semiconductor devices-Physics and Technology"-Wiley,2008
- 5. T Pradeep "A Text book of Nano Science and Nano Technology"- Tata Mc GrawHill 2013

#### **COURSE OUTCOMES:**

Upon the completion of the course the students will be able to:

CO1: To interpret the interaction of energy with the matter.

CO2: To explain the concepts and applications of Dielectrics.

CO3: To classify the magnetic materials based on susceptibility and their temperature dependence.

CO4: To identify the applications of optical fibers in various fields.

CO5: Learn classification of semiconductors and their real time applications.

CO6: Understand the principle and background of superconductors

Subject	Python Programming					
Year/Semester	I B. Tech/IISem	I B. Tech/IISem L		P	С	
Regulation Year	2019-20	3	0	0	3	

# **COURSE OBJECTIVES:**

- Introduction to Scripting Language
- Exposure to various problems solving approaches of computer science

# UNIT - I:

**Introduction:** History of Python, Need of Python Programming, Applications Basics of Python Programming Using the REPL(Shell), Running Python Scripts, Variables, Assignment, Keywords, Input-Output, Indentation.

## UNIT – II:

**Types, Operators and Expressions:** Types - Integers, Strings, Booleans; Operators- Arithmetic Operators, Comparison (Relational) Operators, Assignment Operators, Logical Operators, Bitwise Operators, Membership Operators, Identity Operators, Expressions and order of evaluations Control Flow- if, if-elif-else, for, while, break, continue, pass

# **UNIT – III:**

**Data Structures** Lists - Operations, Slicing, Methods; Tuples, Sets, Dictionaries, Sequences.Comprehensions.

# UNIT – IV:

**Functions** - Defining Functions, Calling Functions, Passing Arguments, Keyword Arguments, Default Arguments, Variable-length arguments, Anonymous Functions, FruitfulFunctions(Function Returning Values), Scope of the Variables in a Function - Global and Local Variables.

Modules: Creating modules, import statement, from. Import statement, name spacing.

Python packages, Introduction to PIP, Installing Packages via PIP, Using Python Packages

## UNIT - V:

**Object Oriented Programming OOP in Python**: Classes, 'self variable', Methods, Constructor Method, Inheritance, Overriding Methods, and Data hiding.

**Error and Exceptions:** Difference between an error and Exception, Handling Exception, try-except block, Raising Exceptions, User Defined Exceptions

# UNIT – VI:

**Brief Tour of the Standard Library** - Operating System Interface - String Pattern Matching, Mathematics, Internet Access, Dates and Times, Data Compression, Multithreading, GUI Programming, Turtle Graphics

**Testing:** Why testing is required?, Basic concepts of testing, Unit testing in Python, WritingTest cases, Running Tests.

# **TEXT BOOKS**

- 1. Python Programming: A Modern Approach, VamsiKurama, Pearson
- 2. Learning Python, Mark Lutz, Orielly

#### **REFERENCE BOOKS:**

- 1. Think Python, Allen Downey, Green Tea Press
- 2. Core Python Programming, W.Chun, Pearson.
- 3. Introduction to Python, Kenneth A. Lambert, Cengage
- 4. Python Cookbook, O Reilly, David Beazley and Brain K. Jones

## **COURSE OUTCOMES:**

• Making Software easily right out of the box.

- Experience with an interpreted Language.
- To build software for real needs.
- Prior Introduction to testing software

Subject	English Communication Skills Lab					
Year/Semester	I B. Tech/IISem	L	Т	Р	С	
Regulation Year	2019-20	0	0	3	1.5	

#### **COURSE OBJECTIVES:**

- 1. To sensitize the nuances of English speech sounds.
- 2. To bring about a consistent accent and intelligibility in students' pronounciation of English byproviding an opportunity for practice in speaking.
- 3. To improve the fluency in spoken English in different contexts.
- 4. To demonstrate the synchronization of verbal and non verbal communication.
- 5. To speak with clarity and confidence.
- 6.To enrich the persuasive skills.

#### MODULE - I

**Listening:** Identifying the topic, the context and overall idea by listening to short audio texts and answering a series of questions.

Non Verbal Communication (2 sessions)

#### **MODULE - II**

Listening: Answering a series of questions about specific information after listening to audio texts.

Introduction to Phonetics – Sounds of English – Vowels and Consonants (3 sessions)

# MODULE - III

**Listening:** Answering a series of questions about main idea and supporting ideas after listening to audio texts.

Reading with proper Stress and Intonation –Speech shadowing (3 sessions)

#### **MODULE-IV**

Listening: Listening for global comprehension and summarizing what is listened to.

Situational Dialogues/Role Plays, Just a Minute (4 sessions)

#### **MODULE-V**

Asking and answering general questions on familiar topics such as home, family, work, studies and interests; introducing oneself and others (2 sessions)

#### **MODULE - VI**

Formal oral presentations on topics from academic contexts - without the use of PPT slides. (3 sessions)

#### **INFRASTRUCTURE:**

- 1. 60 computer systems for a class of 60 students.
- 2. LAN facility and English Language Software for self-study by learners.
- 3. Audio System
- **4.** Projector

## **SYSTEM REQUIREMENT:** Hardware Component

- 1. P IV Processor
- 2. Speed -2.8 GHZ
- 3. RAM 512 MB minimum
- 4. Hard Disk 80 GB
- 5. Headphones of high quality

#### SUGGESTED SOFTWARE

- 1. Cambridge Advanced Learners' English Dictionary with CD.
- 2. Grammar Made Easy by Darling Kindersley
- 3. Punctuation Made Easy by Darling Kindersley
- 4. Clarity Pronunciation Power Part I
- 5. Clarity Pronunciation Power part II
- 6. Oxford Advanced Learner's Compass, 7th Edition
- 7. DELTA's key to the Next Generation TOEFL Test: Advanced Skill Practice.
- 8. MELL K Van Solutions Software
- 9. TOEFL & CRE (KAPLAN, AARCO & BARRONS, USA, Cracking GRE by CLIFFS)
- 10. English in Mind (Series 1-4), Herbert Puchta and Jeff Stranks with Meredith Levy, Cambridge

- 11. English Pronunciation in Use, Cambridge University Press
- 12. Technical Communication, OUP
- 13. Communication Skills, OUP

#### **COURSE OUTCOMES**

The students will be able to:

- 1. Comprehend the importance of phonetics and interpret phonetic symbols, vowels and consonants.
- 2. Describe the speech sounds vowels and consonants, stress and intonation.
- 3. Enable writing situational dialogues and enact Role Play.
- 4. Exemplify the synchronization of verbal and non verbal communication through the JAMsession.
- 5. Enrich presentation skills through oral presentations prepared and extempore.
- 6.Develop oratory skills through Debate.

#### **SUGGESTED READING**

- 1. Speaking English Effectively 2 nd Edition by Krishna Mohan and N. P. Singh, 2011.Macmillan Publishers India Ltd. Delhi.
- 2.Sasi Kumar, V & Dhamija, P.V.How to Prepare for Group Discussion and Interviews. Tata McGraw Hill
- 3. Hancock, M. 2009. English Pronunciation in Use. Intermediate. Cambridge: CUP
- 4.Spoken English: A Manual of Speech and Phonetics by R. K. Bansal & amp; J. B. Harrison.2013 Orient Blackswan. Hyderabad.
- 5. Hewings, M. 2009. English Pronunciation in Use. Advanced. Cambridge: CUP
- 6. Marks, J. 2009. English Pronunciation in Use. Elementary. Cambridge: CUP
- 7. Nambiar, K.C. 2011. Speaking Accurately.A Course in International Communication.New Delhi Foundation
- 8. Soundararaj, Francis. 2012. Basics of Communication in English. New Delhi: Macmillan
- 9. Spoken English (CIEFL) in 3 volumes with 6 cassettes, OUP.
- 10. English Pronouncing Dictionary Daniel Jones Current Edition with CD.

11. A Text Book of English Phonetics for Indian Students by T.Balasubramanian (Macmillan)

Subject	Applied Physics Lab				
Year/Semester	I B. Tech/IISem	L	T	P	С
Regulation Year	2019-20	0	0	3	1.5

# **List of Experiments:**

- 1. Determination of wavelength of a source-Diffraction Grating-Normal incidence
- 2. Newton's rings –Radius of Curvature of Plano Convex Lens.
- 3. Determination of thickness of a thin object using parallel interference fringes.
- 4. Determination/ of Rigidity modulus of a material- Torsional Pendulum.
- 5. Determination of Acceleration due to Gravity and Radius of Gyration- Compound Pendulum.
- 6. Melde's experiment Transverse and Longitudinal modes.
- 7. Verification of laws of stretched string Sonometer.
- 8. Determination of velocity of sound Volume resonator.
- 9. L C R Series Resonance Circuit
- 10. Study of I/V Characteristics of Semiconductor diode
- 11. I/V characteristics of Zener diode
- 12. Thermistor characteristics Temperature Coefficient
- 13. Magnetic field along the axis of a current carrying coil Stewart and Gee's apparatus.
- 14. Energy Band gap of a Semiconductor p.n junction.
- 15. Hall Effect for semiconductor.

#### REFERENCE:

- 1. Engineering Physics Lab Manual by Dr. Y. Aparna & Dr. K. Venkateswarao (V.G.S. Book links)
- 2. Physics Practical Manual, Lorven Publication.

Subject	Python Programming Lab				
Year/Semester	I B. Tech/IISem	L	T	P	С
Regulation Year	2019-20	0	0	3	1.5

## Exercise 1 – Basics

- a) Running instructions in Interactive interpreter and a Python Script
- b) Write a program to purposefully raise Indentation Error and correct it

# **Exercise 2 – Operations**

- a) Write a program to compute distance between two points taking input from the user
- (Pythagorean Theorem)
- b) Write a program add.py that takes 2 numbers as command line arguments and prints its sum.

## **Exercise - 3 Control Flow**

- a) Write a Program for checking whether the given number is a even number or not.
- b) What is sequence? Write a program using a for loop that loops over a sequence.
- c) Write a Program to print the multiplication table of a number using for loop.
- d) Write a program using a while loop to count the number of digits of a number.

## **Exercise 4 - Control Flow - Continued**

a) Find the sum of all the primes below two million.

Hint: Make use of sieve of erathosenes

b) Fibonacci series:

Each new term in the Fibonacci sequence is generated by adding the previous two terms. By starting with 1 and 2, the first 10 terms will be:

1, 2, 3, 5, 8, 13, 21, 34, 55, 89, ...

By considering the terms in the Fibonacci sequence whose values do not exceed four million, find the sum of the even-valued terms.

Hint: Use recursive formula for even Fibonacci numbers.

# Exercise - 5 - DS

- a) Write a program to get unique values from list.
- b) Write a program to count the number of vowels in a string using sets.

#### Exercise - 6 DS - Continued

- a) Write a program to count the numbers of characters (character frequency) in the string and store them in a dictionary data structure
- b) Write a program to use split and join methods in the string and trace a birthday with adictionary data structure.

#### Exercise - 7 Files

- a) Write a program to print each line of a file in reverse order.
- b) Write a program to compute the number of characters, words and lines in a file.

## **Exercise - 8 Functions**

a) Write a function ball\_collide that takes two balls as parameters and computes if they are colliding. Your function should return a Boolean representing whether or not the balls are colliding.

Hint: Represent a ball on a plane as a tuple of (x, y, r), r being the radius

If (distance between two balls centers) <= (sum of their radii) then (they are colliding)

b) Find mean, median, mode for the given set of numbers in a list.

## **Exercise - 9 Functions – Continued**

- a) Write a function nearly\_equal to test whether two strings are nearly equal. Two strings a and b are nearly equal when a can be generated by a single mutation on b.
- b) Write a function dups to find all duplicates in the list.

# **Exercise - 10 - Functions - Problem Solving**

- a) Write a function cumulative\_product to compute cumulative product of a list of numbers.
- b) Write a function reverse to reverse a list. Without using the reverse function.
- c) Write function to compute gcd, lcm of two numbers. Each function shouldn't exceed one line.

#### **Exercise 11 - Multi-D Lists**

- a) Write a program that defines a matrix and prints
- b) Write a program to perform addition of two square matrices
- c) Write a program to perform multiplication of two square matrices

## Exercise - 12 - Modules

- a) Install packages requests, flask and explore them. using (pip)
- b) Write a script that imports requests and fetch content from the page. Eg. (Wiki)
- c) Write a simple script that serves a simple HTTPResponse and a simple HTML Page

## Exercise - 13 OOP

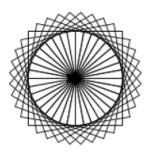
a) Class variables and instance variable and illustration of the self variable

- i) Robot
- ii) Hospital Billing System

# **Exercise - 14 GUI, Graphics**

- 1. Write a GUI for an Expression Calculator using tk
- 2. Write a program to implement the following figures using turtle





# **Exercise - 15 - Testing**

- a) Write a test-case to check the function even\_numbers which return True on passing a list of all even numbers
- b) Write a test-case to check the function reverse\_string which returns the reversed string

# Exercise - 16 - Advanced

- a) Build any one classical data structure.
- b) Write a program to solve knapsack problem.

Subject	Engineering Workshop & IT Workshop				
Year/Semester	I B. Tech/II Sem	L	Т	Р	С
Regulation Year	2019-20	0	0	3	1.5

#### IT WORKSHOP

## **COURSE OBJECTIVES:**

- Understand the basic components and peripherals of a computer.
- To become familiar in configuring a system.
- Learn the usage of productivity tools.
- Acquire knowledge about the netiquette and cyber hygiene.
- Get hands on experience in trouble shooting a system?

#### LIST OF EXPERIMENTS

- 1. System Assembling, Disassembling and identification of Parts / Peripherals
- 2. **Operating System Installation**-Install Operating Systems like Windows, Linux along with necessary DeviceDrivers.
- 3. MS-Office / Open Office
  - a. Word Formatting, Page Borders, Reviewing, Equations, symbols.
  - b. **Spread Sheet** organize data, usage of formula, graphs, charts.
  - c. **Power point** features of power point, guidelines for preparing an effective presentation.
  - d. Access- creation of database, validate data.
- 4. **Network Configuration & Software Installation**-Configuring TCP/IP, proxy and firewall settings. Installingapplication software, system software & tools.
- 5. **Internet and World Wide Web**-Search Engines, Types of search engines, netiquette, cyber hygiene.
- 6. Trouble Shooting-Hardware trouble shooting, Software trouble shooting.
- 7. MATLAB- basic commands, subroutines, graph plotting.
- 8. **LATEX**-basic formatting, handling equations and images.

#### **TEXT BOOKS:**

- 1. Computer Hardware, Installation, Interfacing, Troubleshooting and Maintenance, K.L. James, Eastern Economy Edition.
- 2. Microsoft Office 2007: Introductory Concepts and Techniques, Windows XP Edition ByGary B. Shelly, Misty E. Vermaat and Thomas J. Cashman (2007, Paperback).
- 3. LATEX- User's Guide and Reference manual, Leslie Lamport, Pearson, LPE, 2/e.
- 4. Getting Started with MATLAB: A Quick Introduction for Scientists and ngineers, Rudraprathap,Oxford University Press, 2002.
- 5. Scott Mueller's Upgrading and Repairing PCs, 18/e, Scott. Mueller, QUE, Pearson, 2008
- 6. The Complete Computer upgrade and repair book, 3/e, Cheryl A Schmidt, Dreamtech.
- 7. Comdex Information Technology course tool kit Vikas Gupta, WILEY Dreamtech.
- 8. Introduction to Information Technology, ITL Education Solutions limited, Pearson Education.

## **COURSE OUTCOMES:**

- 1. Apply knowledge for computer assembling and software installation.
- 2. Ability how to solve the trouble shooting problems.
- 3. Apply the tools for preparation of PPT, Documentation and budget sheet etc.

#### ENGINEERING WORKSHOP

#### **COURSE OBJECTIVES:**

To impart hands-on practice on basic engineering trades and skills. Note: At least two exercises to be done from each trade.

#### **TRADES:**

#### Fitting

- 1. Vee Fit
- 2. Square Fit
- 3. Half Round Fit
- 4. Dovetail Fit

#### Carpentry

- 1. T-Lap Joint
- 2. Cross Lap Joint
- 3. Dovetail Joint
- 4. Mortise and Tenon Joint

# **Tin Smithy**

- 1. Taper Tray
- 2. Square Box without lid
- 3. Open Scoop
- 4. Funnel

# **Black Smithy**

- 1. Round rod to Square
- 2. S-Hook
- 3. Round Rod to Flat Ring
- 4. Round Rod to Square headed bolt

# **House Wiring**

- 1. Parallel / Series Connection of three bulbs
- 2. Stair Case wiring
- 3. Florescent Lamp Fitting
- 4. Measurement of Earth Resistance

Subject	Constitution of India						
Year/Semester	I B.Tech. / II Sem.	L	T	P	С		
Regulation Year	2019-20	3	0	0	0		

#### **COURSE OBJECTIVES:**

- To train students in understanding the basic structure of Indian Constitution
- To prepare students to live better and happily with other fellow beings through the application of Fundamental Rights in their lives.

## **UNIT-I: Introduction to Indian Constitution**

Meaning of the term Indian Constitution –Preamble- Constituent Assembly- Salient Features of Indian Constitution

# **UNIT-II: Fundamental Rights**

Fundamental Rights -Fundamental Duties -The Directive Principles of State Policy

#### **UNIT-III: Union Government**

Union Government -Union Legislature (Parliament) -Lok Sabha and Rajya Sabha (with Powers and Functions) -Union Excecutive -President of India (with Powers and Functions) -Prime Minister of India (with Powers and Functions) -Union Judiciary (Supreme Court) -Jurisdiction of the Supreme Court

## **UNIT-IV State Government**

State Government -State Legislature (Legislative Assembly / Vidhan Sabha, Legislative Council / VidhanParishad) -Powers and Functions of the State Legislature -State Executive-Governor of the State (with Powers and Functions) -The Chief Minister of the State (with Powers and Functions) -State Judiciary (High Courts)

#### **UNIT-V: Local Self Governance**

Powers and functions of Municipalities, Panchyats, ZP's and Co – Operative Societies

# **UNIT-VI: Sovereign Bodies**

Election Commission of India (with Powers and Functions) -The Union Public Service Commission (with Powers and Functions)

#### **BOOKS:**

- 1. Introduction to constitution of India, Durga Das Basu, Lexis Nexis Publications
- 2. Constitution of India by PRFESSIONAL BOOK PUBLISHERS
- 3. The Constitution of India by Arun K Tiruvengadam, Blooms bury publishers.
- 4. The constitution of India by PM Bakshi, Universal law publishing co
- 5. The Constitution of India by S.R. Bhansali, Universal Law publishing Co

## **COURSE OUTCOMES:**

Upon the completion of the course, the student will be able to:

- 1. Examinesalient features of Indian Constitution and live accordingly in society.
- **2.** Interpret the meaning of Fundamental Rights and Directive Principles of State Policy and, develop an attitude which paves the way for better living conditions.
- 3. Discover various aspects of Union Government legislation and live up to the expectations of the rules.
- 4. Critically examineState Government legislation and improve your living standards by following the rules strictly
- 5. Examine powers and functions of local bodies such as Muncipalities and Panchayats and, take advantage of available resources for better living
- 6. Analyze the powers and functions of Election Commission and The Union Public Service Commission and decide upon it for safe and secured life.