KAVIKULGURU INSTITUTE OF TECHNOLOGY AND SCIENCE, RAMTEK

Department of Civil Engineering

B.TECH. THIRD SEMESTER

SUBJECT: FLUID MECHANICS (BECVE302P)

List of Experiments
(2021-2022)

CYCLE-I

1. Determination of metacentric height of a ship model.
2. Verification of Bernaulli's theorem
3. Calibration of a Venturimeter
4. Calibration of a V-notch

CYCLE-II

5. Determination of hydraulic coefficients of an orifice
6. Calibration of an orificemeter
7. Calibration of a trapezoidal notch
8. Determination of hydraulic coefficients of a mouth piece

DEMONSTRATION

9. Study of rotameter and watermeter
10. Flow visualization apparatus

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Department of Civil Engineering

B.E. FIFTH SEMESTER

SUBJECT: HYDRAULICS (BECVE501P)

List of Experiments
(2021-2022)

CYCLE-I

1. Determination of Frictional factor of a pipe line
2. Determination of minor losses through a pipe system
3. Determination of critical slope
4. Main characteristics of a centrifugal pump
5. Main characteristics of a reciprocating pump

CYCLE-II

6. Operating characteristics of centrifugal pump
7. Study of a hydraulic jump
8. Operating characteristics of reciprocating pump
9. Determination of coefficients of impact of jet

DEMONSTRATION

11. Characteristics of Francis turbine
12. Characteristics of Pelton Wheel Turbine
13. Chezy's and Manning's constants

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Department of Civil Engineering

B.TECH. FOURTH SEMESTER

SUBJECT: SURVEYING AND GEOMATICS (BECVE405P)

List of Experiments
(2021-2022)

CYCLE-I

1. Determination of area of given polygon by tape and cross staff survey.
2. Measurement of area of plot by plane table surveying.
3. Determination of elevation of various points with Auto level.
4. Levelling – Longitudinal and cross-section and plotting
5. Measurement of Horizontal angle by using theodolite
6. Measurement of vertical angle and Trigonometric leveling using theodolite
7. Determination of Tacheometric constants.
8. Determination of elevation of points, horizontal distance and gradient by Tacheometric survey

CYCLE-II

9. Setting out of simple circular curve by offsets from chord produced method
10. Setting out of simple circular curve by Rankine method of tangential angle
11. Determination of height, remote elevation, distance between 2-3 points using total station
12. Determination of Area using total station.
13. Determination of Area using DGPS.
14. CONTOUR MAP: contouring using DGPS.
15. Toposheet: Understanding and identification of different features of drawing
16. Lay-out marking of building plan
17. Study of EDM, GPS, Digital Planimeter

Four days survey camp on any one using advanced survey instruments

1. Contouring
2. Road Survey
3. Lay outing , Location of Boundary and area calculation

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Department of Civil Engineering

B.E. FOURTH SEMESTER

SUBJECT: TRANSPORTATION ENGINEERING (BECVE403P)

List of Experiments
(2021-2022)

CYCLE-I

1. Abrasion Test.
2. Aggregate Impact Test.
3. Aggregate Crushing Test.
4. Shape Test.
5. North Dakota Cone Test.
6. C.B. R. Test.

CYCLE-II

1. Penetration Test.
2. Softening point Test.
3. Flash and Fire Test.
4. Ductility Test.
5. Marshall Stability Test.
6. Case Study on Road Failures.

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Department of Civil Engineering

B.E. THIRD SEMESTER

SUBJECT: GEOTECHNICAL ENGINEERING (BECVE304P)

List of Experiments
(2021-2022)

CYCLE-I

1. Moisture content and Specific gravity of soil.
2. Grain size Analysis - (Sieve Analysis).
3. Consistency limit, plastic limit and liquid limit of soil.
4. Hydrometer Analysis.
5. constant Head Permeability test of or Falling Head permeability test.
6. Consistency limit of soil (shrinkage limit)
7. Field Density by sand replacement method.

CYCLE-II

8. Field Density by core cutter method
9. Unconfined compression test.
10. Direct shear Test
11. Triaxial shear test (Demonstration).
12. Study of Plate load Test.
13. Proctors compaction Test and proctor needle test

- **One field visit or one case study included in journal.**
- **Use of plasticity Chart or Newmarks Chart.**

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Department of Civil Engineering

B.TECH. THIRD SEMESTER

SUBJECT: SOLID MECHANICS (BECVE303P)

List of Experiments
(2021-2022)

CYCLE-I

1. To study various types of strain gauge apparatus.
2. To determine the tensile strength of steel specimen.
3. To perform Hardness test on various metals (Brinell Hardness test & Dynamic Hardness test).
4. To perform Standard torsion test on metal.
5. To perform the Impact test on metal (Izod/Charpy)

CYCLE-II

6. To determine the Spring constant of closely coiled helical spring
7. To perform Shear test on different metals.
8. To perform Fatigue test on mild steel bar.
9. To perform Bending test on wooden beam and find its Flexural Rigidity.

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Department of Civil Engineering

M.TECH. FIRST SEMESTER

SUBJECT: STRUCTURAL ENGINEERING (PGST103P)

List of Experiments
(2021-2022)

CYCLE-I

1. Earthquake Effect on Single Storey Building Frame without Brick Infill
2. Earthquake Effect on Single Storey building Frame with Stiffeners
3. Earthquake Effect on three Storey Building Frame without Brick Infill
4. Earthquake Effect on Four Storey Building Frame with Weak Storey
5. Earthquake Effect on single storey Building Frame with Stiffeners
6. Earthquake Effect on single Storey Building Frame with Paner Asymmetry-Torsional Building

CYCLE-II

7. Earthquake Effect on Water Tank Model
8. Study of Liquefaction of Soil
9. Study of Earthquake Effect on Four Storey Building Frame Using Vibration Absorber
10. Study of Earthquake Effect on Two Span Simply Supported Beam Model
11. Experiment Study on Mode Shapes of Fixed Beam Model
12. Study of Earthquake Effect on Building Frames Using Vibration Isolator

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Department of Civil Engineering

B.E. FIFTH SEMESTER

SUBJECT: STRUCTURAL ANALYSIS (BECVE501P)

List of Experiments
(2021-2022)

1. Analysis of Beam by Kanis Method
2. Analysis of Truss by Kanis Method
3. Analysis of Beam by Moment Distribution Method
4. Analysis of Truss by Moment Distribution Method
5. Analysis of Truss by Stiffness Matrix Method
6. Analysis of Beam by Stiffness Matrix Method
7. Analysis of Frame by Stiffness Matrix Method

KAVIKULGURU INSTITUTE OF TECHNOLOGY AND SCIENCE, RAMTEK

Department of Civil Engineering

B.E. SIXTH SEMESTER

SUBJECT: BUILDING DESIGN AND DRAWING (BECVE605P)

List of Experiments
(2021-2022)

1. Submission Plan for Residential Building
2. Single Line Plan for Public Building
3. Load bearing Plan
4. Frame Structure Plan

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Department of Civil Engineering

B.TECH. FOURTH SEMESTER

SUBJECT: ENVIRONMENTAL ENGINEERING (BECVE403P)

List of Experiments
(2021-2022)

CYCLE-I

1. To determine the optimum coagulant quantity using Jar test method.
2. To determine the pH value of given water sample.
3. To determine turbidity of a given water sample.
4. To determine the acidity of a given water sample.
5. To determine the alkalinity of a given water sample.

CYCLE-II

6. To determine the chloride content of a given water sample.
7. To determine the available chlorine in a given water sample.
8. To study the BOD and COD test procedure.
9. Brief report on water treatment plant.
10. Design of water plant component using software.

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Department of Mechanical Engineering

B.E. SIXTH SEMESTER

SUBJECT: COMPUTER APPLICATION-II (BEME607P)

List of Experiments (2021-2022)

CYCLE-I

1. To use the Data Definition Language (DDL) for creating, altering and dropping database objects i.e., tables in a database.
2. To use the Database Manipulation language for inserting, selecting, updating and deleting the data in the table of a database.
3. To demonstrate the use of WHERE clause with different operators in DML SELECT statement for manipulating the data of a table.
4. Program to study Aggregate Functions and Nested Sub-queries.
5. To use Order By, Group By, and Having clause in a Database.

CYCLE-II

6. To implement Domain, Entity Integrity Constraints and Referential integrity constraint on a database.
7. To use Set Operation, nested and join queries in a Database
8. To use the Transaction control language and Data control language in a Database.

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Department of Mechanical Engineering

B.E. SIXTH SEMESTER

SUBJECT: DYNAMICS OF MACHINES (BEME605P)

List of Experiments
(2021-2022)

CYCLE-I

1. Simple and Compound Pendulum.
2. Bi-Filar Suspension.
3. Gyroscope.
4. Cam Analysis.
5. Balancing of Rotary Masses.

CYCLE-II

1. Balancing of Reciprocating Masses.
2. Whirling of Shaft.
3. Longitudinal Vibration of Spring-Mass System.
4. Longitudinal Vibration of Equivalent Spring Mass System.
5. Free Torsional Vibration of Single Rotor System.

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Department of Mechanical Engineering

B.E. FIFTH SEMESTER

SUBJECT: MECHANICAL MEASUREMENT & METROLOGY (BEME505P)

List of Experiments (2021-2022)

CYCLE-I

1. Measurement of linear distance using LVDT
2. Measurement of shaft speed using photosensor and magnetic pick up.
3. Measurement of air pressure using pressure sensor.
4. Mismeasurement of temperature of hot water using thermal sensors.
5. Measurement of Torque using torque sensor.

CYCLE-II

6. Measurement of linear dimensions using vernier caliper.
7. Measurement of linear dimensions using micrometer screw gauge.
8. Angle measurement using sine bar and slip gauges.
9. Measurement of surface flatness using dial indicator.
10. Measurement of surface roughness using optical flat.

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Department of Mechanical Engineering

B.E. SIXTH SEMESTER

SUBJECT: MECHATRONICS (BEME604T)

List of Experiments (2021-2022)

CYCLE-I

1. Study and demonstration of solid-state devices
2. Study and prepare the phone charger circuit using IC7805.
3. Study and prepare timer circuit using IC555
4. Study and prepare the Automatic light circuit using LDR and NPN transistor.

CYCLE-II

5. To study the pulse width modulation and prepare the PWM circuit using IC555.
6. To study the Arduino UNO and write the code for servomotor using ATmega328P.
7. To study the PLC and write the PLC program for OR, AND & NOR logic using ladder diagram and instruction table.
8. To study the MEMS.

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Department of Mechanical Engineering

B.E. SEVENTH SEMESTER

SUBJECT: COMPUTER AIDED DESIGN (BEME703P)

List of Experiments (2021-2022)

CYCLE-I

1. Study of Computer aided design (CAD) process & different CAD software.
2. Study of 2-D Geometric modeling of engineering objects and demonstrating Boolean operations like add, subtract and PAN, ZOOM, ROTATE commands using Creo software.
3. Study of 3-D Geometric modeling of an engineering objects and demonstrating extrude, revolve and sweep commands using Creo software.
4. To generate at least two simple solid models showing geometric properties using Creo software.
5. To generate an Assembly model along with animation using Creo software.

CYCLE-II

6. To understand DDA Line Algorithm and develop a computer program.
7. To understand Bresenham's Line Algorithm and develop a computer program.
8. To understand Bresenham's Circle Algorithm and develop a computer program.
9. To understand Bezier Curve generation and develop a computer program.
10. To study the Truss element using Finite Element Method.

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Department of Mechanical Engineering

B.E. SEVENTH SEMESTER

SUBJECT: ENERGY CONVERSION –II (BEME704P)

List of Experiments
(2021-2022)

CYCLE-I

1. Performance of two stage reciprocating air compressors to determine volumetric efficiency.
2. To draw valve timing diagram of single cylinder four stroke diesel engine.
3. Study and demonstration of internal combustion engines and its component.
4. Performance testing of a single cylinder four stroke diesel engine with heat balance sheet
5. Performance testing of a twin cylinder diesel engine and carry out exhaust analysis.

CYCLE-II

6. Conduction of Morse test on four cylinder four stroke S.I. engines.
7. Performance testing of four stroke single cylinder computerized C.I. engine to determine indicated power.
8. Performance on vapor compression refrigeration system to determine the COP of system.
9. Study and demonstration on household refrigeration system.
10. Study of Psychometric processes on Mini-Air conditioning tutor

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Department of Mechanical Engineering

B.E. THIRD SEMESTER

SUBJECT: MANUFACTURING PROCESSES LAB. (BEME302P)

List of Experiments (2021-2022)

CYCLE-I

1. Study of Cupola Furnace.
2. Study of Moulding Techniques
3. Study of Casting Process
4. Study of Pattern Making
5. Study of Joining Processes
6. Study of Forming Processes

CYCLE-II

1. Study of Drawing Processes
2. To prepare a single piece wooden pattern
3. To prepare sand mould using single piece pattern
4. To prepare sand mould using split pattern
5. To make a joint using Resistance welding

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Department of Mechanical Engineering

B.E. FIFTH SEMESTER

SUBJECT: HEAT TRANSFER LAB (BEME504P)

List of Experiments
(2021-2022)

CYCLE-I

1. To determine the thermal conductivity of composite wall.
2. To determine the thermal conductivity of lagged pipe.
3. To determine the thermal conductivity of insulating powder.
4. To determine the thermal conductivity of metal rod.
5. To determine the heat transfer coefficient in natural convection.

CYCLE-II

1. To determine the heat transfer coefficient in Forced convection.
2. To determine the overall heat transfer coefficient and effectiveness in parallel and counter-flow heat exchange.
3. To determine the heat transfer coefficient in film and drop-wise.
4. To determine Stefan's Boltzman constant.
5. To determine emissivity of the test plate.

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Department of Mechanical Engineering

B.E. FOUR SEMESTER

SUBJECT: MACHINING PROCESSES (BEME404T)

List of Experiments (2021-2022)

CYCLE-I

1. To Study Of Single Point And multi point Cutting Tool
2. To Study of Various Forces on Single Point Cutting Tools.
3. To Study Lathe and It's Components.
4. To Study Of Mechanism Of Shaper, Planer And Slotter

CYCLE-II

5. To Study of Milling Machine.
6. To Study Drilling, Reaming And Boring Machines.
7. To Study Of Grinding Machine And Boring Machine

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Department of Mechanical Engineering

B.E. FOURTHSEMESTER

SUBJECT: MATERIAL SCIENCE (BEELE604P)

List of Experiments (2021-2022)

CYCLE-I

1. To study the steady state performance of Half controlled bridge rectifier.
2. To study the steady state performance of Fully controlled bridge rectifier.
3. To study v-i characteristics of Triac .
4. To study v-i characteristics of Diac.
5. To study the steady state performance of Cycloconverter.

CYCLE-II

6. To study the steady state performance of Series Inverter.
7. To study the steady state performance of Three phase half controlled rectifier.
8. To study the steady state performance of Half controlled bridge .
9. To study the steady state characteristics of UJT.

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B. Tech. FOURTH SEMESTER

SUBJECT: MATERIAL TESTING LAB (BEME404P)

List of Experiments
(2021-2022)

CYCLE-I

1. To study the Metallurgical Microscopes & Preparation of specimen for metallographic examination.
2. Micro-structural examination of different types of Steels
3. Micro-structural study of White Cast Iron and Grey Cast Iron
4. Micro-structural study of Malleable Cast Iron and Nodular Cast Iron
5. Determination of tensile properties of ductile material

CYCLE-II

1. Compression test on materials.
2. Shear test on metals
3. Impact test on materials
4. Determination of bending strength by deflection of beam
5. Measurement of hardness with the help of Rockwell Hardness Tester

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Department of Mechanical Engineering

B.E. SECOND SEMESTER

SUBJECT: WORKSHOP PRACTICES (BSE2-5P)

List of Experiments (2021-2022)

CYCLE-I

1. To prepare V and Square Groove (Fitting)
2. To make Cross Half Lap Joint (Carpentry)
3. To prepare Lap Joint (Welding)
4. To make Octagonal Cross Sectional Rod (Smithy)

CYCLE-II

1. To prepare Square fitting (Fitting)
2. To make Through Mortise and Tenon Joint (Carpentry)
3. To prepare Fillet Joint (Welding)
4. To make S-Hook (Smithy)

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Department of Computer Technology

B.TECH. FOURTH SEMESTER

SUBJECT: COMPUTER WORKSHOP-II(BECT213P)

List of Experiments (2021-2022)

CYCLE – I

1. Introduction to Red Hat Linux & Installation using VMware.
2. Execution of Different Basic Command on Red Hat Linux.
3. Introduction to Basic Commands in Vi Editor.
4. Shell Script using Conditional Construct for Palindrome of a number.
5. Shell Script using Iterative constructs.
6. Write Shell Script using case statement to perform basic math operation as follows (add, subtract, multiply, division).

CYCLE – I I

7. Write Shell Script to see current date, time, username, and current directory
8. Shell Script for functions.
9. Shell Script for Recursive functions.
10. Write shell script to perform real number calculation and store result to third variable (e.g: a=5.66, b=8.67, c= a + b).
11. Create, remove and resize the partition in Red Hat Linux.
12. Creation of Make file in Red Hat Linux.
13. Creation of Bootable USB Stick in Linux.

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B.E. FOURTH SEMESTER COMPUTER TECHNOLOGY

SUBJECT: ADVANCED MICROPROCESSOR & INTERFACING

LIST OF EXPERIMENTS (2021-22)

Cycle-I

1) To study the architecture of 8086.
2) To perform arithmetic operations using arithmetic instructions.
3) To generate square and cube of a given number using arithmetic instructions.
4) a) To perform searching of a number in 8-bit memory.
   b) To perform sorting of numbers in 8-bit memory.
5) To perform addition of elements of an 8-bit array.
6) a) To find the sum of squares of first 'n' natural numbers.
   b) To find an even and an odd number from given series of numbers.
7) To perform addition of two 3x3 matrices.

Cycle - II

8) To perform block transfer operation using data transfer instructions.
9) To interchange the contents of the memory.
10) To find number of positive and negative numbers using logical instructions.
11) To find largest number from an unordered 8-bit array.
12) To generate the Fibonacci series.
13) To interface IC 8255 with 8086.
14) a) To interface DAC with 8086 to generate a triangular waveform.
    b) To interface DAC with 8086 to generate a square waveform.
    c) To interface DAC with 8086 to generate a saw tooth waveform.

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B.TECH. FOURTH SEMESTER

SUBJECT: DATA STRUCTURE AND PROGRAM DESIGN (BECT404P)

List of Experiments (2021-2022)

CYCLE – I

1. Implementation of Binary Search in C language.
2. Implementation of Merge Sort in C language.
3. Implementation of Binary Search and Merge Sort in MATLAB.
4. Implementation of Stack using array in C language.
5. To reverse a string using Stack in C language.
6. Implementation of Queue using array in C language.

CYCLE – I I

7. Implementation of Singly Linked List in C language.
8. Implementation of Double Linked List in C language.
9. Implementation of Priority Queue using Linked List.
10. Conversion of Infix to Postfix Expression using Stack in C language.
11. Implementation of Binary Tree in C language.
12. Implementation of Breadth First Search algorithm in C.

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Department of Computer Technology

B.TECH. FOURTH SEMESTER

SUBJECT: OBJECT ORIENTED PROGRAMMING USING JAVA (BECT403P)

List of Experiments (2021-2022)

CYCLE – I

1. Write a program to display any message and to display default value of all primitive data type of Java.
2. Write a program to print 2D array using Array to String, For Loop and While Statement.
3. Write a program using different operator Increment Operator, Decrement Operator and Arithmetic Operator.
4. Write a program to demonstrate control statement If Statement, For Loop and While Loop.
5. Write a program to implement Super Keyword.

CYCLE – II

6. Write a program to demonstrate constructor.
7. Write a program to demonstrate static variable and method.
8. Write a program to demonstrate polymorphism.
9. Write a program on exception handling using Try, Catch and Throw
10. Write a program to demonstrate method overriding concept.
11. Write a program to demonstrate input output reader using Input From User, Creation of File and Reading Data From File.

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B.E. SIXTH SEMESTER

SUBJECT: SOFTWARE ENGINEERING AND PROJECT MANAGEMENT (BECT308P)

List of Experiments (2021-2022)

CYCLE – I

1. To create SRS Document using any software development life cycle model.
2. Implementation of UML Diagrams for Railway Reservation System.
3. To Demonstrate Testing tool.
4. To create a different testing form.
5. Create a test plan document for any application. (e.g. Library Management System)
6. To Demonstrate the Automation test approach of web testing tool.

CYCLE – II

7. Implement the different test cases using entry control loop.
8. Implement the different test cases using Exit control loop.
9. Write and test a program to login a Specific Web page.
10. Write and test a program to select the number of students who have scored more than 60 in any one subject.(or ALL Subject)
11. To evaluate Software Cost Estimation Model.
12. Implementation of Entity Relationship Diagram.
13. To calculate Unadjusted Function Point (UFP) and Adjusted Function Point (FP).

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B.E. SIXTH SEMESTER

SUBJECT: COMPUTER GRAPHICS (BECT306P)

List of Experiments (2021-2022)

CYCLE – I

1. a) To implement line generation algorithm using simple algorithm.
   b) To implement line generation algorithm using DDA algorithm.
2. a) To implement Bresenham's first octant line generation algorithm.
   b) To implement Bresenham's integer line generation algorithm.
3. To generate circle using midpoint circle generation algorithm.
4. To Generate a Polygon using Edge-Fill algorithm.
5. To Generate a Polygon Using Simple Seed Fill Algorithm.
6. To Implement the 2D Translation Transformation.
7. To Implement 2D Scaling Transformation.

CYCLE – II

8. To Implement 2D Rotation Transformation.
9. To implement window–viewport mapping.
10. To implement Bezier Curve
11. To implement Cohen–Sutherland 2D clipping algorithm.
12. To apply 3D Transformation translation on a 3D object.
13. To implement the OpenGl program for creating object.
14. To study Open Source software for Computer Graphics.

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B.E. SIXTH SEMESTER

SUBJECT: COMPUTER NETWORKS (BECT307P)

List of Experiments (2021-2022)

CYCLE – I

1. To implement the data link layer framing techniques.
2. To implement error correction in data link layer.
3. To implement error detection in data link layer.
4. To implement Routing Protocol in Network layer.
5. To implement Congestion control in transport layer.
6. To implement Encryption and Decryption of a frame using Monoalphabetic Substitution Cipher technique.

CYCLE-II

7. To implement Public key Encryption technique.
8. To study the basics of Riverbed Modeler Academic Edition.
9. To implement Private key Encryption.
10. To implement Class full addressing mode in IPV4
11. To implement Host names and IP address.
12. implement TCP client server connections in socketing.

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B.E. SEVENTH SEMESTER

SUBJECT: ARTIFICIAL INTELLIGENCE (BECT402P)

List of Experiments (2021-2022)

CYCLE – I

1. Implementation of Depth- First- Search.
2. Implementation of Breadth First Search.
3. Implementation of Traveling Salesman problem.
4. Implementation of 8 Puzzle problems.
5. Implementation of Hill Climbing Algorithm.
6. Implementation of Water Jug problem.

CYCLE – II

7. Implementation of Missionaries Cannibal problem.
8. Implementation of Tower of Hanoi problem.
9. Implementation of A* algorithm.
10. Implementation of AO* algorithm.
11. To study Computational Intelligence driven Robotics with industrial relevance.

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B.E. EIGHT SEMESTER

SUBJECT: - DATA WAREHOUSING AND MINING(BECT406P)

List of Experiments (2021-2022)

CYCLE – I

1. Write a program to demonstrate different programming construct in Python.
2. Write a program to demonstrate different data structures used in Python.
3. Demonstration of Data Warehouse and implementation of STAR Schema.
4. Demonstration of Data Warehouse and implementation of Snowflake Schema.
5. To implement Decision Tree Algorithm.

CYCLE-II

6. Write a program for Classification Rule Mining using the Naive Bayesian classifier.
7. Implementation of clustering using K-means algorithm.
8. To implement agglomerative clustering algorithm.
9. To demonstrate the association rule mining using Apriori Algorithm.
10. Write a program to demonstrate the text mining techniques.
11. To study Hadoop Eco System for Big Data mining.

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B.E. EIGHTH SEMESTER

SUBJECT: - CYBER AND INFORMATION SECURITY (BECT407P)

List of Experiments (2021-2022)

CYCLE – I

1. To Implement Substitution Cipher techniques.
2. To Implement Transposition Cipher techniques.
3. To implement Block Ciphers technique.
4. To implement the Key Management technique.
5. To implement Stream Ciphers technique.
6. To implement Public Key Encryption technique.

CYCLE – II

7. To implement Euclidean algorithm.
8. To implement Message Digest technique.
9. To implement Buffer Overflow attack.
10. To implement SQL Injection attack.
11. Demonstration of Digital Certificate generation tool.
12. Demonstration of WIRESHARK Tool.

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B.E. SEVENTH SEMESTER

SUBJECT: COMPILERS (BECT401P)

List of Experiments (2021-2022)

CYCLE – I

1. Conversion of infix expression into postfix expression.
2. Implementation of Deterministic Finite Automata (DFA).
3. Design of lexical analyzer using LEX.
4. Construction of recursive descent parser.
5. Construction of shift-reduce parser.
6. Calculation of FIRST set of all non-terminals in a given grammar.

CYCLE – II

7. Calculation of FOLLOW set of all non-terminals in a given grammar.
8. Construction of predictive top down parsing table.
9. Identification of basic blocks from three address code segments.
10. Implementation of a symbol table.
11. Generation of object code using LEX and YACC.

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B.TECH. THIRD SEMESTER

SUBJECT: COMPUTER WORKSHOP-I (BECT307P)

List of Experiments (2021-2022)

CYCLE – I

1. To study the structure of HTML program.
2. To implement the basic tags of HTML.
3. To study and implement different types of tags and attributes in HTML.
4. To study and implement list and table tags using HTML.
5. To study the Cascaded Style Sheets (CSS) and different ways to insert it.
6. To study and implement different types of basic CSS properties.

CYCLE – II

7. Create your profile page i.e. educational details, Hobbies, Achievement, My Ideals etc. using HTML.
8. Design a class timetable and display it in tabular format using table tags.
9. To study the basics of JavaScript and implement form validation.
10. To study and implement frame tags.
11. To study server/networking equipments.
12. To study the basics of Network simulator NS2.

KAVIKULGURU INSTITUTE OF TECHNOLOGY & SCIENCE, RAMTEK

Department of Computer Technology

B.E. FIFTH SEMESTER

SUBJECT: DATABASE MANAGEMENT SYSTEM (BECT302P)

List of Experiments (2021-2022)

CYCLE – I

1. Program to study Data Definition and Data Manipulation Language.
2. Program to study Aggregate Functions and Nested Sub-queries.
3. Demonstration of relation database creation EMPLOYEE and execution of simple queries**.**
4. Establishing an environment for relational database management and data retrieval in Oracle.
5. Implementation of the simple ad-hoc query applications in a relational database using Oracle.
6. Implementation of database for solving the queries.

CYCLE – II

7. Demonstration of trigger creation and execution of simple queries.
8. To write a PL/SQL block using different control (if, if else) statements.
9. To write a PL/SQL block using different control (for loop, while loop,…) statements.
10. Write a procedure to implement CURSOR.
11. To write a PL/SQL block using different control statements.
12. To Create a Cursor which update the salaries of an Employee.

KAVIKULGURU INSTITUTE OF TECHNOLOGY & SCIENCE, RAMTEK

Department of Computer Technology

B.TECH. THIRD SEMESTER

SUBJECT: DIGITAL DESIGN AND FUNDAMENTS OF MICROPROCESSOR (BECT303P)

List of Experiments (2021-2022)

CYCLE – I

1. Introduction to Integrated Circuit.
2. To study the operation of different logic gate.
3. To study & verify De-morgan`s Law.
4. To study and verify the truth table of Half adder and Full adder.
5. To study and verify the truth table of Half subtractor and Full subtractor.
6. To study and Verify the operation of Comparator.
7. To study and verify the truth table of Binary to Gray Converter.
8. To study and verify the truth table of Gray to Binary Converter.
9. To study Multiplexer.
10. To study Demultiplexer.
11. To study JK flip-flop.
12. To study D Flip-flop.

CYCLE –II

13. To perform Arithmetic Operation using arithmetic & logical instructions.
14. To perform addition of an array.
15. To perform the block transfer operations (copy operation).
16. To perform searching of positive numbers.
17. To perform block transfer operation (reverse order).
18. To perform searching operation.
19. To perform Division of two 8-Bit numbers by repeated subtraction method**.**

KAVIKULGURU INSTITUTE OF TECHNOLOGY & SCIENCE, RAMTEK

Department of Computer Technology

B.E. FIFTH SEMESTER

SUBJECT: DESIGN ANALYSIS AND ALGORITHM (BECT304P)

List of Experiments (2021-2022)

CYCLE – I

1. Write a program to implement the insertion sort algorithm.
2. Write a program to implement Bubble Sort algorithm.
3. Implementation of Binary Search Using Recursive and Iterative method.
4. Write a program to implement merge sort algorithm
5. Write a program to implement matrix multiplication using Strassen's matrix multiplication program.
6. Find Minimum Cost Spanning Tree of a given undirected graph using Prim's algorithm.

CYCLE – II

6. From a given vertex in a weighted connected graph, find shortest paths to other vertices using Dijkstra's algorithm.
7. Write a program to implement Longest Common Subsequence algorithm.
8. Write a program to implement N Queen's algorithm.
9. Write a program to implement Graph Coloring Algorithm.
10. To study P, NP, NP Hard and NP Complete Problems with example.

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Department of Computer Technology

B.TECH. FIFTH SEMESTER

SUBJECT: OBJECT ORIENTED MODELLING (BECT301P)

List of Experiments (2021-2022)

CYCLE – I

1. Illustration of mini project with respect to SDLC.
2. Write Software Requirement Specification document (SRSdocument).
3. Construction of Use Case diagram.
4. Depiction of Sequence diagram.
5. Design and implementation of Collaboration diagram.

CYCLE – II

6. Design a Class diagram.
7. To understand details of State/Activity diagram.
8. Designing of Component diagram.
9. Development of Deployment diagram.
10. To perceive the intend of Forward Engineering and the Reverse Engineering.

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Department of computer technology

B.TECH. FIFTH SEMESTER

SUBJECT: OPERATING SYSTEM (BECT301P)

List of Experiments (2021-2022)

CYCLE – I

1. Study of operating system architecture and different types of OS.
2. Write a C program using fork() and exec() system calls.
3. Write a C program to display details of files of a directory using system calls.
4. Write a C program to implement multithreading.
5. Write a C program to simulate First Come First Served (FCFS) CPU scheduling algorithm.
6. Write a C program to simulate Shortest Job First (SJF) CPU scheduling algorithm.

CYCLE – II

7. Write a C program to simulate Priority CPU scheduling algorithm.
8. Write a C program to simulate First In First Out (FIFO) page replacement algorithm.
9. Write a C program to simulate optimal page replacement algorithm.
10. Write a C program to simulate Least Recently Used (LRU) page replacement algorithm.
11. Write a C program to simulate First Come First Served (FCFS) disk scheduling algorithm.
12. Write a C program to implement producer consumer problem using semaphore variables.

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Department of Computer Technology

B.TECH. THIRD SEMESTER

SUBJECT: PROBLEM SOLVING USING PYTHON (BECT302P)

List of Experiments (2021-2022)

CYCLE – I

1. To perform alphanumeric operations using for loop.
2. Implement the operation using if else inside the loop.
3. To implement if else with function in python.
4. To create dictionary and check for validation.
5. Write a program that defines a function called frequency ().
6. Write a program to calculate factorial of number using recursive function.

CYCLE – II

7. Write a recursive function to calculate sum of digit of 5 numbers.
8. To use modulo operator in Python.
9. To perform arithmetic operations in Python
10. To implement OOP concept in Python.
11. Using Class-Object method calculate mathematical operations.

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Department of Electronics and Communication Engineering

B.E. FIFTH SEMESTER

SUBJECT: COMMUNICATION ELECTRONICS (BEENE505P/BEECE505P)

List of Experiments (2021-2022)

CYCLE-I

1. To study the Amplitude modulation and Demodulation.
2. To study the Frequency modulation and Demodulation.
3. To study the Pulse Amplitude modulation and Demodulation.
4. To study the Pulse Width modulation and Demodulation.
5. To study the Pulse Code modulation and Demodulation.

CYCLE-II

6. To study Time Division Multiplexing and De-multiplexing.
7. To study Frequency Division Multiplexing and De-multiplexing.
8. To study the Single Side Band Modulation and Demodulation.
9. To study Simulation of the Amplitude modulation and Demodulation.
10. To study Simulation of the Frequency modulation and Demodulation.

KAVIKULGURU INSTITUTE OF TECHNOLOGY AND SCIENCE, RAMTEK

Department of Electronics and Communication Engineering

B.E. SIXTH SEMESTER

SUBJECT: DIGITAL SIGNAL PROCESSING (BEENE602P/BEECE602P)

List of Experiments (2021-2022)

CYCLE-I

1. Generation and plotting of unit sample, unit step and ramp signals
2. Convolution of two signals
3. Cross correlation of two signals and auto correlation of a signal
4. Determination of impulse response, step response and stability of an LTI system
5. Factorization, plotting of poles and zeros and determination of rational Z-transform from poles and zeros

CYCLE-II

6. Inverse Z-transform by Partial Fraction Expansion (PFE) and Power Series Expansion (PSE) methods
7. Determination of Discrete Fourier Transform (DFT) and Inverse Discrete Fourier
   Transform (IDFT), linear and circular convolution of two sequences
8. Design of Low Pass and High Pass IIR digital filters(Butterworth Digital IIR Filters)
9. Design of Band Pass and Band-Reject IIR digital filters (Butterworth Digital IIR 1. Filters)

KAVIKULGURU INSTITUTE OF TECHNOLOGY AND SCIENCE, RAMTEK

Department of Electronics and Communication Engineering

B.E. SEVENTH SEMESTER

SUBJECT: DSP PROCESSOR AND ARCHITECTURE (BEENE701P/BEECE701P)

List of Experiments (2021-2022)

CYCLE-I

1. To study architecture Of Digital Signal Processor - TMS320C5416
2. To study architecture Of Motorola DSP563XX Digital Signal Processor
3. Decimation And Interpolation Using Matlab
4. Waveform Generation Using TMS320C54XX
5. Assembly Language Program (ALP) For Addition Of Two Numbers

CYCLE-II

6. ALP For Subtraction Of Two Numbers
7. ALP For Multiplication Of Two Un-Signed Number
8. ALP For Division Of Two Numbers
9. Linear Convolution Of Two Signals Using Code Composer Studio

KAVIKULGURU INSTITUTE OF TECHNOLOGY AND SCIENCE, RAMTEK

Department of Electronics and Communication Engineering

B.E. FIFTH SEMESTER

SUBJECT: COMMUNICATION ELECTRONICS (BEENE505P/BEECE505P)

List of Experiments (2021-2022)

CYCLE-I

1. To study the Amplitude modulation and Demodulation.
2. To study the Frequency modulation and Demodulation.
3. To study the Pulse Amplitude modulation and Demodulation.
4. To study the Pulse Width modulation and Demodulation.
5. To study the Pulse Code modulation and Demodulation.

CYCLE-II

6.To study Time Division Multiplexing and De-multiplexing.

7.To study Frequency Division Multiplexing and De-multiplexing.

8.To study the Single Side Band Modulation and Demodulation.

9.To study Simulation of the Amplitude modulation and Demodulation.

10. To study Simulation of the Frequency modulation and Demodulation

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Department of Electronics and Communication Engineering

B.E. SIXTH SEMESTER

SUBJECT: DIGITAL COMMUNICATION (BEENE603P/BEECE603P)

List of Experiments (2021-2022)

CYCLE-I

1. To study the operation of Amplitude Shift Keying (ASK), Modulation and Demodulation
2. To study the operation of Frequency Shift Keying (F SK), Modulation and Demodulation
3. To study the operation of Phase Shift Keying (PSK), Modulation and Demodulation
4. To study the operation of Differential Phase Shift Keying (DPSK), Modulation and Demodulation
5. To study the operation of Quadrature Shift Keying (QPSK), Modulation and Demodulation
6. To study the operation of Minimum Shift Keying (MSK), Modulation and Demodulation.

CYCLE-II

7. To study the Generation of PN Sequence.
8. To study the Gaussian Noise generator.
9. Simulation of Amplitude Shift Keying (ASK), Modulation and Demodulation- MATLAB.
10. Simulation of Frequency Shift Keying (FSK), Modulation and Demodulation- MATLAB.
11. Simulation of Phase Shift Keying (PSK), Modulation and Demodulation- MATLAB

KAVIKULGURU INSTITUTE OF TECHNOLOGY AND SCIENCE, RAMTEK

Department of Electronics and Communication Engineering

B.E. SEVENTH SEMESTER

SUBJECT: ADVANCED DIGITAL SYSTEM DESIGN(BEENE704P/BEECE704P)

List of Experiments (2021-2022)

CYCLE-I

1. Design and simulation of basic logic gates using VHDL.

2. Design and simulation of adder using VHDL.

3. Design and simulation of subtracter using VHDL.

4. Design and simulation of multiplexer and demultiplexer using VHDL.

5. Design and simulation of priority encoder using VHDL.

6. Design and simulation of seven segment decoder using VHDL.

CYCLE-II

7. Design and simulation of N-bit up down counter using VHDL.

8. Design and simulation of Moore FSM using VHDL.

9. Design and simulation of Mealy using VHDL .

10. Design and simulation of 4-bit multiplier using VHDL.

11. Design and simulation of pseudo random binary sequence generator.

12. Design and simulation of flip flops.

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Department of Electronics and Communication Engineering

B.E. SEVENTH SEMESTER

SUBJECT: CMOS VLSI DESIGN (BEENE803P)

List of Experiments (2021-2022)

CYCLE-I

1. To study Microwind software and basics of VLSI design.

2. To study the characteristics of NMOS/PMOS.

3. To study CMOS as an inverter.

4. Implementation of NAND gate.

5. Implementation of NOR gate.

CYCLE-II

6. Design Transmission gate.

7. Implement 2:1 MUX using Transmission gate.

8. Implement Half adder using Transmission gate.

9. Implement XOR operation using Pass transistor.

10. Design a layout y=A(D+E)+BC.

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Department of Electronics and Communication Engineering

B.E. FIFTH SEMESTER

SUBJECT: MICROPROCESSOR & MICROCONTROLLER
(BEECE502P/BEENE502P)

List of Experiments (2021-2022)

CYCLE-I

1. Introduction to 8086 microprocessor.
2. To study steps involved in execution of program.
3. Program for
    a) Addition of 2, 8 bit numbers, 2, 16 bit numbers.
    b) Subtraction of 2, 8 bit numbers, 2, 16 bit numbers.
    c) Multiplication of 2, 8 bit numbers, 2, 16 bit numbers.
    d) Division of 2, 8 bit numbers, 2, 16 bit numbers.
4. Program for addition of 2 arrays.
5. Program to add all the contents of an array and store the result in a last memory location.
6. Program to move a string of 10 data words from offset 1050H to offset 1060H.

CYCLE-II

7. Program to search a number in a string of 10 bytes.

8. Program to find factorial of natural number 5.

9. Program to generate Fibonacci series for first 10 numbers.

10. Program to find

    a) Number of positive and negative numbers in a series of 10 bytes.

    b) Number of even and odd numbers in a series of 10 bytes.

11. Program to perform sorting of array in ascending order.

12. Program to find

    a) Smallest number from the block of 10 bytes.

    b) Largest number from the block of 10 bytes.

13. Interfacing of

    a) DAC to 8086.

    b) Seven segment display with 8086 in minimum mode with 8 units.

    Write program to display ‘CONGRATS’ on it.

    c) Stepper motor with 8086.

14. Program to

    a) Add 8 bit number present in internal RAM.

    b) Multiply two bytes.

15. Program to

    a) Toggle the bits on port 1 by sending 55H and AAH.

    b) Generate square wave on pin P1.0 using timers.

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Department of Electronics and Communication Engineering

B.TECH THIRD SEMESTER

SUBJECT: ELECTRONIC DEVICES AND CIRCUITS (BEECE302P)

List of Experiments (2021-2022)

CYCLE-I

1. To study and verify Zener diode characteristics.
2. To study Zener diode regulation.
3. To verify rectifier without and with filters.
4. To verify characteristics of transistor common base configuration.
5. To study half wave and full wave voltage doubler.

CYCLE-II

6. To observe and calculate frequency of RC phase shift oscillator.
7. To verify characteristics of Junction Field Effect Transistor.
8. To study push pull power amplifier.
9. To study response of negative feedback amplifier.
10. To study astable multivibrator.

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Department of Electronics and Communication Engineering

B.E. SEVENTH SEMESTER

SUBJECT: TELEVISION AND VIDEO ENGINEERING (BEECE702P)

List of Experiments (2021-2022)

CYCLE-I

1. To study the working of various stages of monochrome TV Receiver.
2. To study the different types of TV receiver antenna.
3. To study the working of Low Noise Block convertor (LNBC) and RF tuner section of a TV Receiver.
4. To study composite video signal in TV receiver.
5. To study IF amplifier and detector section.
6. To study the sync separator section, oscillator section and EHT section of the TV receiver.

CYCLE-II

7. To study the PAL decoder.
8. To study video amplifier and color picture tube base.
9. To study composite video signal by using video pattern generator.
10. To study different faults in B/W and color TV receiver.
11. To study the TV coverage plan for International Cricket match.

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Department of Electronics and Communication Engineering

B.E. FIFTH SEMESTER

SUBJECT: ANALOG CIRCUIT DESIGN (BEENE503P/BEECE503P)

List of Experiments (2021-2022)

CYCLE-I

1. Design non-inverting OP-AMP and measure the gain and plot the input/output waveforms.
2. Design inverting OP-AMP and measure the gain and plot the input/output waveforms.
3. Design inverting and non-inverting summer using IC 741.
4. Design subtractor using IC 741.
5. Design OP-AMP as an integrator and plot its input/output waveforms.

CYCLE-II

6. Design OP-AMP as Differentiator and plot its input/output waveforms.
7. Design OP-AMP as Schmitt trigger for generating a waveform of specific pulse width.
8. Verify and simulate clipper and clamper circuit using IC 741.
9. Design first and second order Low pass butterworth filter.
10. Design first and second order high pass butterworth filter.

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Department of Electronics and Communication Engineering

B.E. SIXTH SEMESTER

SUBJECT: DIGITAL SIGNAL PROCESSING (BEENE602P/BEECE602P)

List of Experiments (2021-2022)

CYCLE-I

1. Generation and plotting of unit sample, unit step and ramp signals
2. Convolution of two signals
3. Cross correlation of two signals and auto correlation of a signal
4. Determination of impulse response, step response and stability of an LTI system
5. Factorization, plotting of poles and zeros and determination of rational Z-transform from poles and zeros

CYCLE-II

6. Inverse Z-transform by Partial Fraction Expansion (PFE) and Power Series Expansion (PSE) methods
7. Determination of Discrete Fourier Transform (DFT) and Inverse Discrete Fourier
   Transform (IDFT), linear and circular convolution of two sequences
8. Design of Low Pass and High Pass IIR digital filters(Butterworth Digital IIR Filters)
9. Design of Band Pass and Band-Reject IIR digital filters (Butterworth Digital IIR 1. Filters)

KAVIKULGURU INSTITUTE OF TECHNOLOGY AND SCIENCE, RAMTEK

Department of Electronics and Communication Engineering

B.E. SEVENTH SEMESTER

SUBJECT: DSP PROCESSOR AND ARCHITECTURE (BEENE701P/BEECE701P)

List of Experiments (2021-2022)

CYCLE-I

1. To study architecture Of Digital Signal Processor - TMS320C5416
2. To study architecture Of Motorola DSP563XX Digital Signal Processor
3. Decimation And Interpolation Using Matlab
4. Waveform Generation Using TMS320C54XX
5. Assembly Language Program (ALP) For Addition Of Two Numbers

CYCLE-II

6. ALP For Subtraction Of Two Numbers
7. ALP For Multiplication Of Two Un-Signed Number
8. ALP For Division Of Two Numbers
9. Linear Convolution Of Two Signals Using Code Composer Studio

KAVIKULGURU INSTITUTE OF TECHNOLOGY AND SCIENCE, RAMTEK

Department of Electronics and Communication Engineering

B.E. EIGHTH SEMESTER

SUBJECT: MICROWAVE AND RADAR ENGINEERING

(BEENE801P)

1) To study the various microwave components
2) To determine the frequency and wavelength of rectangular waveguide
3) To study the characteristics of the multi hole directional coupler by measuring directivity and the coupling factor
4) To study the VI characteristics of the Gunn Diode
5) To calculate Gain of the horn Antenna
6) To study the function of attenuator by measuring attenuation from minimum to maximum
7) To measure unknown impedance with the Smith Chart
8) To measure insertion and isolation loss of Isolator and Circulator
9) To study the characteristics of the reflex klystron
10) To study working of pulsed radar system
11) To study the working of MTI radar system

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Department of Electronics and Communication Engineering

B.E. SEVENTH SEMESTER

SUBJECT: EMBEDDED SYSTEM (BEENE702P)

List of Experiments

1. Study Practical : Introduction to ARM 7 Microprocessor
2. To Perform addition and subtraction of two 8 Bit Numbers
3. To Perform addition and subtraction of two 16 Bit Numbers
4. Write a program to Swap a Data Byte
5. Write a program to perform addition of elements in an array
6. Write a program to find Largest and Smallest of the two numbers
7. Write a program to find Factorial of a Given Number
8. Write a program to Display Number 0 to 9 and A to F on Seven Segment Display
9. Study Practical: Introduction to Micro-ALite
10. Write a program to ON and Off LED with the Equal Delay
11. Write a program to Rotate Stepper motor in clock wise and Anti clockwise direction with the Equal Delay

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Department of Electronics and Communication Engineering

B.E.SIXTHTH SEMESTER

SUBJECT: WORKSHOP LAB PRACTICES (BEENE606P/BEECE606p)

List of Experiments

1. Study of different Electronic components.

2. General rules for PCB designing and artwork preparation of PCB.

3. Study of Functioning of spectrum Analyzer and Digital storage oscilloscope.

4. Interfacing of LED using keil µ- Vision and flash magic software.

5. Hardware Mini Project.

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Department of Information Technology

B.TECH.FIFTH SEMESTER

SUBJECT: COMPUTER GRAPHICS (BEIT504P)

List of Experiments

CYCLE-I

1. Introduction to Computer Graphics and Input / Output Devices.
2. To implement Line Generation Algorithm Using DDA & Simple Algorithm.
3. To Implement Bresenham's line generation algorithm.
4. To Implement Bresenham's line generation algorithm.
5. To Generate Circle Using algorithm.
6. To Generate Circle Using Bresenham's Circle Generation algorithm.

CYCLE-II

7. To generate a Polygon using Edge-Fill algorithm.
8. To Generate a Polygon Using Simple Seed Fill Algorithm.
9. To demonstrate on Translation Transformation.
10. To demonstrate on Scaling Transformation.
11. To Demonstrate on Rotation Transformation.
12. To demonstrate on clipping a line using Cyrus-Beck Clipping algorithm.
13. To demonstrate drawing a Bezier-Curve.
14. To demonstrate drawing a B-spline-Curve.
15. To apply 3D Transformation translation on a 3D object

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Department of Information Technology

B.TECH. SEVENTH SEMESTER

SUBJECT: COMPUTER SYSTEM SECURITY (BEIT702P)

List of Experiments

CYCLE-I

1. To understand how to convert plain text to cipher text using XOR and AND operator.
2. Write a program to perform encryption and decryption using Ceaser cipher technique.
3. Write a program to perform encryption and decryption using play fair cipher technique.
4. Write a program to produce cipher text for given plain text using rail fence transposition technique.
5. Write a program to produce cipher text for given plain text using columnar transposition technique.
6. Write a program to generate sub keys of S-DES.
7. Write a program to encrypt and decrypt the message using S-DES.

CYCLE-II

8. Write a program to generate sub keys in DES algorithm.
9. Write a program to perform encryption and decryption on given text using DES.
10. Write a program to implement encryption and decryption using RSA algorithm
11. Write a program to implement Diffie-Hellman key change.
12. Write a program to implement RC4 algorithm
13. Write a program to encrypt users password before they are store in a database table, and to retrieve them whenever they are to be brought back for verification.
14. Write a program to perform a digital signature on a given text.

KAVIKULGURU INSTITUTE OF TECHNOLOGY AND SCIENCE, RAMTEK

Department of Information Technology

B.E. 6TH SEMESTER

SUBJECT: DATABASE MANAGEMENT SYSTEM (BEIT603P)

List of Experiments(2021-22)

CYCLE-I

1. Data Definition Language (DDL) commands in RDBMS
2. Data Manipulation Language (DML) and DataControl Language (DCL)
3. High level language extensions with cursors
4. High level language extension with Triggers
5. Procedures and Functions
6. Embedded SQL

CYCLE-II

1. Database design using E-R model & Normalization
2. Design and implementation of Banking system
3. Design and implementation of Student Information System
4. Automatic Backup of File and Recovery of Files
5. To implement Domain, Entity Integrity Constraints and Referential integrity constraint on a database

KAVIKULGURU INSTITUTE OF TECHNOLOGY AND SCIENCE, RAMTEK

Department of Information Technology

B.TECH.THIRD SEMESTER

SUBJECT: DIGITAL ELECTRONICS AND FUNDAMENTAL OF MICROPROCESSOR (BEIT303P)

List of Experiments

CYCLE-I

1. Introduction to integrated circuits
2. To study the operation of different logic gates.
3. To verify de morgan's law.
4. To study and verify the truth table of half adder full adder.
5. To study and verify the truth table of half and full subtractor.
6. To study and verify the operation of comparator
7. To design and verify gray to binary code converter.
8. To design and verify binary to gray code converter.

CYCLE-II

9. To study the operation of 8 x 1 multiplexer.
10. To study the operation of 1:4 demultiplexer.
11. To study and verify the operation of j-k flip-flop.
12. To study and verify the operation of d flip flop.
13. Study of 8085 microprocessor.
14. Write a program for addition of 8 and 16 bits.
15. Write a program for subtraction of 8 and 16 bits.

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Department of Information Technology

B.TECH. EIGHTH SEMESTER

SUBJECT: DISTRIBUTED SYSTEMS (BEIT801P)

List of Experiments

CYCLE-I

1. Implementation of Echo client-server using UDP socket in 'C' language.
2. Implementation of Echo client-server using TCP socket in 'C' language.
3. Implementation of RPC mechanism using java language.
4. Implementation of 'Java RMI' mechanism for accessing methods of remote systems.

CYCLE-II

5. To simulate the functioning of Lamport's logical clock using 'C' language
6. Simulation of Bully Election algorithm.
7. Simulation of Ring Election algorithm.
8. Implementation of Distributed Mutual Exclusion algorithm using java language.
9. Implement CORBA mechanism in Distributed systems.

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DEPARTMENT OF INFORMATION TECHNOLOGY

LIST OF PRACTICALS AND SCHEDULE (SESSION:2021-22)

SEMESTER: IV **Course Code: BEIT402P**

Course Title: DATA STRUCTURE AND PROGRAM DESIGN **Practical Credit: 01**

Practical: P (U): 25 Marks P (I): 25 Marks

Cycle No.	Practical No.	Name of the Practical	Week No.
I	1	Implementation of data structure arrays using C	1
	2	Implementation of linear search technique.	2
	3	Implementation of divide and conquer strategy.	3
	4	Implementation of Dynamic memory allocation.	4
	5	Implementation of operations on a linear LIFO ADT – the Stack.	5
	6	Implementation of operations on a linear FIFO ADT – the Queue.	6
II	7	Implementation of operations on a singly linked linear list.	7
	8	Implementation of operations on a doubly linked linear list.	8
	9	Implementation of operations on a non-linear structure – the Tree.	9
	10	Implementation of selection sort and bubble sort.	10
	11	Implementation of Merge sort and Quick sort.	11
	12	Implementation of Breadth First Search algorithm in C.	12

* indicates newly added practical

Mrs. Rasika Kuware
Subject Teacher

KAVIKULGURU INSTITUTE OF TECHNOLOGY AND SCIENCE, RAMTEK

Department of Information Technology

B.TECH. EIGHTH SEMESTER

SUBJECT: GAMING ARCHITECUTRE AND PROGRAMMING

List of Experiments

CYCLE-I

1. Study of Unity open source tool.
2. Study of various game components and design of slider application.
3. Design, Integrate and Testing of rotation and collision applications.
4. Design, Integrate and Testing of vehicle playership application.
5. Design and Integrate game objects of sensor application.

CYCLE-II

6. Testing of sensor application.
7. Review of vehicle playership application
8. Design and Integrate game objects Walls, Roof and Bricks of brick
9. Design, Integrate and testing of Paddle game object of brick shooting application.
10. Design, Integrate and Testing of ball game object of brick shooting application.

KAVIKULGURU INSTITUTE OF TECHNOLOGY AND SCIENCE, RAMTEK

Department of Information Technology

B.TECH. SIXTH SEMESTER

SUBJECT: INTERNET PROGRAMMING (BEIT604P)

List of Experiments

CYCLE-I

1. To create a static web pages with Headings
2. To create a static HTML page to navigate from one page to another page
3. To create a HTML page with LIST properties
4. To create a HTML page demonstrating LIST properties
5. To create a HTML page using Tables
6. To create a HTML page with images in it
7. To create a HTML page using Form tag
8. To create a HTML using CSS
9. To create a static web page
10. To create a java script to accept runtime data

CYCLE-II

11. To create a java script to accept functions in HTML File
12. To create a java script to accept run time text
13. To create a XML File
14. To create a XSL File to access XML File
15. To create a login servlet
16. To create a servlet to read environmental parameters
17. To create a servlet to access database
18. To create a JSP with EL
19. To create a JSP to access data from database
20. To create a simple android application

KAVIKULGURU INSTITUTE OF TECHNOLOGY AND SCIENCE, RAMTEK

Department of Information Technology

B.TECH.FIFTH SEMESTER

SUBJECT: JAVA PROGRAMMING (BEIT505P)

List of Experiments

CYCLE-I

1. Program based on different data types and Literal.
2. Program using different types of operators.
3. Program using different types of loops & enhanced for loop.
4. Program using recursion and passing the argument to the recursive function as command line argument and passing object as parameters.
5. Program using static and final modifiers in Java.

CYCLE-II

6. Program to perform various operations on string using various methods available in String and StringBuffer class in java.
7. Program to demonstrate the checked and unchecked exception and creating user exception and handling the exception.
8. Program to implement multithreading and demonstrate the use of volatile modifier.
9. Program to demonstrate Reading and Writing Files.
10. * Program using swing to understand and creation of GUI using swing.

KAVIKULGURU INSTITUTE OF TECHNOLOGY AND SCIENCE, RAMTEK

Department of Information Technology

B.TECH. FOURTH SEMESTER

SUBJECT: OBJECT ORIENTED PROGRAMMING SYSTEM (BEIT403P)

List of Experiments

CYCLE-I

1. Write a C++ program to implement programs on the basic structure of C++ program.
2. Write a C++ program to implement simple programs using loop structure in C++
3. Write a C++ program to implement the concept of class and object.
4. Write a C++ program to implement the concept of passing object as parameter.
5. Write a C++ program to implement the types of constructor,
6. Write a C++ program to implement the string operation in C++.
7. Write a C++ program to implement the types of Inheritance.

CYCLE-II

8. Write a C++ program to implement concept of function overloading.
9. Write a C++ program to implement operator overloading
10. Write a C++ program to implement the concept of Friend function.
11. Write a C++ program to implement the concept of pointers for object.
12. Write a C++ program to implement the concept of file handling.
13. Write a C++ program to implement the template function.
14. Implement mini-project using C++.

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Department of Information Technology

B.E. THIRD SEMESTER

SUBJECT: PROGRAMMING LOGIC AND DESIGN USING 'C' (BEIT302P)

List of Experiments

CYCLE-I

1. Demonstrate the use of basic operators and built-in functions.
2. i. Demonstrate the use of if-else statement
   ii. Demonstrate the use of while loop
3. i. Demonstrate the use of do while loop
   ii. Demonstrate the use of for loop
4. Demonstrate the use of multi-way decision statement.
5. i. Demonstrate the use of creating user defined functions using pass by value
   ii. Demonstrate the use of creating user defined functions using pass by reference.
6. i. Demonstrate recursion concept
   ii. Demonstrate character array and operations performed on Strings.

CYCLE-II

7. Demonstrate the applications of one-dimensional array.
8. Demonstrate searching and sorting techniques.
9. Demonstrate the applications of two-dimensional array.
10. Demonstrate the use of command line arguments and file operations.
11. Demonstrate the use of command line arguments and file operations.
12. Draw a line using DDA approach.
13. Demonstrate the generation of a graphical object as image (face) on screen with the help of graphics functions.

KAVIKULGURU INSTITUTE OF TECHNOLOGY AND SCIENCE, RAMTEK

Department of Information Technology

B.TECH. FIFTH SEMESTER

SUBJECT: SOFTWARE ENGINEERING

List of Experiments

CYCLE-I

1. To study complete Software Development Life Cycle (SDLC).
2. Design and Implementation of Software Requirement specification document (SRS document)
3. To study of Data Flow Diagrams.
4. Introduction to Rational Rose.
5. Design and implementation of Use Case Diagram
6. Design, Integrate and Testing of vehicle playership application.

CYCLE-II

7. Design and implementation of Sequence diagram.
8. Design and implementation Collaboration diagram.
9. Design and implementation of state chart/activity diagram.
10. Design and implementation of Component diagram.
11. Implementation of forward and reverse engineering.
12. Design and implementation of Deployment diagram for search engine

KAVIKULGURU INSTITUTE OF TECHNOLOGY AND SCIENCE, RAMTEK

Department of Information Technology

B.TECH. FOURTH SEMESTER
SUBJECT: SOFTWARE LAB – 2 (BEIT407P)

List of Experiments (2021-2022)

CYCLE-I

1. Introduction to Python Programming.
    a. Write a program to add two numbers in python.
    b. Write a program to swap two numbers in python.

2. To study conditional statements in Python.
    a. Write a program to check a leap year.

3. To study Loops in Python.
    a. Write a program to print all prime numbers in an interval.
    b. Write a program to print the Fibonacci sequence.

4. To study strings in Python.
    a. Write a program to check whether a string is palindrome or not.

5. To study python arrays, slice, list, tuples.
    a. Write a program to slice lists.
    b. Write a program to create a tuple.

CYCLE-II

6. To study python dictionary.
    a. Write a program to merge two dictionaries.

7. To study functions in Python.
    a. Write a python program to return multiple values from a function.

8. To study recursion in Python.
    a. Write a program to find the factorial of number using recursion.

9. To study the file handling in python.
    a. Write a program to copy a file.

10. To study classes in python.
    a. Write a program to get the class name of an instance.

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Department of Information Technology

B.TECH. THIRD SEMESTER

SUBJECT: SOFTWARE LAB-I

List of Experiments

CYCLE-I

1. To study computer peripherals, Processor, Motherboard, Hard disk, CD/DVD ROM, Monitor, SMPS, Safety Precautions
2. Study and configuration of BIOS
3. Demonstration of Assembling of Personal Computer
4. Demonstration of Partitioning hard disk
5. Installation of Operating System
6. Study of Networking Basics

CYCLE-II

7. File and Printer sharing in Network
8. Study of Structured Cabling
9. Demonstration of building small home network
10. Demonstration of Open ended Experiment
    a) Assembled Process
    b) Protecting PC from Virus, Spyware and Malware
11. Mini-Project
    Library management with options to Add books, Display book information, List books, List by Title, Count books.
12. To study the list of open source tools.
    a) MATLAB
    b) SCILAB

KAVIKULGURU INSTITUTE OF TECHNOLOGY AND SCIENCE, RAMTEK

Department of Electrical Engineering

B.TECH. THIRD SEMESTER

SUBJECT: ANALOG DEVICES AND CIRCUITS (BEEE304P)

List of Experiments
(2021-22)

1. To study and verify Zener diode characteristics.
2. To study Zener diode regulation.
3. To verify rectifier without and with filters.
4. To verify characteristics of transistor common base configuration.
5. To observe and calculate frequency of RC phase shift oscillator.
6. To verify characteristics of Junction Field Effect Transistor.
7. To study push pull power amplifier.
8. To study response of negative feedback amplifier.
9. Simulation of inverting amplifier using PSpice
10. Simulation of inverting amplifier using PSpice

KAVIKULGURU INSTITUTE OF TECHNOLOGY AND SCIENCE, RAMTEK

Department of Electrical Engineering

B.E. THIRD SEMESTER

SUBJECT: ELECTRICAL MEASUREMENT AND INSTRUMENTATION

(BEELE303P)

List of Experiments
(2021-2022)

CYCLE-I

1. Measurement of medium resistance by Ammeter Voltmeter Method.
2. Measurement of high resistance by Loss of Charge Method.
3. Measurement of inductance by Maxwell's bridge.
4. Measurement of inductance by Hay's bridge.

CYCLE-II

1. Measurement of Capacitance by schering bridge
2. To test energy meter using wattmeter .
3. Displacement measurement using LVDT.
4. Temperature measurement using resistance temperature detectore (RTD) and thermister.

KAVIKULGURU INSTITUTE OF TECHNOLOGY & SCIENCE,

RAMTEK

B. TECH. THIRD SEMESTER

ELECTRICAL ENGINEERING

SUBJECT: INTRODUCTION TO PYTHON PROGRAMMING

LIST OF EXPERIMENTS (2021-22)

CYCLE – I

1. Print only the words that start with letter 's' in the following statement
   "Print only the words that start with letter s in the following statement"
2. Print every word from the below statement which has even number of letters
   "Print only the words that start with letter s in the following statement"
3. Write a program that prints the integer from 1 to 100, but multiples of 3 print 'FIZZ' instead of number and multiple of 5 print 'BUZZ' and for numbers which are multiple of 3 and 5 print 'FIZZBUZZ'
4. Write a program that returns lesser of two given numbers if both numbers are even, but returns greater if one or both numbers are odd.
5. Write a python function that accepts a string and calculate number of upper case letters and lower case letters

CYCLE – II

6. Write a python function that takes a list and returns a new list with unique elements of the first list. For ex: SampleList = [1,1,1,2,2,3,3,4] UniqueList = [1,2,3,4]
7. Write a python function to multiply all the numbers in the list
8. Write a program for validating user input
9. Write a program to print next 5 days starting from today
10. Write a function that asks for an integer and prints square of it. Use a while loop with a try, except, else block to account for incorrect inputs.

KAVIKULGURU INSTITUTE OF TECHNOLOGY AND SCIENCE, RAMTEK

Department of Electrical Engineering

B.TECH. THIRD SEMESTER

SUBJECT: NETWORK ANALYSIS (BEELE302P)

List of Experiments
(2021-2022)

1. To verify Thevenin's Theorem.

2. To verify Reciprocity Theorem.

3. To verify Maximum Power Transfer Theorem.

4. To measure the Z-parameter of a T –network.

5. To measure the Z-parameter of a Π –network.

6. To measure the Y-parameter of a T –network.

7. To measure the Y-parameter of a Π –network.

KAVIKULGURU INSTITUTE OF TECHNOLOGY AND SCIENCE, RAMTEK

Department of Electrical Engineering

B.TECH. FOURTH SEMESTER

SUBJECT: DIGITAL ELECTRONICS (BEEE402P)

List of Experiments
(2021-22)

1. Introduction to Integrated Circuit.
2. To verify the truth table of different logic gates.
3. To implement any logic function using basic gates.
4. To study and verify the truth table of Half adder and Full adder.
5. To study and verify truth tables of Multiplexer.
6. To study and verify truth tables of Demultiplexer.
7. To study and verify the truth table of 4:2 encoder.
8. To study and verify the truth table of 3:8 decoder.
9. To study and verify the operation of D Flip-flop.

STUDY EXPERIMENTS

1. To study operation of J-K Flip flop

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Department of Electrical Engineering

B.TECH. FOURTH SEMESTER

SUBJECT: ELECTRICAL MACHINES-1 (BEELE404P)

List of Experiments
(2021-22)

1. To find equivalent circuit parameters and efficiency of single phase transformer by open circuit and short circuit test.
2. To perform load test on D.C. series motor.
3. To perform speed control of D.C. shunt motor by armature control and flux control methods.
4. To perform no load test and blocked rotor test on 3-phase induction motor.
5. To perform open circuit and short circuit test on 3-phase transformer.
6. To perform load test on D.C. shunt motor.
7. To determine voltage regulation of three- phase alternator by direct loading.
8. To determine voltage regulation of three- phase alternator by open circuit and short circuit test.
9. To perform load test on 3-phase induction motor.

STUDY EXPERIMENTS

1. To study D. C. motor.

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Department of Electrical Engineering

B.E. FOURTH SEMESTER

SUBJECT: SIMULATION & PROGRAMMING TECHNIQUES (BEELE406P)

List of Experiments
(2021-22)

1. To demonstrate the use of operators in C
2. To demonstrate the use of iterative and Non-iterative control statements.
3. To demonstrate the use of Function.
4. To demonstrate the use of pointers and function argument.
5. To demonstrate the use of one dimension array (Sorting).
6. To demonstrate the use of searching.
7. To demonstrate the use of two dimension array.
8. To demonstrate the use of array of structure.
9. To demonstrate the use of FILE handling.
10. To demonstrate the use of MATLAB.

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Department of Electrical Engineering

B.E. FIFTH SEMESTER

SUBJECT: ELECTRICAL MACHINES-II (BEELE505P)

List of Experiments
(2021-2022)

1. To determine voltage regulation of three- phase alternator by direct loading.
2. To determine voltage regulation of three- phase alternator by open circuit and short circuit test.
3. To determine direct-axis synchronous reactance (Xd) and quadrature axis synchronous reactance (Xq) for three-phase alternator by using “Slip Test”.
4. To determine negative sequence and zero sequence reactance of synchronous generator.
5. To determine voltage regulation of three- phase alternator by Zero Power Factor Curve method.
6. To determine direct axis subtransient (Xd) and quadrature axis subtransient (Xq) reactances of synchronous machine.
7. To plot ‘V’ and ‘Inverted V’ curves of a synchronous motor.
8. To study the synchronization of an alternator with infinite bus.

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Department of Electrical Engineering

B.E. FIFTH SEMESTER

SUBJECT: ELECTRICAL ENGINEERING WORKSHOP (BEELE507P)

List of Experiments
(2021-2022)

CYCLE-I

1. Safety precautions in electrical installations.
2. Distribution of electricity wiring practices.
3. Staircase and Godown wiring practices.
4. Energy audit.

CYCLE-II

5. Substation visit.
6. Single phase transformer design (230/3V) or (230/1.5V).
7. Mini project.
8. Study of different illumination lamps.
9. Study of Earthing methods.

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Department of Electrical Engineering

B.E. FIFTH SEMESTER

SUBJECT: MICROPROCESSOR and INTERFACING (BEELE504P)

List of Experiments
(2021-2022)

1. Study architecture of 8085 microprocessor.
2. Write 8085 Assembly language program for addition and subtraction of two 8-bit numbers.
3. Write 8085 Assembly language program for addition and subtraction of two 16-bit numbers.
4. Write 8085 Assembly language program to mask, set and complement specific bits of number
   a)Write 8085 Assembly language program to mask 4 LSB & complement 3MSB of an accumulator.
   b) Write 8085 Assembly language program to mask 2 LSB, set 3MSB and complement rest of the bits of an accumulator.
5. Write 8085 Assembly language program to find 2's complement of 16-bit number.
6. Write 8085 Assembly language program to transfer 5 bytes from source memory location 2050H to destination memory location 2070H.
7. Write 8085 Assembly language program to count number of 0's and number of 1's in a byte stored at memory location 2050H.
8. Write 8085 Assembly language program to multiply two 8-bit numbers using successive addition method.

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Department of Electrical Engineering

B.E. SIXTH SEMESTER

SUBJECT: CONTROL SYSTEM -I (BEELE605P)

List of Experiments
(2021-2022)

CYCLE-I

1. To study synchro-transmitter receiver as an error detector.
2. To plot the torque speed characteristics of AC servomotor.
3. To study speed control of DC motor.
4. To plot the torque-speed characteristics of DC servomotor.

CYCLE-II

1. To study the performance of various types of controllers used to control the temperature of an oven.
2. To study the second order system response to step input and to study the effect of variation of damping ratio on over all transient response.
3. To plot root locus for a given system transfer function using MATLAB.
4. To plot the Bode frequency response plot for given system transfer function using MATLAB.

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Department of Electrical Engineering

B.E. SIXTH SEMESTER

SUBJECT: POWER ELECTRONICS (BEELE604P)

List of Experiments
(2021-2022)

CYCLE-I

1. To study the steady state performance of resistance(R) triggers circuit.
2. To study v-i characteristics of MOSFET.
3. To study the experiment on triggering of Triac by using Diac pulse generator.
4. To study the steady state performance of single phase half controlled rectifier.

CYCLE-II

5. To study the steady state performance of RC trigger circuit
6. To study v-i characteristics of IGBT.
7. To study the steady state performance of speed control of DC shunts motor.
8. To study the steady state performance of single phase full wave, fully controlled bridge rectifier.

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Department of Electrical Engineering

B.E. SEVENTH SEMESTER

SUBJECT: HIGH VOLTAGE ENGINEERING (BEELE704P)

List of Experiments
(2021-2022)

CYCLE-I

1. Testing of high voltage transformer.
2. To find breakdown strength of solid insulating material using insulator tester.
3. To find breakdown strength of transformer oil using oil test kit .
4. To study arcing phenomenon using Horn gap arrangement.

CYCLE-II

5. To find breakdown profile using horizontal sphere gap.
6. To find breakdown profile using rod gap arrangement.
7. To study the effect of corona discharge HV line using corona cage assembly .
8. To find string efficiency of string insulator.

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Department of Electrical Engineering

B.E. EIGHTH SEMESTER

SUBJECT: COMPUTER APPLICATIONS IN POWER SYSTEM (BEELE804P)

List of Experiments
(2021-2022)

CYCLE-I

1. Program for Formation of Y_{BUS} by using Singular Transformation Method.
2. Program for Formation of Z_{BUS}.
3. Program for Gauss-Siedel load Flow Method.
4. Program for Transient Stability of single machine connected to infinite bus using point by point method.

CYCLE-II

1. Program for Power System Stability Solution of Swing Equation by using Runge-Kutta (Order-4).

2. Switching of RL load by using SIMPOWER SYSTEM in Simulink.

3. Simulink model to measure Active and Reactive power of three winding transformer.

4. To study the three phase balance and unbalance faults in power system.

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Department of Electrical Engineering

B.E. EIGHTH SEMESTER

SUBJECT: SWITCHGEAR & PROTECTION (BEELE804P)

List of Experiments
(2021-2022)

CYCLE-I

1. To plot the characteristics of an Electromagnetic Inverse Definite Minimum Time (IDMT) relay for different values of plug settings.
2. To plot the characteristics of an Electromagnetic Directional Over current relay for different values of plug settings.
3. To observe the operation of a percentage Differential relay used for protection of a three phase transformer.
4. To plot the operating characteristics of a class-C, 6 A, Miniature circuit breaker (MCB).

CYCLE-II

5. To plot the operating characteristics of a fuse wire for different values of area of cross section.
6. To plot the magnetizing characteristics of a saturable type current transformer.
7. To observe the operation of a Static Admittance relay.
8. Study experiment on a Vacuum circuit breaker.
9. Study experiment on a performance characteristic of various Distance relay.

KAVIKULGURU INSTITUTE OF TECHNOLOGY AND SCIENCE, RAMTEK

Department of Engineering Sciences and Humanities

B.TECH. FIRST SEMESTER

SUBJECT: APPLIED PHYSICS LAB (BSE1-2P)

List of Experiments
(2021-2022)

1. Determination of the wavelengths of spectral lines using a plane diffraction grating.
2. Determination of the radius of curvature of a Plano-convex lens using Newton's rings.
3. Determination of phase and frequency of electrical signals using a CRO.
4. Study of a cathode ray oscilloscope.
5. Determination of the thickness of a thin foil using air wedge arrangement.
6. Comparative study of cubic crystal structure (using crystal models).
7. Determination of principle refractive indices of a prism.
8. Determination of N.A. for optical fiber.
9. Determination of Plank's constant using LED.

KAVIKULGURU INSTITUTE OF TECHNOLOGY AND SCIENCE, RAMTEK

Department of Engineering Sciences and Humanities

B.TECH. SECOND SEMESTER

SUBJECT: ADVANCED ENGINEERING MATERIALS (BSE2-2P)

List of Experiments
(2021-2022)

1. Determination of energy gap of semiconductor / thermistor.
2. A study of the static characteristics of pn-junction diode.
3. A study of volt-ampere characteristics of a zener diode.
4. A study of transistor characteristics in common base configuration.
5. A study of transistor characteristics in common emitter configuration.
6. Study of diode rectification.
7. A study of Hall Effect in semiconductor.
8. Determination of wavelength of laser light by diffraction grating.

KAVIKULGURU INSTITUTE OF TECHNOLOGY AND SCIENCE, RAMTEK
DEPARTMENT OF ENGINEERING SCIENCES AND HUMANITIES

B.TECH. FIRST SEMESTER

SUBJECT: ENERGY AND ENIVIRONMENT (BSE1 3P)

List of Experiments
(2021-2022)

CYCLE-I

1. To Determine the flash point by Cleaveland open cup appartus
2. To Determine the flash point by Ablel's closed cup appartus
3. To Determine the flash point by Pensky Marten closed cup appartus
4. To determine the calorific value of a solid/non- volatile liquid fuel by Bomb's calorimeter
5. To determine the Acid value of lubricating oil
6. To determine the variation of viscosity of an oil by Redwood viscometer

CYCLE-II

1. To determine the % moisture of a coal sample
2. To determine the % volatile matter of a coal sample
3. To determine the % Ash of a coal sample
4. To determine the % carbon by Canardons's apparatus

KAVIKULGURU INSTITUTE OF TECHNOLOGY AND SCIENCE, RAMTEK

DEPARTMENT OF ENGINEERING SCIENCES AND HUMANITIES

B.TECH. SECOND SEMESTER

SUBJECT: APPLIED CHEMISTRY (BSE2 3P)

List of Experiments
(2021-2022)

CYCLE-I

1. Preparation of molar and normal solutions
2. To Determine the hardness of a water sample by complexometric method
3. To Determine the type and extent of alkalinity of a water sample
4. To determine the surface tension of a given liquid solution
5. To determine the free chlorine in water by iodometry method
6. To synthesis the polymer/ drug

CYCLE-II

1. To determine the Fe by redox method
2. To determine the capacity of CER
3. To determine the dissolve oxygen
4. To determine the conductivity of an strong acid vs. strong base by conduct metric titrations