Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore
Program Name: Bachelor of Technology

SUBJECT CODE	Cate gory	SUBJECT NAME	TEACHING & EVALUATION SCHEME								
			THEORY			PRACTICAL		Th	T	P	CREDITS
			END SEM	MST	Q/A	END SEM	Q/A				
BTMA101		Applied Mathematics I	60	20	20	-	-	3	1	-	4

Course Objective

To introduce the students with the Fundamentals and Applications of the Differential, Integral, Vector Calculus and Numerical Analysis

Course Outcomes

After the successful completion of this course students will be able to:

1. *Understand and apply the concepts of the differential and integral calculus.*
2. *Apply and simplify the techniques/problems in the numerical analysis.*
3. *Discuss the numerical solution of the system of linear algebraic equations.*
4. *Understand, analyse and apply the basics of the vector calculus.*

Course Content:

UNIT – I
Differential Calculus
Limits of functions, continuous functions, uniform continuity, monotone and inverse functions. Differentiable functions, Rolle's theorem, mean value theorems and Taylor's theorem, power series. Functions of several variables, partial derivatives, chain rule, Tangent planes and normal. Maxima, minima, saddle points, Lagrange multipliers, exact differentials

UNIT – II
Integral Calculus
Riemann integration, fundamental theorem of integral calculus, improper integrals. Application to length, area, volume, surface area of revolution. Multiple integrals with application to volume, surface area, Change of variables.

UNIT – III
Numerical Analysis

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Vishwavidyalaya, Indore	Vishwavidyalaya, Indore		

Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore
Program Name: Bachelor of Technology

SUBJECT CODE	Cate gory	SUBJECT NAME	TEACHING & EVALUATION SCHEME								
			THEORY			PRACTICAL		Th	T	P	CREDITS
			END SEM	MST	Q/A	END SEM	Q/A				
BTMA101		**Applied Mathematics I**	60	20	20	-	-	3	1	-	4

Number Representation and Errors: Numerical Errors; Floating Point Representation; Finite Single and Double Precision Differences; Machine Epsilon; Significant Digits. **Numerical Methods for Solving Nonlinear Equations:** Method of Bisection, Secant Method, False Position, Newton-Raphson's Method, Multidimensional Newton's Method, Fixed Point Method and their convergence.

UNIT – IV
Numerical Analysis
Numerical Methods for Solving System of Linear Equations: Norms; Condition Numbers, Forward Gaussian Elimination and Backward Substitution; Gauss-Jordan Elimination; FGE with Partial Pivoting and Row Scaling; LU Decomposition; Iterative Methods: Jacobi, Gauss Seidel; Power method and QR method for Eigen Value and Eigen vector.

UNIT – V
Vector Calculus
Gradient and directional derivative. Divergence and Curl of Vector point function, line and surface integrals. Green's, Gauss' and Stokes' theorems and their applications.

Texts:
- T. M. Apostol, Calculus, Volume I, 2nd Ed, Wiley, 1967.
- T. M. Apostol, Calculus, Volume II, 2nd Ed, Wiley, 1969.
- K. E. Atkinson, Numerical Analysis, John Wiley, Low Price Edition (2004).
- B. S. Grewal, Higher Engineering Mathematics, Khanna Publishers, Delhi

References:
- R. G. Bartle and D. R. Sherbert, Introduction to Real Analysis, 5th Ed, Wiley, 1999.
- J. Stewart, Calculus: Early Transcendentals, 5th Ed, Thomas Learning (Brooks/ Cole), Indian Reprint, 2003.
- J. D. Hoffman, Numerical Methods for Engineers and Scientists, McGraw-Hill, 2001.
- M.K Jain, S.R.K Iyengar and R.K Jain, Numerical methods for scientific and engineering computation (Fourth Edition), New Age International (P) Limited, New Delhi, 2004.

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Department of Physics
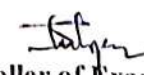### Choice Based Credit System (CBCS)

B. Tech. (Common for All branches)

Subject Code	Category	Subject Name	Teaching and Evaluation Scheme								
			Theory			Practical					
			End Sem University Exam	Two Term Exam	Teachers Assessment *	End Sem University Exam	Teachers Assessment*	Th	T	P	CREDITS
BTPH101	DC	Applied Physics	60	20	20	30	20	3	1	2	5

Course Objectives	1. To develop the comprehensive understanding of laws of physics. 2. To develop ability to apply laws of physics for various engineering applications. 3. To develop the experimental skills, ability to analyze the data obtained experimentally to reach substantiated conclusions.
Course Outcomes	1. Student will be able to comprehend laws of physics. 2. 2. Student will be able to apply laws of physics for various engineering applications. 3. 3. Student will be able to determine physical parameter experimentally and will be able to analyze the data obtained experimentally to draw substantiate conclusions.

Abbreviation		Teacher Assessment (Theory) shall be based on following components: Quiz / Assignment/ Project / Participation in class (Given that no component shall be exceed 10 Marks).
Th	Theory	
T	Tutorial	Teacher Assessment (Practical) shall be based on following components: Viva / File / Participation in Lab work (Given that no component shall be exceed 50% of Marks).
P	Practical	

Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore
Shri Vaishnav Institute of Science
Department of Physics
Choice Based Credit System (CBCS)

BTPH101: Applied Physics

UNIT I: Quantum Physics

Introduction to Quantum hypothesis, Matter wave concept, Wave Group and Particle velocity and their relations, Uncertainty principle with elementary proof and applications to microscope and single slit, Compton Effect, Wave function and its physical significance, Development of time dependent and time independent Schrodinger wave equation, Applications of time independent Schrodinger wave equation.

UNIT II: Solid State Physics

Free electron model, Qualitative Analysis of Kronig Penney Model, Effective mass, Fermi level for Intrinsic and Extrinsic semiconductors, P-N junction diode, Zener diode, Tunnel diode, Photodiode, Solar-cells, Hall Effect, Introduction to Superconductivity, Meissner effect, Type I & II Superconductors.

UNIT III: Nuclear Physics

Nuclear Structure & Properties Nuclear models: Liquid drop with semi-empirical mass formula & shell model. Particle accelerators: Cyclotron, Synchrotron, Betatron. Counters and Detectors: Giger-Muller counters, Bainbridge Mass Spectrograph and Auston Mass Spectrograph.
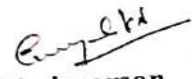
UNIT VI: Laser & Fiber Optics

Stimulated and Spontaneous Emission, Einstein's A&B Coefficients, Population Inversion, Pumping, Techniques of Pumping, Optical Resonator, Properties and Applications of Laser, Ruby, Nd:Y AG, He-Ne lasers. Introduction to Optical fibre, Acceptance angle and cone, Numerical Aperture, V-Number, Ray theory of propagation through optical fibre, Pulse dispersion, applications of optical fibre.

UNIT V: Wave Optics

Introduction to Interference, Fresnel's Bi-prism, Interference in Thin films, Newton's rings experiment, Michelson's interferometer and its application, Introduction to Diffraction and its Types, Diffraction at single slit, double slit, resolving power, Rayleigh criterion, Resolving power of grating, Concept of polarized light, Double refraction, quarter and halfwave plate, circularly & elliptically polarized light.

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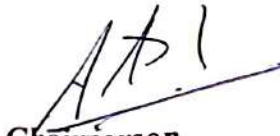Shri Vaishnav Vidyapeeth
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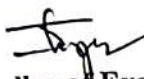Shri Vaishnav Vidyapeeth
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Department of Physics
Choice Based Credit System (CBCS)

BTPH101: Applied Physics

REFERENCES

1. "Engineering Physics", by Dr. S. L. Gupta and Sanjeev Gupta, Dhanpat Rai Publication, New Delhi.

2. "Engineering Physics", by Navneet Gupta, Dhanpat Rai Publication, New Delhi.

3. "Engineering Physics", by H. J Sawant, Technical Publications, Pune, Maharashtra.

4. "Engineering Physics". by MN. Avdhanulu & P. G. Kshirsagar, S. Chand & Co.Edition (2012).

5. "Fundamentals of Physics", by Halliday, Wiley, India.

6. "Concepts of Modern Physics", by Beiser, TMH, New Delhi.

7. "Atomic and Nuclear physics", by Brijlal and Subraminiyan.

8. "LASERSs and Electro Optics". by Christopher C. Davis, Cambridge Univ. Press (1996).

9. "Optoelectronics an Introduction", by J Wilson & JF.B.Hawkes, "" Prentice-Hall II Edition.

10. "LASER theory and applications", by A. K. Ghatak & Tyaga raja n, TMH (1984).

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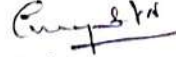# Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore
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Choice Based Credit System (CBCS)
BTPH101: Applied Physics

List of experiments

1. Measurement of radius of curvature "R" of convex lens by Newton's ring experiment.

2. Measurement of Numerical aperture of fiber by LASER.

3. Determination of Energy band gap .Eg" ofGe using Four Probe method.

4. Measurement of Frequency of A.C. mains by electrically maintained vibrating rod.

5. Measurement of Resolving Power of Telescope.

6. Measurement of "'A" of LASER light source using Diffraction Grating.

7. Determination of Planck's constant by using photocell.

8. Determination of Energy band gap (Eg) using PN Junction Diode.

9. To determine the mass of cane sugar dissolved in water using half shade polarimeter.

10. To study forward and reverse characteristics of Zener diode.

11. To study forward and reverse characteristics of P-N diode.

12. To study characteristics of Photo diode.

13. To study characteristics of LDR.

14. μ and ω of given prism using spectrometer.

15. Measuring height of a given object using Sextant.

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Vishwavidyalaya, Indore	Vishwavidyalaya, Indore		

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Choice Based Credit System (CBCS) in the Light of NEP-2020
B.Tech. (Non CSE & IT Branch)
(2021-2025)

COURSE CODE	CATEGORY	COURSE NAME	TEACHING&EVALUATION SCHEME								
			THEORY			PRACTICAL					
			ENDSEM University Exam	Two Term Exam	Teachers Assessment*	ENDSEM University Exam	Teachers Assessment*	L	T	P	CREDITS
BTCS101	BEC	COMPUTER PROGRAMMING-I	0	0	0	30	20	0	0	2	1

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit;
*Teacher Assessment shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Course Objectives:
1. To introduce the fundamental concepts of computer programming.
2. To design programs in C involving different data types, decision structures, loops and functions, arrays and pointers.
3. To equip students with techniques for developing structured computer programs.
4. To equip students with sound skills in C/C++ programming language.

Course Outcomes:
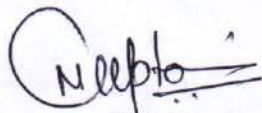**Upon completion of the course, students will be able to:**
1. Understand the basic terminologies used in computer programming.
2. Be proficient in using the basic constructs of C/C++, to develop a computer program.
3. Understand the use of functions, pointers, arrays and files in programming.
4. Understand the fundamentals of object-oriented programming and be able to apply it in computer program development.
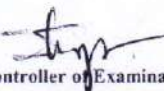
Syllabus

Unit - I

Introduction to Programming Languages: Introduction to Programming Language; Types of Programming Languages – Machine-level, Assembly-level and High-level Languages, Scripting Languages, Natural Languages, Advantages and Limitations of programming language, High-

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COURSE CODE	CATEGORY	COURSE NAME	TEACHING&EVALUATION SCHEME								
			THEORY			PRACTICAL					
			ENDSEM University Exam	Two Term Exam	Teachers Assessment*	ENDSEM University Exam	Teachers Assessment*	L	T	P	CREDITS
BTCS101	BEC	COMPUTER PROGRAMMING-I	0	0	0	30	20	0	0	2	1

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit;
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level Programming Language Tools – Compiler, Linker, Interpreter, Intermediate Language Compiler and Interpreter, Editor, MATLAB, GUI, Overview of some popular High level Languages – FORTRAN, COBOL, BASIC, Pascal, C, C++, JAVA, LISP, Characteristics of a Good Programming Language.
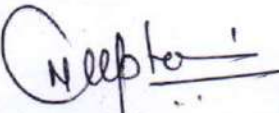
Unit - II

Design of Program: Introduction to Algorithms, Complexities and Flowchart, Introduction to Programming, Categories of Programming Languages, Program Design, programming language processing, Algorithm / pseudo code, program development steps, selecting a Language out of many Available Languages for Coding an Application, Subprograms and subroutines.
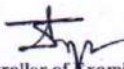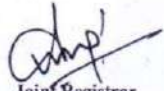
Unit - III

Basics of C language : Introduction to C language, Basic Programming concepts, Program structure in C ,header files, C preprocessor, Variables and Constants, Data types, User Defined Data Types – Structure and Union, Conditional statements, control statements, Functions, Arrays, Structures, pointers, strings, File Systems, c preprocessor and macro expansion.

Structure of C program, Expressions, type conversion, selection making decisions, initialization and updating, loops in C, Standard Library functions, Control Structures, Loop Structures, Functions, Scope Rule of Functions, Calling Convention, Advanced Features of Functions.

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B.Tech. (Non CSE & IT Branch)
(2021-2025)

COURSE CODE	CATEGORY	COURSE NAME	TEACHING&EVALUATION SCHEME								
			THEORY			PRACTICAL					
			ENDSEM University Exam	Two Term Exam	Teachers Assessment*	ENDSEM University Exam	Teachers Assessment*	L	T	P	CREDITS
BTCS101	BEC	COMPUTER PROGRAMMING-I	0	0	0	30	20	0	0	2	1

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit;
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Unit - IV

C Programming : Arrays - Pointers and arrays, two-dimensional arrays, arrays of pointer, String Manipulation functions, Structures & Unions, Processing and use of structures, arrays of structure.
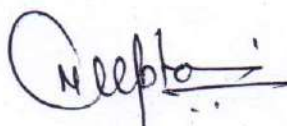
Pointers - Operations on Pointers, Pointers and Multidimensional Arrays, Array of pointers, pointers to pointers, bitwise operators, and dynamic memory managements functions.

Files - File creation, File processing, Opening and closing a file, text files and binary files, streams, error handling.

Unit - V

C++ Programming: Introduction to C++, Tokens, expressions and control structures, Functions in C++, Basic principles of Object Oriented Programming.

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B.Tech. (Non CSE & IT Branch)
(2021-2025)

| Course code | Category | Course name | THEORY | | | PRACTICAL | | L | T | P | CREDITS |
			ENDSEM University Exam	TwoTerm Exam	Teachers Assessment*	ENDSEM University Exam	Teachers Assessment*				
BTCS101	BEC	COMPUTER PROGRAMMING-I	0	0	0	30	20	0	0	2	1

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit;
*Teacher Assessment shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.
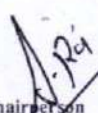
Text Books:

1. Fundamentals of Computers: E Balagurusamy, TMH

2. Fundamentals of Computers: V Rajaraman, PHI

3. Yashavant P. Kanetkar. "Let Us C", BPB Publications, 2011.

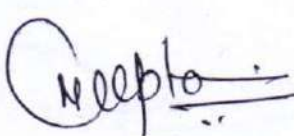4. Robert Lafore, "Object Oriented Programming in C++", SAMS Publication.

References:

1. Byron S Gottfried, "Programming with C", Schaum's Outlines, Second Edition, Tata McGraw-Hill, 2006

2. Herbert Schildt, "The Complete Reference", 4th Edition, MGH Publication.

3. Dromey R.G., "How to Solve it by Computer", Pearson Education, Fourth Reprint, 2007

Practical's List:

1. Study of procedural programming paradigm and object-oriented programming paradigm.

2. To demonstrate use of data types.

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Choice Based Credit System (CBCS) in the Light of NEP-2020
B.Tech. (Non CSE & IT Branch)
(2021-2025)

COURSE CODE	CATEGORY	COURSE NAME	THEORY ENDSEM University Exam	THEORY TwoTerm Exam	THEORY Teachers Assessment*	PRACTICAL ENDSEM University Exam	PRACTICAL Teachers Assessment*	L	T	P	CREDITS
BTCS101	BEC	COMPUTER PROGRAMMING-I	0	0	0	30	20	0	0	2	1

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit;
***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

3.   Write a program on operators (Arithmetic Operator, Relational Operators and Conditional Operators etc.).

4.   Write a program using decision making statements (switch case, if and if-else, nested structures).

5.   Write a program using simple loops and nested loops.(For, While, Do-While Loop)

6.   Write a program to user defined functions using C.

7.   Write a program for recursive functions.

8.   Write a program for array and multidimensional array (2-d arrays).

9.   Write a program of pointers and strings (strings and pointers).

10.   Write a program of dynamic memory allocation using calloc(), malloc() and realloc().

11.   Write a program on structure and union.

12.   Write a program in C++ using (i) if-then-else (ii) loops

13.   Write a program illustrate Function in C++

14.   Write a program for Operator overloading in C++.

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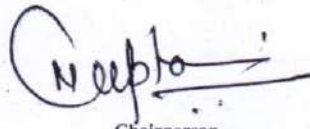Joint Registrar
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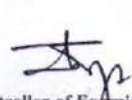## B.Tech. (Non CSE & IT Branch)
(2021-2025)

COURSE CODE	CATEGORY	COURSE NAME	THEORY			PRACTICAL		L	T	P	CREDITS
			ENDSEM University Exam	Two Term Exam	Teachers Assessment*	ENDSEM University Exam	Teachers Assessment*				
BTCS101	BEC	COMPUTER PROGRAMMING-I	0	0	0	30	20	0	0	2	1

Legends: L - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit;
*Teacher Assessment shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

15. Write a program for nested function call.

16. Write a program of call by value using C++

17. Write a program of call by reference using C++

18. Write a program for Inline Function.

19. Write a program for Friend Function.

20. Write a program of dynamic memory management using new and delete.

21. Write a program on file handling using C++ .

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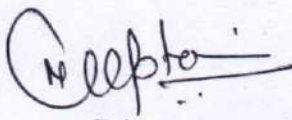Joint Registrar
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Shri Vaishnav Institute of Technology and Science
Choice Based Credit System (CBCS) in the Light of NEP-2020
B.Tech. in Electrical Engineering
(Common to EE/EX)
(2021-2025)

COURSE CODE	CATEGORY	COURSE NAME	TEACHING &EVALUATION SCHEME								
			THEORY			PRACTICAL					
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*	L	T	P	CREDITS
BTEE105	SEC	Basics of MATLAB	0	0	0	30	20	0	0	8	4

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit;
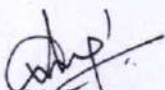***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Course Educational Objectives (CEOs):
The main objectives are:
1. Understanding the MATLAB environment.
2. Being able to do simple calculations using MATLAB.
3. Being able to carry out simple numerical computations and analyses using MATLAB

Course Outcomes (COs):
Upon completion of the subject, students will be able to:
1. Understand the main features of the MATLAB and basic programming.
2. Design simple algorithms to solve problems.
3. Write simple programs in MATLAB to solve scientific and mathematical problems.
4. Understand the need for simulation/implementation for the verification of mathematical functions.
5. Interpret and visualize simple mathematical functions and operations thereon using plots/display.

Syllabus

UNIT I   9 Hrs.
MATLAB: An Overview, Brief history of MATLAB, About MATLAB, Installation of MATLAB, help browser, Arranging the desktop, Basic functions of MATLAB, mostly used symbols in MATLAB, debugging in MATLAB; Building MATLAB expressions: MATLAB datatype, command handling, MATLAB basics.

UNIT II   9 Hrs.
MATLAB Vector and Matrix: Scalar and vector, elementary features in a vector array, matrices, eigen values and eigen vectors, matrix operations, matrix operators, creating matrix arrangement, indexing array value, other operations, mathematical operations on array, array types

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B.Tech. in Electrical Engineering
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(2021-2025)

COURSE CODE	CATEGORY	COURSE NAME	TEACHING &EVALUATION SCHEME								
			THEORY			PRACTICAL		L	T	P	CREDITS
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
BTEE105	SEC	Basics of MATLAB	0	0	0	30	20	0	0	8	4

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UNIT III   **6 Hrs.**
Graphics in MATLAB: 2D plots, parametric plots, contour lines and implicit plots, field plots, multiple graphics display function, 3D plots

UNIT IV   **8 Hrs.**
MATLAB Programming: Reading and writing data, file handling - Personalized functions - Toolbox structure - MATLAB graphic functions

UNIT V   **8 Hrs.**
Introduction to Simulink: Numerical simulations – Simple Models.

Textbooks:
1. Rudra Pratap, Getting Started With MATLAB 7. Oxford University Press, 2006.
2. MATLAB & Its Applications in Engineering By: Raj Kumar Bansal, Ashok Kumar Goel, Manoj Kumar Sharma.

References:
1. A Guide to MATLAB: For Beginners & Experienced Users By: Kevin R. Coombes, John E. Osborn, Garrett J. Stuck.
2. S. Swapna Kumar, S V B Lenina: MATLAB – Esay way of learning, PHI Learning, 2016.
3. Amos Gilat ," An Introduction with Applications ,4ed " , wiley India

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			THEORY			PRACTICAL					
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*	L	T	P	CREDITS
BTEE102	BEC	Fundamentals of Electrical Engineering	60	20	20	30	20	3	0	2	4

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Course Educational Objectives (CEOs):
1. To impart the basic knowledge about the Electric and Magnetic circuits.
2. To explain the working principle, construction, applications of DC machines, AC machines.

Course Outcomes (COs):
After the successful completion of this course students will be able to
1. Understand and Analyze basic circuit concepts.
2. Apply knowledge of mathematics to analyze and solve electrical circuit problems.
3. Understand the AC fundamentals.
4. Illustrate basic knowledge about the Electric and Magnetic circuits.
5. Distinguish the working Principles of various Electrical Machines.

Syllabus

UNIT I   8 Hrs.
Electrical Circuit Analysis: Definition of electric circuit, network, linear circuit, non-linear circuit, bilateral circuit, unilateral circuit, Kirchhoff's law, Voltage and current sources, dependent and independent sources, source conversion, DC circuits analysis using mesh & nodal method, Thevenin's theorem, Norton's theorem, Superposition theorem, star-delta transformation.

UNIT II   9 Hrs.
A C Fundamentals: Production of alternating voltage, waveforms, average and RMS values, peak factor, form factor, phase and phase difference, phasor representation of alternating quantities, phasor diagram, behaviour of AC series, parallel and series parallel circuits, power factor, power in AC circuit, 1-phase AC circuits under sinusoidal steady state, active, reactive and apparent power, physical meaning of reactive power, power factor, 3-phase balanced and Unbalanced supply, star and delta connections.

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			THEORY			PRACTICAL					
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
BTEE102	BEC	Fundamentals of Electrical Engineering	60	20	20	30	20	3	0	2	4

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UNIT III   8 Hrs.
Electromagnetism: Biot-savart law, Ampere's circuital law, field calculation using Biot-savart and ampere's circuital law. Magnetic circuits, Analogous quantities in magnetic and electric circuits, Faraday's law, self and mutual inductance. Energy stored in a magnetic field, Hysteretic and Eddy current losses. Electro-mechanical energy conversion.

UNIT IV   8 Hrs.
Transformers: Review of laws of electromagnetism, mmf, flux, and their relation, analysis of magnetic circuits. Single-phase transformer, basic concepts and construction features, voltage, current and impedance transformation, equivalent circuits, phasor diagram, voltage regulation, losses and efficiency, OC and SC test.

UNIT V   9 Hrs.
Basic Concepts of Rotating Electric Machines: Constructional details of DC machine, Basic concepts of winding (Lap and wave).Principle of operation, EMF equation, characteristics (open circuit, load). DC motors: Principle of operation, Speed-torque Characteristics (shunt and series machine), starting (by 3 point starter), speed control (armature voltage and field control).
Induction machine and Synchronous machine, Working principle of 3-Phase Induction motor, Emf equation of 3-Phase induction motor, Concept of slip in 3-Phase induction motor, Explanation of Torque-slip characteristics of 3-Phaseinduction motor. Principle of operation of Synchronous Machine.

Textbooks:
1. Basic Electrical engineering, D.P Kothari & I.J Nagrath, TMH, Second Edition.

References:
1. Basic Electrical Engineering, V.N Mittle & Arvind Mittal, TMH, Second Edition.
2. Electrical Engineering Fundamental, Vincent.D.Toro, Pearson Education, Second Edition.

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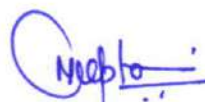| COURSE CODE	CATEGORY	COURSE NAME	TEACHING &EVALUATION SCHEME								
			THEORY			PRACTICAL					
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*	L	T	P	CREDITS
BTEE102	BEC	Fundamentals of Electrical Engineering	60	20	20	30	20	3	0	2	4

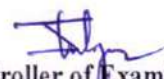**Legends**: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit;
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List of Experiments:

1. Verification of KCL and KVL Law's.

2. Separation of resistance and inductance of choke coil.

3. Study of Transformer, name plate rating.

4. Determination of Turns ratio and polarity of Single-Phase Transformer.

5. Determination of equivalent circuit parameters of a single-phase transformer by O.C. and S.C. tests.

6. Measurement of power in a three-phase circuit by two wattmeter method.

7. Measurement of power in a three-phase circuit by three wattmeter method

8. Measurement of various line & phase quantities for a 3-phase circuit.

9. Study of No-load characteristics of D.C shunt Generators.

10. Study of comparative features of Synchronous Machine and Induction Machine.

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							END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*
HUCS 101		COMMUNICATION SKILLS	1	0	2	2	60	20	20	0	20

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Course Objectives:
1. Develop the second language learners' ability to enhance and demonstrate LSRW Skills.
2. Enable students to acquire English Language Skills to further their studies at advanced levels.

Course Outcomes:
1. Enhance confidence in their ability to read, comprehend, organize, and retain written information.
2. Write grammatically correct sentences for various forms of written communication to express oneself.

Syllabus:

UNIT I
Communication: Nature, Meaning, Definition, Verbal and Non Verbal Communication Barriers to Communication.

UNIT II
Basic Language Skills: Grammar and usage- Parts of Speech, Tenses, S-V Agreement, Preposition, Article.

UNIT III
Basic Language Skills: Types of Sentence, Direct - Indirect, Active - Passive voice, Phrases & Clauses.

UNIT IV
Business Correspondence: Business Letter, Parts & Layouts of Business Resume and Job application, E-mail writing.

UNIT V
Report Writing: Importance of Report, Types of Report, Structure of a Report.

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Suggested Readings

1. Ashraf Rizvi.(2005). *Effective Technical Communication*. New Delhi:Tata Mc Graw Hill
2. Adair, John (2003). Effective Communication. London: Pan Macmillan Ltd.
3. A.J. Thomson and A.V. Martinet(1991).*A Practical English Grammar*(4th ed). Newyork: Ox- ford IBH Pub.
4. Kratz, Abby Robinson (1995). Effective Listening Skills. Toronto: ON: Irwin Professional Publishing.
5. Prasad, H. M.(2001*) How to Prepare for Group Discussion and Interview*. New Delhi: Tata McGraw-Hill.
6. Pease, Allan. (1998).*Body Language*. Delhi: Sudha Publications

List of Practicals:

1. Self Introduction
2. Reading Skills and Listening Skills
3. Oral Presentation
4. Linguistics and Phonetics
5. JAM (Just a Minute)
6. Group Discussion

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