B.Tech (Electrical& Electronics Engineering (EVT))
Semester-I

L-3, T-1, P-0, C-4

BSEEE0100A: Introduction to Engineering Mathematics with Applications– I

Course Objective:

- To provide the students with sufficient knowledge in Differential Calculus, Integral Calculus and Vector Calculus this can be used in their respective fields.
- To Compare and contrast the ideas of limits continuity and differentiability.
- To find maxima and minima, critical points and inflection points of functions and to determine the concavity of curves.
- To apply Stokes' theorem to compute line integrals along the boundary of a surface.
- To use Stokes' theorem to give a physical interpretation of the curl of a vector field.

Course Outcomes (COs)

1. Understand the concept of real functions, continuity and differentiability of functions.
2. Apply the concept of differentiation for successive differentiation.
3. Analyze the concepts of partial differentiation to evaluate Maxima and minima in engineering.
4. Evaluate integral,computations of area, surfaces and volumes for various engineering models.
5. Evaluate directional derivative line surface and volume integrals.

Articulation Matrix

(Program Articulation Matrix is formed by the strength of correlation of COs with POs and PSOs. The strength of correlation is indicated as 3 for substantial (high), 2 for moderate (medium) correlation, and 1 for slight (low) correlation)

CO/PO/PSO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2	1	1	1	1	1	1	1	1	1	1	2	3	1
CO2	3	2	1	1	1	1	1	1	1	1	1	1	2	3	1
CO3	3	2	1	1	1	1	1	1	1	1	1	1	2	3	1
CO4	3	2	1	1	1	1	1	1	1	1	1	1	2	3	1
CO5	3	2	1	1	1	1	1	1	1	1	1	1	2	3	1

High-3 Medium-2 Low-1

Unit I: Elementary Calculus **10 Hours**

Introduction of Functions, Concept of real function, types of functions, Composite functions, Continuity of function of one variable and its Properties, Differentiability, Rolle's theorem, Mean value theorems.

Unit II: Differential Calculus **10 Hours**

Successive differentiation, Leibnitz theorem, Expansion of functions (Maclaurin and Taylor series), Maxima and Minima of functions of one variable, Asymptotes, Curvature.

Unit III: Differential Calculus (Functions of several variables) **15 Hours**

Limit, continuity and differentiability of functions of several variables, partial derivatives and their geometrical interpretation, Euler's theorem on homogeneous functions, Differentiation of implicit functions, Total differential coefficient, Transformations of independent variables, Jacobians.

Unit IV: Integral Calculus **15 Hours**

Basics of Definite Integral and its properties, Definite Integrals as a Limit of a sum, Application in summation of series, Beta Gamma function. Double and triple integrals, computations of area, surfaces and volumes, change of variables in double integrals - Jacobians of transformations, integrals dependent on parameters - applications.

Unit V: Vector Calculus **10 Hours**

Scalar and vector fields, level surfaces, directional derivative, Gradient, Curl, Divergence, theorems of Green, Gauss and Stokes

Total: 60 Hours

Reference Books:

1. Bressoud, D., Ghedamsi, I., Martinez-Luaces, V., &Törner, G. (2016). Teaching and learning of calculus. Springer Nature.
2. Kreyszig, E. 1999, Advanced Engineering Mathematics. John Wiley & Sons, New York.
3. Grewal, B. S., &Grewal, J. S. (1996). Higher engineering mathematics. 2002, Khanna Publishers, New Delhi.Dass
4. Dass, H. K. (2019). *Advanced Engineering Mathematics, 22e*. S. Chand Publishing.

List of e-Learning Resources:

1. https://nptel.ac.in/
2. https://www.coursera.org/
3. https://www.youtube.com/watch?v=tffrrtzUhmw&list=PL7oBzLzHZ1wXBSiJEgqz_iwVoLiY8qhbv

Subject Expert	**Academic Coordinator**	**HoD**	**Appointed Senior Faculty by DOAA**

B.Tech - Electrical& Electronics Engineering

Semester-I

L-2 T-1 P-2 C-4

BSEEE0200A: Transition from Physics to Electronics

Course Objectives

This course will expose students to –

- Define basics of the circuit's elements, construction and analysis of circuits.
- Understand the different methods to solve the circuits.
- Define the basics of the digital logics and circuits
- Develop the concepts about the electronics.
- Define fundamental energy storage elements.

Course Outcomes (COs)

1. Understand the concepts of circuit abstraction and analysis of the circuit.
2. Understand the different types of methods used to solve the networks.
3. Apply the digital logical circuits and solve Boolean expressions.
4. Analyze the working of semiconductors and its types.
5. Evaluate the working of energy storage elements.

Articulation Matrix

(Program Articulation Matrix is formed by the strength of correlation of COs with POs and PSOs. The strength of correlation is indicated as 3 for substantial (high), 2 for moderate (medium) correlation, and 1 for slight (low) correlation)

CO/PO/ PSO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2	1	-	-	-	-	-	-	-	-	1	-	-	2
CO2	2	3	2	-	-	-	-	-	-	-	-	1	-	-	2
CO3	2	1	3	-	-	-	-	-	-	-	-	1	1	-	1
CO4	1	3	2	1	-	-	-	-	-	-	-	1	1	1	1
CO5	1	2	3	1	1	-	-	-	-	-	-	1	2	1	1

High-3 Medium-2 Low-1

Unit I Circuit abstraction & resistive networks **09 Hours**

Lumped circuit abstraction, limitations of the lumped circuit abstraction, practical two-terminal elements, ideal two-terminal elements, another ideal two-terminal element, Kirchhoff's laws, circuit analysis: basic method, intuitive method of circuit analysis: series and parallelsimplification.

Unit II Network Theorems **09 Hours**

Nodal analysis and mesh analysis, superposition theorem, Thevenin's theorem and Norton's theorem, maximum power transfer theorem.

Unit III Digital Abstraction **09 Hours**

Voltage levels and the static discipline, Boolean logic, combinational gates, standard sum-of-products representation, simplifying logic expressions, number representation.

Unit IV Semiconductors **09 Hours**

Structure of an atom, classification of materials - conductors, semiconductors and insulators,

properties of semiconductor, types of semiconductors.

Unit V Energy Storage Elements 09 Hours

Constitutive laws, series and parallel connections, special examples, transformers, energy, charge, and flux conservation.

Total: 45 Hours

PRACTICALS:-

1. To study and verify Kirchoff's currentlaw.
2. To study and verify Kirchhoff's voltagelaw.
3. To study and verify Thevenin'stheorem.
4. To study and verify Norton'stheorem.
5. To study and verify maximum power transfertheorem.
6. To study and verify basic logicgates.
7. To study and verify universal logicgates.
8. To study and verify exclusive logicgates.
9. To study and verify De-Morgan's theorem.
10. To study series and parallel connections ofresistors.

Total: 75 Hours

Reference(s)

1. Boylestad and Nashelsky: Electronic Devices and Circuit Theory, PearsonEducation
2. Anant Agrawal and Jeffrey H. Lang: Foundations of ADCircuits

List of e-Learning Resources:

1. https://nptel.ac.in/
2. https://www.coursera.org/

Subject Expert	**Academic Coordinator**	**HoD**	**Appointed Senior Faculty by DOAA**

Mandsaur University

B.Tech. Electrical and Electronics Engineering (EVT)

Semester-I

L-2 T-1 P-2 C-4

BSEEE0300A: Foundation of Computer Science and Programming

Course Objective:

- To provide Basic understanding of MS word, Excel and Power point presentation
- To provide programming fundamentals usingC and C++.
- To understand the concepts of programming languages and acquire art of computer programming
- Students will learn to write programs (using structured and object oriented programming approach) in C /C++ to solve problems.

Course Outcomes:

1. Understand and work on MS word, excel, power point presentation.
2. Understand the processes by which a C program is comp
3. Analyze the concepts Array, Function of Programming
4. Apply C programs with variables, arithmetic operators, array, function, structure etc
5. Apply object oriented programming concepts

Articulation Matrix

(Program Articulation Matrix is formed by the strength of correlation of COs with POs and PSOs. The strength of correlation is indicated as 3 for substantial (high), 2 for moderate (medium) correlation, and 1 for slight (low) correlation)

CO/PO/PSO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	1	2	1	1	-	1	1	-	-	-	1	-	2	-	-
CO2	-	1	3	-	1	-	1	-	-	-	-	1	-	-	-
CO3	1	3	-	1	1	-	-	-	-	-	2	-	1	-	-
CO4	2	-	1	-		1	1	-	-	-	-	1	-	-	-
CO5	-	2	1	-	1	-	-	-	-	-	-	1	1	-	-

High-3 Medium-2 Low-1

Unit I MS Office **09 Hours**

MS word - Creating, editing, saving and printing text documents, Font and paragraph formatting, Simple character formatting, Inserting tables, smart art, page breaks, Using lists and styles, Working with images, Using Spelling and Grammar check, Understanding document properties, Mail Merge.

MS Excel -Spreadsheet basics, Creating, editing, saving and printing spreadsheets, Working with functions &formulas, Modifying worksheets with color & auto formats, Graphically representing data : Charts & Graphs, Speeding data entry : Using Data Forms , Analyzing data : Data Menu, Subtotal, Filtering Data, Formatting worksheets , Securing & Protecting spreadsheets.

MS Power Point - Opening, viewing, creating, and printing slides, Applying auto layouts, Adding custom animation, Using slide transitions, graphically representing data: Charts & Graphs, Creating Professional Slide for Presentation.

Unit II Introduction **09 Hours**

Computational procedures, computer architecture, binary system, representing integers, representing floating points numbers, representing characters, string, introduction to algorithms,complexities and flowchart, high level and low level languages, introduction to C language, structure of C program.

Unit III Data types, Operators and Functions **09 Hours**

Identifiers, data types, constants, declaration, assignment & print statements, data types, operators and expressions. Arithmetic operations, type conversions and cast, branching and loops, two way selection (if, if-else, nested if- else, cascaded (if-else), switch statement, ternary operator? GOTO, loops (for, while-do, do-while) in C, break and continue, programming examples

Unit IV Functions **09 Hours**

Functions, functions and program structure, function prototype, function definition, benefit of function, calling a function, argument passing – call by value call by reference, recursion. Scope rules, local and global variable, file and I/O operations. Array Structure and I/O: Introduction to arrays, initialization of array, multi dimensional arrays, passing arrays to functions.

Unit V: Divisibility theory and Theory of Congruences **09 Hours**

Introduction to OOP, Classes and objects: Characteristics and concepts of OOP, procedure oriented programming Vs object oriented programming. Introduction to C++: character set, tokens, program structure, sequential and conditional execution in C++, different loops (for, do..while, while). Object oriented programming paradigm: Basic concepts of OOP, benefits of OOP, introduction of classes, objects constructors, parameterized constructors, default argument constructors, copy constructors, destructors, friend functions, Inheritance and Polymorphism

Total: 45 Hours

PRACTICALS:

1. Write a program in C to evaluate area of triangle.
2. Exchange the values of two variables with and without temporary variable.
3. Write a program to find the greatest of three numbers and print the numbers in ascending order.
4. Write a program in C to find out roots of given quadratic equations.
5. Write C code to compute the real roots of the equation: ax2+bx+c=0.
6. Write a program that counts from one to ten, prints the values on a separate line for each, and includes a message of your choice when the count is 3 and a different message when the count is 7.
7. Write a program that writes your name on the monitor ten times. Write this program three times, once with each looping method.
8. Write a program to find a factorial of given n number using do while statement.
9. Write a program to print a pyramid using for loop.
10. Write a Program for Palindrome.
11. Write a program to print Fibonacci series using recursion.
12. Write a program with three short strings, about 6 characters each, and use "strcpy" to copy "one", "two", and "three" into them. Concatenate the three strings into one string and print the result out 10 times.
13. Write a program that will prompt for a filename for a read file, prompt for a filename for a write file, and open both plus a file to the printer. Enter a loop that will read a character, and output it to the file, the printer, and the monitor. Stop at EOF.
14. Define a named structure containing a string field for a name, an integer for feet, and another for arms. Use the new type to define an array of about 6 items. Fill the fields with data and print them out as follows. A human being has 2 legs and 2 arms. A dog has 4 legs and 0 arms. A Television set has 4 legs and 0 arms. A chair has 4 legs and 2 arms. etc.
15. Write a program to show different type of constructors
16. Write a program to access private member using friend function
17. Write a Program to implement multiple inheritances
18. Program to Show the concept of virtual function
19. Program in C++ to concept two string using operator overloading
20. A bookshop uses a personal computer to maintain the inventory of books that are being sold at the shop. The list includes details such as author, title, ISBN number, price, author, stock position. Whenever a customer wants a book, the shopkeeper inputs the title or ISBN number and the system replies whether the book is available or not. If it is not, an appropriate message is displayed. If book is in the list, then the system displays the book details and asks for number of copies. If the requested copies are available, the total cost of the books is displayed; otherwise the message “Requested copies are not in stock” is displayed. Implement using structures.

Total: 75 Hours

Text Book:

1. Let us C :Yashavant P. kanetkar, BPB Publications.
2. Object oriented programming in C++ : Robert lafore, Galgotia publications
3. Fundamentals of computers: E Balagurusamy, Tata McGraw Hill

Reference Books:

1. Microsoft Office 2010 Introductory: Gary B. Shelly, Misty E. Vermaat , Steven M. Freund
2. Basic computer engineering : Silakari& Rajesh K Shukla, Wiley India
3. The C programming language: Brian W. Kernighan and Dennis M. ritchie, PHI
4. Object oriented programming with C++: David parsons, BPB publication
5. Programming in ANSI C : E Balagurusamy, Tata McGraw Hill

List of e-Learning Resources:

1. https://nptel.ac.in/
2. https://www.coursera.org/

Subject Expert	**Academic Coordinator**	**HoD**	**Appointed Senior Faculty by DOAA**

Mandsaur University

B.Tech. Electrical and Electronics Engineering (EVT)

Semester-I

L-2 T-1 P-2 C-4

ESEEE0100A: Introduction to Electrical Machines

Course Objectives

This course will expose students to –

- To understand the principles of conducting, non-conducting and dielectric material.
- To know the requirements, principles and effects of Insulating and semi conductor materials.
- To learn the conversion principle of magnetic, electrical and mechanical energy and define basics of three phase induction motor.
- Develop the concepts about operations and control ofDC machines.
- Define basics fundamental effects on the performance of synchronous machines.

Course Outcomes (COs)

1. Understand the performance and uses of conducting, non-conducting and dielectric material.
2. Understand the concepts about of Insulating and semi conductor materials.
3. Apply the concepts magnetic, electrical and mechanical energy on three phase induction motor.
4. Apply the starting, operating and controlling of DC motor.
5. Analyze the excitation system withstartingoperating and losses and efficiency calculation.

Articulation Matrix

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CO2	2	2	1	-	-	-	-	-	-	-	-	-	-	-	-
CO3	2	3	1	-	-	1	1	-	-	-	-	-	1	1	-
CO4	2	3	2	-	1	-	-	-	-	-	-	-	-	1	-
CO5	3	2	1	-	-	1	-	-	-	-	-	-	-	-	1

High-3 Medium-2 Low-1

UNIT-I Engineering Materials **9 Hours**

Metals & alloys, ceramics, organic polymers and composite material.

Conducting material: properties of conductors, characteristics of good conducting material, conductor materials for overhead lines and underground cables, conductor used for windings, resistors and bus bar.

Dielectric Materials: Dielectric strength, factors affecting dielectric strength, dielectric loss, dissipation factor, permittivity & polarization, charging and discharging of dielectric, Application of dielectric, different types of capacitors and materials used for them.

UNIT II Insulating & Semi Conductor materials **9 Hours**

Insulating materials: their properties, Insulating materials like ceramic, mica, glass, rubber, resins, wax varnishes, class of insulation. Transformer oils & their testing.

Semi Conductor Materials: Type of semi conductors, working and applications of semiconductors, temperature sensitive elements, photoconductive cells, photo voltaic cells; varistor, Hall Effect generator, piezo – electric materials, semiconductor laser and its characteristics.

UNIT III Classification of Magnetic Materials **9 Hours**

Diamagnetism, para magnetism, ferro- magnetism, magnetization curve, hysteresis loop, magnetostriction, anti-ferromagnetism, magnetic resonance, B-H curve for different magnetic materials

Three phase induction machine: Construction of induction machine, working principle of induction motor and

generator, starting methods of induction motors, losses and efficiency, applications.

UNIT IV DC Machine **9 Hours**

Construction of dc machines, working principle of dc motor and generator, 2 point, 3 point and 4 point starters of dc motors, losses and efficiency, applications.

UNIT V Synchronous Machine **9 Hours**

Constructional features, working principle of synchronous motor and generator, starting methods of synchronous motors, excitation system including brushless excitation, losses and efficiency, applications.

45 Hours

PRACTICAL:

1. To study construction and working principle of single phase induction motor.
2. To Study of construction and working principle of 3-phase induction motor.
3. To study construction and working principle of dc motor and dc generator.
4. To study the 2- point, 3- point and 4- point starter of dc motor.
5. Perform the Speed control of d. c. motor (armature and field control method).
6. To study the Commutator, commutation process and slip ring.
7. To perform testing of welding machine

75 Hours

Reference(s)

1. M. G. Say, Alternating Current Machines', (5th Ed.) ELBS, 1986.
2. V.Del Toro, "Electrical Machines & Power Systems", 1985, Prentice-Hall, Inc., Englewood Cliffs.
3. Electrical Machines by Nagrath and Kothari (TMH).
4. A.C. Machines by Langsdorf (McGraw-Hill).
5. Electrical Machines by Dr.P.S.Bimbhra (Khanna).
6. Electrical Machines by Ashfaq Hussain. (DhanpatRai).
7. John Allison; Electrical Engineering Material s & Devices; TMH.
8. C. S. Indulkar and S. Thruvengadem; Electrical Engineering Materials; S. Chand.
9. A.J. Dekkor; Electrical Engineering Materials; PHI.
10. S.P. Seth & P.V. Gupta; Electrical Engineering Materials; Dhanpat Rai.

Subject Expert **Academic Coordinator** **HoD** **Appointed Senior Faculty by DOAA**

B.Tech (ME)
I Year I Sem
Indian Culture & Communication.

Mandsaur University

L1 T1 P2 C3

Course Objectives: This course will enable students to:

1. Improve English language skills through exploring Indian culture.
2. Enhance intercultural understanding through comparison with students' own cultures.
3. Develop critical thinking and communication skills by engaging with diverse aspects of Indian culture.

Course Outcomes (COs): Upon completion of this unit students will:

CO1: Interpret cultural texts to enhance literacy skills.
CO2: Illustrate grammar rules effectively to improve communication.
CO3: Compare cultural perspectives to develop critical thinking.
CO4: Demonstrate proficiency in both written and oral communication skills through Indian folklore and tradition.
CO5: Show proficiency in reading, writing, and speaking on topics such as national development, religious diversity, grammar concepts, and cultural etiquette.

Articulation Matrix

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CO1	1	1	1	1	1	2	1	2	2	3	1	1	3	2	1
CO2	1	1	1	1	1	2	1	2	2	3	1	1	3	2	1
CO3	1	1	1	1	1	2	1	2	2	3	1	1	3	2	1
CO4	1	1	1	1	1	2	1	2	2	3	1	1	3	2	1
CO5	1	1	1	1	1	2	1	2	2	3	1	1	3	2	1

Unit 1: Introduction to Indian Culture — 12Hours

- Discussing Patriotism: Explore different perspectives on patriotism using "Where The Mind is Without Fear" by Rabindranath Tagore. **(Reading, Listening, Writing, Interpretation).**
- Indian Festivals: Discussing popular Indian festivals like Diwali, Holi, and Eid, and their significance in Indian culture. **(Reading, Vocabulary, Cultural Awareness) [Unseen Passage]**
- Word Power Challenge: Conduct vocabulary-building games focusing on suffixes, prefixes, synonyms, antonyms, and one-word substitutions. **(Vocabulary Building)**
- Cultural Traditions: Sharing and comparing cultural traditions and customs between India and students' own cultures. **(Reading, Speaking, Cultural Awareness) [Unseen Passage]**
- Vocabulary Parade: Students create posters or presentations featuring vocabulary words and share them with the class, explaining their meanings and usage. **(Vocabulary Building)**

Unit 2: Language and Communication **12Hours**

- Grammar Olympics: Organize grammar quizzes and competitions covering nouns, pronouns, adjectives, verbs, adverbs, prepositions, articles, and time and tense. **(Grammar, Writing, Speaking)**
- Vocabulary Show and Tell: Students bring in objects related to the vocabulary words they've learned and describe them to the class. **(Vocabulary, Speaking)**
- Grammar Detective: Assign students to find examples of different grammar concepts in the texts they read, then present their findings to the class. **(Grammar, Reading, Writing)**
- Vocabulary Bingo: Play bingo using vocabulary words instead of numbers, with students marking off words as they hear them used correctly in class. **(Vocabulary, Listening, Speaking)**
- Grammar Skits: Divide students into groups to create and perform short skits that demonstrate correct usage of grammar concepts. **(Grammar, Speaking, Drama)**

Unit 3: Cultural Exploration **12Hours**

- Environmental Awareness: Hold a panel discussion on environmental issues raised in "The Axe" by R.K Narayan. **(Reading, Writing, Interpretation, Cultural Awareness)**
- Indian Cuisine: Exploring and describing traditional Indian dishes, ingredients, and cooking methods. **(Reading, Speaking, Cultural Awareness) [Unseen Passage]**
- Vocabulary Auction: Students bid on vocabulary words they want to learn, then participate in activities and exercises related to those words to earn points. **(Vocabulary, Speaking, Critical Thinking)**
- Historical Landmarks: Presenting and discussing famous historical landmarks in India, such as the Taj Mahal, Red Fort, and Qutub Minar. **(Reading, Speaking, Cultural Awareness) [Unseen Passage]**
- Music and Dance: Learning and performing basic Indian dance steps or discussing different genres of Indian music. **(Reading, Speaking, Cultural Awareness) [Unseen Passage]**

Unit 4: Indian Folklore and Traditions **12Hours**

- Mythological Tales: Present dramatic readings of excerpts from the Preface to the Mahabharata by C. Rajagopalachari, bringing Indian mythology to life. **(Reading, Speaking, Interpretation)**
- Indian Folk Tales: Retelling and discussing popular Indian folk tales and legends, such as the story of Panchatantra or Jataka tales. **(Reading, Writing, Cultural Awareness) [Unseen Passage]**
- Vocabulary Charades: Act out vocabulary words for classmates to guess, encouraging creativity and active engagement with the words. **(Vocabulary, Speaking, Drama)**
- Language and Literature: Introducing basic phrases and expressions in Indian languages like Hindi or Bengali, and discussing famous Indian authors and poets. **(Reading, Writing, Cultural Awareness) [Unseen Passage]**
- Art and Craft: Creating and discussing traditional Indian art forms like rangoli, mehndi, or Madhubani painting. **(Reading, Speaking, Cultural Awareness)**

Unit 5: Cultural Immersion **12Hours**

- Gandhi's Vision of Education: Debate the importance of education for national development based on "National Education" by M. K. Gandhi. **(Reading, Writing, Interpretation)**

- Religious Diversity: Exploring the diverse religions practiced in India, including Hinduism, Islam, Sikhism, Christianity, and Buddhism. **(Reading, Speaking, Cultural Awareness) [Unseen Passage]**
- Grammar Flashcards: Students create flashcards for grammar concepts and quiz each other in pairs or small groups. **(Grammar, Vocabulary, Visual Learning)**
- India's Cultural Heritage: Organize a cultural fair showcasing aspects of "The Wonder That Was India" by A.L Basham. **(Reading, Writing, Speaking, Interpretation)**
- Grammar Debate: Divide the class into teams and assign each team a grammar topic to debate, such as the importance of using correct verb tense or the role of articles in **(Grammar, Speaking, Critical Thinking)**
- Cultural Etiquette: Discussing cultural norms and etiquette in India, such as greetings, gestures, and appropriate behavior in different social settings. **(Reading, Speaking, Cultural Awareness) [Unseen Passage]**

Total: 60 Hours

Reference(s)

1. "Understanding Indian Culture & Values" by D.R. Saini
2. "Indian Cultural Heritage" by N.K. Singh
3. "Introduction to Indian Culture" by Bipin Chandra Pal
4. "Indian Culture, Art and Heritage" by Nitin Singhania
5. "Indian Culture: An Introduction" by K.M. Pannikar
6. “English Grammar in Use” by Raymond Myrphy
7. “Vocabulary in Use” by Michael McCarthy and Felicity O’Dell

List of e-Learning Resource

Unit 1: Introduction to Indian Culture

- "[Rabindranath Tagore's Where The Mind is Without Fear Poem Analysis]"(https://poemanalysis.com/rabindranath-tagore/where-the-mind-is-without-fear/) - Analysis of the poem for deeper understanding.
- "[Rabindranath Tagore Biography]"(https://www.poetryfoundation.org/poets/rabindranath-tagore) - Learn more about the author and his cultural context.
- "[Diwali: The Festival of Lights]"(https://www.britannica.com/question/How-is-Diwali-celebrated) - Britannica article on Diwali with historical background and significance.
- "[Holi Festival in India]"(https://www.britannica.com/topic/Holi) - Britannica article on Holi with traditions and explanations.
- "[Eid al-Fitr Celebration in India]"(https://www.bbc.co.uk/newsround/68761299) - BBC article on how Eid is celebrated in India.
- "[Free Online Vocabulary Games]"(https://www.vocabulary.com/lists/222394) - Vocabulary.com offers various engaging vocabulary games.
- "[Learning Games for Adults]"(https://learnenglish.britishcouncil.org/vocabulary/vocabulary-games) - The British Council offers vocabulary games targeted at adults.
- "[Cultural Exchange Activities]"(https://eca.state.gov/about-bureau/organizational-structure/office-citizen-exchanges) - Global Citizen provides ideas for cultural exchange activities.

Unit 2: Language and Communication

- "[Grammar Quizzes Online]"(https://grammarquiz.net/) - [invalid URL removed] offers grammar quizzes for various difficulty levels.
- "[Grammar Games]"(https://learnenglishkids.britishcouncil.org/fun-games) - The British Council offers interactive grammar games.

- "[Virtual Classroom Ideas]"(https://uwaterloo.ca/centre-for-teaching-excellence/catalogs/tip-sheets/asynchronous-online-discussions-tips-for-instructors) - Ideas for adapting activities to a virtual classroom setting if needed.
- "[Online Grammar Checkers]"(https://www.grammarly.com/desktop) - Tools like Grammarly can help students find grammar mistakes in their texts.
- "[Bingo Card Creator]"(https://myfreebingocards.com/e/xvip3) - Create customized bingo cards with your vocabulary words.
- "[Short Play Ideas for Students]"(https://www.readwritethink.org/classroom-resources/lesson-plans) - Provides inspiration for creating short classroom plays.

Unit 3: Cultural Exploration

- "[Discussion Starters for Environmental Issues]"(https://www.forbes.com/sites/esri/2023/06/06/wwms---what-would-the-map-say--simple-we-can-save-ourselves/) - Forbes offers discussion prompts related to environmental issues.
- "[Video Recipes of Indian Dishes]"(https://m.youtube.com/c/EasyIndianRecipes) - YouTube offers a vast collection of Indian recipe tutorials.
- "[Websites with Indian Recipes]"(https://www.bbcgoodfood.com/recipes/collection/indian-recipes) - BBC Good Food offers a variety of Indian recipes with detailed instructions.
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Unit 4: Indian Folklore and Traditions

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I Year I Sem
Indian Traditions and Language Skills-Practical (CSS120-P)

L0 T0 P2 C1

Course Objectives: This course will enable students to:

1. Develop ability to analyze themes, and literary devices, fostering critical thinking and interpretation skills.
2. Enhance contemporary perspectives, facilitating a deeper understanding of cultural and societal evolution.
3. Develop the ability to critically assess and interpret information from diverse sources.

Course Outcomes (COs): Upon completion of this unit students will:

CO1: Apply reading, writing and interpretation skills of themes in literature, and contemporary issues.
CO2: Apply comprehension skills on technical communication.
CO3: Apply basic language skills in vocabulary building and basic grammar.

Articulation Matrix
(Program Articulation Matrix is formed by the strength of correlation of COs with POs and PSOs. The strength of correlation is indicated as 3 for substantial (high), 2 for moderate (medium) correlation, and 1 for slight (low) correlation)

CO / PO / PSO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO1 0	PO1 1	PO1 2	PSO 1	PSO 2	PSO 3	PSO 4
CO1	-	2	-	-	-	-	-	-	-	3	1	-	-	-	-	-
CO2	-	-	-	1	-	-	-	-	2	3	-	-	-	-	-	1
CO3	-	-	-	-	-	1	-	-	2	3	-	1	-	-	-	-

Practical Topics

1. Analyzing themes in literature
2. Exploring historical texts and their relevance
3. Understanding contemporary issues through written texts
4. Interpreting technical articles and research papers
5. Debating technology and its impact on society
6. Presenting technical information effectively
7. Engaging in group discussions.
8. Practicing oral presentations.
9. Conducting mock interviews.
10. Collaborative writing projects.

30 Hours

Reference(s)

1. "Understanding Indian Culture & Values" by D.R. Saini
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4. "Indian Culture, Art and Heritage" by Nitin Singhania
5. "Indian Culture: An Introduction" by K.M. Pannikar
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List of e-Learning Resource

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- "[Cultural Exchange Activities]"(https://eca.state.gov/about-bureau/organizational-structure/office-citizen-exchanges) - Global Citizen provides ideas for cultural exchange activities.

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- "[Discussion Starters for Environmental Issues]"(https://www.forbes.com/sites/esri/2023/06/06/wwms---what-would-the-map-say--simple-we-can-save-ourselves/) - Forbes offers discussion prompts related to environmental issues.
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I Year I Sem
Indian Traditions and Language Skills-Theory (CSS120-T)

L1 T1 P0 C2

Course Objectives: This course will enable students to:

1. Improve English language skills through exploring Indian culture.
2. Enhance intercultural understanding through comparison with students' own cultures.
3. Develop critical thinking and communication skills by engaging with diverse aspects of Indian culture.

Course Outcomes (COs): Upon completion of this unit students will:

CO1: Understand complex literary works and analyze the core theme of environment, social ethics.
CO2: Understand and apply comprehension skills through the analysis of texts on diverse engineering topics.
CO3: Apply proficiency in vocabulary building techniques to enhance their language skills.
CO4: Apply basic grammar concepts for effective English sentence construction and analysis.

Articulation Matrix
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CO2	-	-	-	1	-	-	2	-	-	3	-	-	-	-	-	1
CO3	-	2	-	-	-	-	-	-	-	3	-	1	-	-	-	-
CO4	-	2	-	-	-	-	-	-	-	3	-	1	-	-	-	-

Unit 1: Reading, Writing and Interpretation Skills **10 Hours**

- Where The Mind is Without Fear by Rabindranath Tagore **(Keyword: Patriotism)**
- National Education by M. K. Gandhi **(Keyword: Edification)**
- The Axe by R.K Narayan **(Keyword: Environment)**
- The Wonder That Was India- A.L Basham (an excerpt) **(Keyword: Indiannes**
- Preface to the Mahabharata C. Rajagopalachari (Keyword: Indian Mythology)

Unit 2: Comprehension Skills **12 Hours**

- Technological Innovations and Sustainable Development
- Artificial Intelligence in Modern Industry
- The Evolution of Renewable Energy Sources
- Cybersecurity in the Digital Age
- Innovations in Biomedical Engineering
- Climate Change and Its Impact on Engineering Practices

Unit 3: Basic Language Skills: Vocabulary Building **04 Hours**
Suffix, Prefix, Synonyms, Antonyms, Homophones, Homographs/Homonyms and One-word substitution.

Unit 4: Basic Language Skills: Basic Grammar **04 Hours**

Total: 30 Hours

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