

AC –  
Item No. –

**As Per NEP 2020**

**Tolani College of  
Commerce  
(Autonomous)**



Knowledge is Supreme

**Title of the Course: Imperative Programming**

**Programme: B.Sc(Information Technology) Semester I**

**Syllabus for 4 credit Course**

**From the academic year- 2024-2025**

## Name of the Course: Imperative Programming

Sr. No.	Heading	Particulars
1	<b>Description of the course</b>	C is an imperative procedural language, supporting structured programming, lexical variable scope, and recursion, with a static type system. It was designed to be compiled to provide low-level access to memory and language constructs that map efficiently to machine instructions, all with minimal runtime support.
2	<b>Vertical:</b>	Major
3	<b>Type:</b>	Theory and Practical
4	<b>Credit:</b>	4 credits (1 Credit = Theory and 1 Credit = Project Work)
5	<b>Hours Allotted:</b>	60 Hours
6	<b>Marks Allotted:</b>	100Marks Continuous Evaluation:40 Semester End Examination:60
7	<b>Course Objectives:</b>	<ol style="list-style-type: none"><li>1. To enable students to understand C programming language and its concepts</li><li>2. Write C Programs based on standalone applications</li><li>3. To help students develop complex programming skills in C language</li><li>4. To understand common data structures and algorithms used in imperative programming</li></ol>
8	<b>Course Outcomes:</b>	<ol style="list-style-type: none"><li>1. Understanding of Fundamentals of C programming language</li><li>2. Implementation of C functions, arrays in C programs</li><li>3. Student will be able to understand and apply practical concepts in C Programming</li><li>4. Student will be able to debug and troubleshoot imperative programs.</li></ol>

9	<b>Module1: Introduction to C, Fundamentals of C, Data Input and output. (15 Hours)</b>
	<ul style="list-style-type: none"> <li>• Types of Programming languages, History, features and application. Simple program logic, program development cycle, pseudocode statements and flowchart symbols</li> <li>• Structure of a program. Compilation and Execution of a Program, Character Set, identifiers and keywords, Data types, constants, variables and arrays, declarations, expressions, statements, Variable definition, symbolic constants</li> <li>• Single character input and output, entering input data, scanf function, printf function, gets and puts functions.</li> </ul>
	<b>Module2: Operators, Expressions, Conditional Statements Loops and Program structure (15 Hours)</b>
	<ul style="list-style-type: none"> <li>• Arithmetic operators, unary operators, relational and logical operators, assignment operators, the conditional operator, library functions.</li> <li>• Decision Making Within A Program, Conditions, Relational Operators, Logical Connectives, If Statement, If-Else Statement.</li> <li>• Storage classes, automatic variables, external variables, static variables, multi file programs, more library functions.</li> </ul>
	<b>Module3: Pre-processor and Functions (15 Hours)</b>
	<ul style="list-style-type: none"> <li>• Features, #define and #include, Directives and Macros, Arrays</li> <li>• Overview, defining a function, accessing a function, passing arguments to a function, specifying argument data types, function prototypes, recursion, modular programming and functions.</li> <li>• Standard library of c functions, prototype of a function: parameter list, return type, function call, block structure, Passing arguments to a function: call by reference, call by value.</li> </ul>
	<b>Module4: Pointers, Arrays, Unions (15 Hours)</b>
	<ul style="list-style-type: none"> <li>• Fundamentals, declarations, Pointers Address Operators, Pointer Type Declaration, Pointer Assignment, Pointer Initialization, Pointer Arithmetic, Functions and Pointers, Arrays And Pointers</li> <li>• Structure Variables, Initialization, Structure Assignment, Nested Structure, Structures and Functions.</li> <li>• Unions, Basic Examples Modes, File Pointer and their Manipulation</li> </ul>

11	<b>Reference Books:</b> <ul style="list-style-type: none"> <li>• <b>Author:</b> Programming Logic and Design, <b>Title:</b> Joyce Farrell, <b>Publisher:</b> Cengage Learning, 8<sup>th</sup> Edition, <b>Year:</b> 2017</li> <li>• <b>Link:</b> <a href="https://e-next.in/bsc-it/sem1/imperative-programming/">https://e-next.in/bsc-it/sem1/imperative-programming/</a></li> </ul>																				
12	<b>InternalContinuousAssessment:40%</b>	<b>Semester End Examination : 60%</b>																			
13	<b>Continuous Evaluation through:</b>	<b>Practical Assessment</b>																			
14	<b>Format of question paper:</b> <table border="1" style="margin: 10px auto; width: 80%;"> <thead> <tr> <th colspan="3" style="text-align: center;"><b>Scheme of Evaluation Pattern</b></th> </tr> <tr> <th colspan="3" style="text-align: center;"><b>Table 1A: Scheme of Continuous Evaluation (CE/Practical)</b></th> </tr> <tr> <th colspan="3" style="text-align: center;"><b>Scheme of Evaluation Pattern</b></th> </tr> <tr> <th style="width: 50%;">Sub-components</th> <th style="width: 20%;">Maximum Marks</th> <th style="width: 30%;">Conditions for passing</th> </tr> </thead> <tbody> <tr> <td>1) Practical exam</td> <td style="text-align: center;">30</td> <td rowspan="3" style="vertical-align: top;">a) A learner must be present for each of the sub-components.</td> </tr> <tr> <td>2) Journal and Viva</td> <td style="text-align: center;">10</td> </tr> <tr> <td style="text-align: center;">Total</td> <td style="text-align: center;">40</td> </tr> </tbody> </table> <p style="text-align: center; margin-top: 20px;"><b>Table 1B: Scheme of Semester End Examination (SEE) Evaluation</b>  <b>Question Paper Pattern for Semester End Examination (SEE)</b>  <b>Maximum Marks: 60</b> <span style="float: right;"><b>Duration: 2 Hrs.</b></span></p> <p style="text-align: center;">Note: All questions are compulsory. Each question has an internal choice.</p>		<b>Scheme of Evaluation Pattern</b>			<b>Table 1A: Scheme of Continuous Evaluation (CE/Practical)</b>			<b>Scheme of Evaluation Pattern</b>			Sub-components	Maximum Marks	Conditions for passing	1) Practical exam	30	a) A learner must be present for each of the sub-components.	2) Journal and Viva	10	Total	40
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Total	40																				

Question Number	Nature of Questions	Maximum Marks
1)	<b>Attempt any Three</b>	
a)		15
b)		
c)		
d)		
e)		
2)	<b>Attempt any Three</b>	15
a)		
b)		
c)		
d)		
e)		
3)	<b>Attempt any Three</b>	15
a)		
b)		
c)		
d)		
e)		
4)	<b>Attempt any Three</b>	15
a)		
b)		
c)		
d)		
e)		

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**Title of the Course: Principles of Programming and Flowchart**

**Program: Bachelor of Science (Information Technology) Semester I**

**Syllabus for 2 credit Course**

**From the academic year-2024-2025**

## Name of the Course: Principles of Programming and Flowchart

Sr. No.	Heading	Particulars
1	<b>Description of the course : :</b>	<p>A <b>flowchart</b> is a visual representation of a process or algorithm, using various shapes and arrows to depict the sequence of steps. It provides a clear and concise way to illustrate the flow of information, decision points, and the order of operations within a system. Here are the key components and characteristics of a flowchart:</p> <p><b>Introduction to programming</b> is a fundamental exploration of the principles, concepts, and practices involved in computer programming. Programming is the process of designing and building executable computer code to accomplish a specific task or solve a problem. It involves creating a set of instructions that a computer can understand and execute. Here are key components and concepts in the introduction to programming:</p>
2	<b>Vertical :</b>	Major
3	<b>Type :</b>	Theory
4	<b>Credit:</b>	2 credits (1 Credit = Theory and 1 Credit = Project Work)
5	<b>Hours Allotted :</b>	30 Hours
6	<b>Marks Allotted:</b>	50 Marks Continuous Evaluation: 20 Marks Semester-End: 30 Marks
7	<b>Course Objectives:</b>	<ol style="list-style-type: none"> <li>1. To visually represent the flow of a process, algorithm, or system using standardized symbols and connectors</li> <li>2. To guide the development of high-quality software that is efficient, maintainable, understandable, and scalable</li> </ol>
8	<b>Course Outcomes:</b>	<ol style="list-style-type: none"> <li>1. Clarify the process understanding, problem solving and decision making</li> <li>2. Code quality improvement, reduce complexity and scalability</li> </ol>

9	<p><b>Module 1: Introduction to Flowcharts, its symbols and constructs , types (15 Hours)</b></p> <ul style="list-style-type: none"> <li>• Definition and purpose of flowcharts, Importance of flowcharts in programming and process design, Overview of symbols and conventions used in flowcharting</li> <li>• Start and End symbols, Process symbols, Input/output symbols, Decision symbols, Connector symbols, Database design and ER Model: Constraints, ER Diagrams, Codd's rules, Relational Schemas</li> <li>• Linear sequence flowcharts, Multi-directional flowcharts, Data flow diagrams (DFDs) Program flowcharts</li> <li>• Problem-solving and algorithm design, Program development and debugging, Process analysis and optimization</li> </ul> <p><b>Module 2: Introduction to Programming, Variables , Algorithm Design (15 Hours)</b></p> <ul style="list-style-type: none"> <li>• Definition of programming, Importance and applications of programming</li> <li>• Overview of programming languages and paradigms, Basic Concepts</li> <li>• Operators and expressions, Input and output operations, Basic control structures (e.g., sequence, selection, iteration)</li> <li>• Introduction to algorithms and problem-solving techniques Analysis of algorithms (e.g., time complexity, space complexity) Basic algorithm design paradigms (e.g., brute force, divide and conquer, dynamic programming)</li> </ul>
10	<p><b>Reference Books:</b></p> <ul style="list-style-type: none"> <li>• <b>Author:</b> A. B. Chaudhur, <b>Title:</b> The Art of Programming through Flowcharts &amp; Algorithms, <b>Publisher:</b> David Pallai, <b>Year:</b> 2020</li> </ul>

11	Internal Continuous Assessment: 40%	Semester End Examination : 60%																																									
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13	<p><b>Format of Question Paper:</b></p> <p style="text-align: center;"><b>Scheme of Evaluation Pattern</b>  <b>Table 1A: Scheme of Continuous Evaluation (CE/Practical)</b>  <b>Scheme of Evaluation Pattern</b></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Sub-components</th> <th>Maximum Marks</th> <th>Conditions for passing</th> </tr> </thead> <tbody> <tr> <td>1) Presentation/assignment</td> <td>10</td> <td rowspan="3">A learner must be present for each of the sub-components.</td> </tr> <tr> <td>2) MCQ based test</td> <td>10</td> </tr> <tr> <td>Total</td> <td>20</td> </tr> </tbody> </table> <p style="text-align: center;"><b>Table 1B: Scheme of Semester End Examination (SEE) Evaluation</b>  <b>Question Paper Pattern for Semester End Examination (SEE)</b>  <b>Maximum Marks: 30</b> <span style="float: right;"><b>Duration: 1 Hrs.</b></span>  Note: All questions are compulsory. Each question has an internal choice.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Question Number</th> <th>Nature of Questions</th> <th>Maximum Marks</th> </tr> </thead> <tbody> <tr> <td>1)</td> <td><b>Attempt any 3</b></td> <td></td> </tr> <tr> <td></td> <td>a)</td> <td rowspan="5">15</td> </tr> <tr> <td></td> <td>b)</td> </tr> <tr> <td></td> <td>c)</td> </tr> <tr> <td></td> <td>d)</td> </tr> <tr> <td></td> <td>e)</td> </tr> <tr> <td>2)</td> <td><b>Attempt any 3</b></td> <td></td> </tr> <tr> <td></td> <td>a)</td> <td rowspan="5">15</td> </tr> <tr> <td></td> <td>b)</td> </tr> <tr> <td></td> <td>c)</td> </tr> <tr> <td></td> <td>d)</td> </tr> <tr> <td></td> <td>e)</td> </tr> </tbody> </table>		Sub-components	Maximum Marks	Conditions for passing	1) Presentation/assignment	10	A learner must be present for each of the sub-components.	2) MCQ based test	10	Total	20	Question Number	Nature of Questions	Maximum Marks	1)	<b>Attempt any 3</b>			a)	15		b)		c)		d)		e)	2)	<b>Attempt any 3</b>			a)	15		b)		c)		d)		e)
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AC  
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# **As Per NEP 2020**

## **Tolani College of Commerce (Autonomous)**



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**Title of the Course: Introduction to Intellectual Property Rights Law**  
**Programmes: Bachelor of Commerce(Management Studies)/Bachelor of Commerce (Accounting and Finance)/Bachelor of Commerce (Banking and Insurance)/Bachelor of Commerce (Financial Markets)/Bachelor of Science (Information Technology)**  
**Semester: I**

**Syllabus for 4 Credit Course**  
**From the academic year: 2024-2025**

## Name of the Course: Introduction to Intellectual Property Rights Law

Sr. No.	Heading	Particulars
1	<b>Description of the course:</b>	Intellectual property rights (IPR) have, in recent years, emerged as perhaps the most important S&T policy instrument. With its growing presence, however, it has also been subjected to intense criticism. Moreover, the structure of the institution itself has undergone periodic changes with incorporations of newer subject matters into its ambit. This course intends to provide an analytical overview of the content and structure of the institution of IPR along with its evolutionary trajectory. In a nutshell, the course will cover the philosophy of intellectual property rights, various technical and legal dimensions of IPR, and implications of IPR for growth and development of science, along with the various socio-economic and ethic-legal consequences of IPR on economic development. Several case studies will be undertaken in the context of India.
2	<b>Vertical:</b>	Open Elective
3	<b>Type:</b>	Theory
4	<b>Credit:</b>	4 Credits
5	<b>Hours Allotted:</b>	60 Hours
6	<b>Marks Allotted:</b>	100 Marks Continuous Evaluation: 40 Semester-End: 60
7	<b>Learning Objectives</b>	<ul style="list-style-type: none"> <li>• To introduce fundamental aspects of Intellectual Property Rights and Trade Marks to learners who are going to play a major role in development and management of innovative projects in industries.</li> <li>• To disseminate knowledge on copyrights and trade secrets and its related rights and registration aspects</li> <li>• To disseminate knowledge on patents, patent regime in India and abroad and registration aspects</li> </ul>

	<ul style="list-style-type: none"> <li>To make the learners aware about current trends in IPR.</li> </ul>
8	<p><b>Learning Outcomes</b></p> <p><b>Enables the learners to</b></p> <ul style="list-style-type: none"> <li>Have good knowledge about Intellectual Property Rights and Trade Marks</li> <li>Have knowledge on copyrights and trade secrets and its related rights and registration aspects.</li> <li>Have knowledge on patents, patent regime in India and abroad and registration aspects</li> <li>Becomes aware about the new developments of Intellectual Property.</li> </ul>
9	<p><b>Syllabus</b></p> <p><b>Module.1. Introduction To Intellectual Property and Trade Mark (15 Hours)</b></p> <ul style="list-style-type: none"> <li><b>Introduction:</b> Types of Intellectual Property, International Organizations, Agencies and Treaties, Importance of Intellectual Property Rights.</li> <li><b>Trade Marks:</b> Purpose And Function of Trade Marks, Acquisition of Trade Mark Rights, Protectable Matter, Selecting and Evaluating Trade Mark, Trade Mark Registration Processes.</li> </ul> <p><b>Module.2. Copyright and Trade Secrets (~ 15 Hours)</b></p> <ul style="list-style-type: none"> <li><b>Law Of Copy Rights:</b> Fundamental of Copy Right Law, Originality Of Material, Rights of Reproduction, Rights To Perform The Work Publicly, Copy Right Ownership Issues, Copy Right Registration, Notice of Copy Right, International Copy Right Law.</li> <li><b>Trade Secrets:</b> Trade Secrete Law, Determination of Trade Secrete Status, Liability for Misappropriations of Trade Secrets, Protection for Submission, Trade Secrete Litigation. Unfair Competition- Misappropriation Right of Publicity, False Advertising.</li> </ul> <p><b>Module.3. Patent Rights (15 Hours)</b></p> <ul style="list-style-type: none"> <li><b>Patent Rights:</b> Purpose, what is patentable and not patentable, Legal Aspect of Filing a Patent, Specification and Opposition Process under Patent Law from Business Perspective.</li> <li><b>Patent Infringement and Legal Issues:</b> Licensing of Patent and Business Concerns, Transfer of Technology and Legal Requirements, Utility Patents, Should India have Business Method Patents?, Can Software's be Patented?</li> </ul> <p><b>Module.4. New Developments of Intellectual Property (15 Hours)</b></p> <ul style="list-style-type: none"> <li>New Developments of Intellectual Property: New Developments in Trade Mark Law; Copy Right Law, Patent Law, Intellectual Property Audits.</li> <li>International Overview on Intellectual Property, International – Trade Mark Law, Copy Right Law, International Patent Law, International Development in Trade Secrets Law.</li> </ul>
10	<p><b>References</b></p> <ul style="list-style-type: none"> <li><b>Acharya, N.K.</b> 2014. Text book of Intellectual Property Rights. Asia Law House, Hyderabad.</li> <li><b>Loganathan, E.T.</b> 2012. Intellectual Property Rights. New Century Publications, New Delhi.</li> <li><b>Rosedar, S.R.A.</b> 2016. Intellectual Property Rights. Lexis Nexis (2nd Ex.) Nagpur.</li> <li><b>Sreenivasulu NS.</b> Intellectual Property Rights Dynamic Interfaces published by Universal Law Publishing. 1<sup>st</sup> Edition 2017. ISBN: 9788131250631.</li> <li><b>Iyengar.</b> Commentary on Trade Marks Act - Including Schedules, Rules, Notifications, Treaties, Conventions and much more published by Universal Law Publishing. 5<sup>th</sup> Edition 2016. ISBN: 9789350356463.</li> <li><b>Verma Trilochan.</b> Intellectual Property Protection Handbook published by Universal Law</li> </ul>

	Publishing. 1 <sup>st</sup> Edition 2015. ISBN: 9789350355985.		
<b>11</b>	<b>Internal Continuous Assessment: 40%</b>	<b>Semester End Examination: 60%</b>	
<b>12</b>	<b>Continuous Evaluation through:</b>		
	<b>Sub-components</b>	<b>Maximum Marks</b>	<b>Conditions for passing</b>
	1) 1 <sup>st</sup> Project/ Report work	10	a) A learner must be present for each of the sub-components.
	2) 2 <sup>nd</sup> Project/ Report work	10	
	3) Case Study analyses in the classroom	10	
	4) 10 Objective Questions (1 MCQ of 1 mark each)	10	
	Total	40	
<b>13</b>	<b>Format of question paper</b> Maximum Marks: 60 <span style="float: right;">Duration: 2 Hour.</span> All Questions are Compulsory Carrying 15 Marks each.		
	<b>Question No</b>	<b>Particular</b>	<b>Marks</b>
	Q-1	(From Module I) a. Theory (08 Marks) b. Theory (07 Marks) OR c. Theory (08 Marks) d. Theory (07 Marks)	15 Marks
	Q-2	(From Module II) a. Theory (08 Marks) b. Theory (07 Marks) OR c. Theory (08 Marks) d. Theory (07 Marks)	15 Marks
	Q-3	(From Module III) a. Theory (08 Marks) b. Theory (07 Marks) OR c. Theory (08 Marks) d. Theory (07 Marks)	15 Marks
	Q-4	(From Module IV) a. Theory (08 Marks) b. Theory (07 Marks) OR c. Theory (08 Marks) d. Theory (07 Marks)	15 Marks

**Signature/s of Team Member/s**

Sr.No	Name	Signature
1.	Dr. Hema Mehta	

**As Per NEP 2020**

**Tolani College of  
Commerce  
(Autonomous)**



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**Title of the Course: Wonders of the Living World- I (Plants)**

**Name of the Programmes:**

1. Bachelor of Commerce (Management Studies)
2. Bachelor of Commerce (Accountancy & Finance)
3. Bachelor of Commerce (Banking & Insurance)
4. Bachelor of Commerce (Financial Markets)
5. Bachelor of Science (Information Technology)

**Semester I**

**Syllabus for 4 Credit Course**

**From the academic year- 2024-2025**

## Name of the Course: Wonder of the Living World- I (Plants)

Sr. No.	Heading	Particulars
1	<b>Description the course:</b>	The course is an introductory to the world of plants. It the offer insights into the evolution of plants, their types as well as adaptation. It also discusses the distribution and biogeography of plants.
2	<b>Vertical:</b>	Open Electives
3	<b>Type:</b>	Theory
4	<b>Credit:</b>	4 credits
5	<b>Hours Allotted:</b>	60 Hours
6	<b>Marks Allotted:</b>	100 Marks Continuous Evaluation 40 Marks Semester End Examination 60 Marks
7	<b>Course Objectives:</b> By end of this course learners should be: <ol style="list-style-type: none"><li>1. introduced to the world of plants</li><li>2. able to understand the propagation mechanism in plants</li><li>3. able to understand adaptations in plants</li><li>4. able to understand the role of plants in environment</li></ol>	
8	<b>Course Outcomes:</b> The learners shall be able to: <ol style="list-style-type: none"><li>1. identify various types of plants by observing the parts of the plants</li><li>2. appreciate the methods plants employ to spread across the globe</li><li>3. appreciate the survival instincts in plants</li><li>4. appreciate the role of plants as indicator species</li></ol>	

9	<p><b>Module 1: Introduction to the world of plants (15 Hours)</b></p> <ol style="list-style-type: none"> <li><b>1. Know the plants:</b> Definition, Characteristics, Evolution</li> <li><b>2. Types of plants:</b> Classification of plants as on the basis of their stem- Trees, Shrubs, Herbs; life cycle- annual and perennial; propagation- Flowering and non-flowering</li> <li><b>3. Parts of plants:</b> Types of roots, stem, leaves, flowers and fruits</li> </ol> <p><b>Module 2: Colonising the world (15 Hours)</b></p> <ol style="list-style-type: none"> <li><b>1. Propagation in plants:</b> Definition; Types- Vegetative propagation, Binary fission, Fragmentation, Budding, Spore formation</li> <li><b>2. Pollination:</b> Definition; Process; Types of pollinators</li> <li><b>3. Seed dispersal:</b> Definition; Types of seeds; Mechanisms for seed dispersal- wind, water, animals</li> </ol> <p><b>Module 3: Adaptations in plants (15 Hours)</b></p> <ol style="list-style-type: none"> <li><b>1. Adaptations to overcome extreme condition:</b> Heat and Cold; Water stress, Excess water</li> <li><b>2. Adaptation to competition:</b> Sunlight, Water, Nutrients</li> <li><b>3. Adaptation for defense/ protection:</b> Toxins; Thorns and spines; Unpalatability</li> </ol> <p><b>Module 4: Role of plants (15 Hours)</b></p> <ol style="list-style-type: none"> <li><b>1. Plant associations:</b> Definition; Types- Symbiosis, Parasitism, Mutualism, Competition, Commensalism</li> <li><b>2. Plants as indicators:</b> Soil, Air and Water quality; Environmental degradation</li> <li><b>3. Plant biogeography:</b> Definition; Concept of biomes; Endemic, Native and Invasive plants</li> </ol>
10	<p><b>Reference Books:</b></p> <ol style="list-style-type: none"> <li>1. Brooker Rob W. Plant–plant interactions and environmental change New Phytologist, 23 June 2006 <a href="https://doi.org/10.1111/j.1469-8137.2006.01752.x">https://doi.org/10.1111/j.1469-8137.2006.01752.x</a></li> <li>2. Chamovitz Daniel What a Plant Knows: A Field Guide to the Senses Scientific American / Farrar, Straus and Giroux; Reprint edition (30 April 2013) 192 pages ISBN-10: 0374533881 ISBN-13: 978-0374533885</li> <li>3. Chapman and Riss: Ecology, Principles and application (Cambridge University Press)</li> <li>4. Hanson Thor The Triumph of Seeds: How Grains, Nuts, Kernels, Pulses, and Pips Conquered the Plant Kingdom and Shaped Human History Basic Books; Reprint edition (8 March 2016) 320 pages ISBN-10 : 0465097405 ISBN-13 : 978-0465097401</li> <li>5. Kochhar, S.L. (2012). Economic Botany in Tropics. New Delhi, India: MacMillan &amp; Co.</li> <li>6. Kormondy, E.J. (1996). Concepts of Ecology. Prentice Hall, U.S.A. 4<sup>th</sup> edition.</li> <li>7. Majumdar, R and Kashyap, R (2019). Practical Manual of Ecology and Environmental Science, New Delhi, India: Prestige Publishers</li> <li>8. Mani, M.S.: Bio-geography of Indi, (Springer Verlag)</li> <li>9. Odum, E.P.: Fundamentals of Ecology, (Rastogi Pub)</li> <li>10. Oliver Daniel, First Book of Indian Botany (Paperback) (London: Macmillan and Co. 1869.) Gyan Publishing House 2023 412 pages ISBN: 9788121292924</li> <li>11. Patnaik Naveen The Garden of Life: An Introduction to The Healing Plants of India Doubleday (1 October 1993)</li> <li>12. Sharma, P.D. (2010) Ecology and Environment. Rastogi Publications, Meerut, India. 8<sup>th</sup> edition.</li> </ol>

	<p>13. Singh, J.S., Singh, S.P., Gupta, S. (2006). Ecology, Environment and Resource Conservation. New Delhi, India: Anamaya Publications. Shukla, R.S. &amp; Chandal, P.S.: Plant Ecology, (S. Chand &amp; Co)</p> <p>14. Verma, P.S. &amp; Agarwal, V.K.: Concept of Ecology, (S. Chand and Sons Co.)</p>
<b>11</b>	<p><b>Other Readings:</b></p> <ol style="list-style-type: none"> <li>1. <a href="https://www.thinktrees.org/wp-content/uploads/2019/07/Plant-Adaptations.pdf">https://www.thinktrees.org/wp-content/uploads/2019/07/Plant-Adaptations.pdf</a></li> <li>2. <a href="https://ncert.nic.in/textbook/pdf/fesc104.pdf">https://ncert.nic.in/textbook/pdf/fesc104.pdf</a></li> <li>3. <a href="https://education.nationalgeographic.org/resource/adaptation-and-survival/">https://education.nationalgeographic.org/resource/adaptation-and-survival/</a></li> </ol>
<b>12</b>	<p><b>Websites:</b></p> <ol style="list-style-type: none"> <li>1. <a href="https://www.iucnredlist.org/">https://www.iucnredlist.org/</a></li> <li>2. <a href="https://www.kew.org/">https://www.kew.org/</a></li> <li>3. <a href="https://bsi.gov.in/">https://bsi.gov.in/</a></li> <li>4. <a href="https://blatterherbarium.org/">https://blatterherbarium.org/</a></li> </ol>

<b>13</b>	<b>Internal Continuous Assessment: 40%</b>	<b>Semester End Examination: 60%</b>																											
<b>14</b>	<b>Continuous Evaluation through:</b>	1. Fieldwork-based project work and report or assignment or presentation or report-writing or article/ book review or topic-based activity	15 marks																										
		2. Fieldwork-based project work and report or assignment or presentation or report-writing or article/ book review or topic-based activity	15 marks																										
		3. MCQ Based Test	10 marks																										
		<b>Total</b>	<b>40 marks</b>																										
<b>15</b>	<b>Format of Question Paper:</b>																												
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Question Number	Nature of Questions	Maximum Marks																											
1)	Attempt any THREE of the following: (From Module I)	15																											
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	A.																												
	B.																												
	C.																												

### Signatures of Team Members

Sr. No.	Name	Signature
1.	Mr. Kaustubh Bhagat	

AC –

Item No. –

# As Per NEP 2020

## Tolani College of Commerce (Autonomous)



### Title of the Course: Introduction to Modern British Literature (Semester I)

#### Programmes:

Bachelor of Commerce (Management Studies)
Bachelor of Commerce (Accounting & Finance)
Bachelor of Commerce (Banking & Insurance)
Bachelor of Commerce (Financial Markets)
Bachelor of Science (Information Technology)

Syllabus for 4 Credit Course from the Academic Year 2024-2025

## Name of the Course: Introduction to Modern British Literature

Sr. No.	Heading	Particulars
1	<p><b>Description of the course :</b></p> <p><b>Including but not limited to :</b></p>	<p>This course delves into Modern British English Literature, introducing students to fundamental literary terms.</p> <p>Identification, comprehension, and influence on the writing of that era</p>
2	<b>Vertical :</b>	Open Elective
3	<b>Type :</b>	Theory
4	<b>Credit :</b>	4 credits
5	<b>Hours Allotted :</b>	60 Hours
6	<b>Marks Allotted :</b>	100 Marks Continuous Evaluation 40 marks and Semester End Examination 60 marks
7	<p><b>Course Objectives:</b></p> <ol style="list-style-type: none"> <li>1. To recognize and define basic literary terms used in Modern British English Literature</li> <li>2. To gain a foundational understanding of literary concepts.</li> <li>3. To analyse major literary works across eras</li> <li>4. To foster an appreciation for reading as a pleasurable and enriching activity.</li> </ol>	
8	<p><b>Course Outcomes:</b></p> <ol style="list-style-type: none"> <li>1. Ability to recognize and define basic literary terms commonly used in Modern British English Literature.</li> <li>2. Understand fundamental literary concepts, providing them with a framework for advanced literary analysis.</li> <li>3. Develop critical analysis skills through the exploration of major works</li> <li>4. Ability to analyse themes, historical context, and cultural influences in Modern British English Literature.</li> </ol>	

9	<b>Module 1: Foundations of Modern British English Literature (15 Hours)</b>
	<p><b>Introduction to Literature and Literary Terms:</b></p> <ul style="list-style-type: none"> <li>▶ Defining Modernism in Literature and Basic Literary Terms</li> <li>▶ Historical and Cultural Context of the Early 20th Century</li> <li>▶ Major themes and characteristics across literary periods, historical and social influences</li> </ul>
	<b>Module 2: Impact of Wars and Literary Innovation (15 Hours)</b>
	<p><b>The Early 20th Century and World Wars:</b></p> <ul style="list-style-type: none"> <li>▶ Overview of the impact of World War I and II on literature</li> <li>▶ Virginia Woolf: "Mrs Dalloway"</li> <li>▶ Wilfred Owen: "Dulce et Decorum est"</li> </ul>
	<b>Module 3: Post-War Realities: Reflections in British Fiction and Drama (15 Hours)</b>
	<p><b>Post-War British Fiction and Drama:</b></p> <ul style="list-style-type: none"> <li>▶ Understanding the post-war literary landscape</li> <li>▶ George Orwell: "1984"</li> <li>▶ Oscar Wilde: "The Importance of Being Earnest"</li> </ul>
	<b>Module 4: Trends and Voices in Modern British Literature (15 Hours)</b>
	<p><b>Contemporary British Literature:</b></p> <ul style="list-style-type: none"> <li>▶ Discussion on current trends and emerging voices</li> <li>▶ Paula Hawkins: "The Girl on the Train"</li> <li>▶ J.K. Rowling: Selections from the "Harry Potter" series</li> </ul>
10	<p><b>Secondary Reading List:</b></p> <ul style="list-style-type: none"> <li>● "The Cat That Walked by Himself" by Rudyard Kipling</li> <li>● "The Signalman" by Charles Dickens</li> <li>● "Great Expectations" by Charles Dickens</li> <li>● "Jane Eyre" by Charlotte Bronte</li> <li>● "Little Women" by Louisa May Alcott</li> <li>● "Pride and Prejudice" by Jane Austen</li> <li>● "To the Lighthouse" by Virginia Woolf</li> <li>● "Dubliner" by James Joyce</li> <li>● "Ulysses" by James Joyce</li> <li>● "And Then There Were None" by Agatha Christie</li> <li>● "Atonement" by Ian McEwan</li> <li>● "White Teeth" by Zadie Smith</li> </ul>

<b>11</b>	<b>Internal Continuous Assessment: 40%</b>	<b>Semester End Examination: 60%</b>	
<b>12</b>	<b>Continuous Evaluation through: (40 marks)</b>	1) Class Plays, Readers Discussion, Critical Analysis Essay, Book Review (30 marks) 2) MCQ Based Test (10 marks)	A learner must be present for each of the sub-components
<b>13</b>	<b>Format of SEE Question Paper: (60 marks)</b>		
	<b>Question No.</b>	<b>Nature of Question</b>	<b>Maximum Marks</b>
	<b>Q-1</b>	Answer in Detail: (attempt any 3 of 4) a) b) c) d)	15 Marks
	<b>Q-2</b>	Answer in Detail: (attempt any 3 of 4) a) b) c) d)	15 Marks
	<b>Q-3</b>	Answer in Detail: (attempt any 3 of 4) a) b) c) d)	15 Marks
	<b>Q-4</b>	Answer in Detail: (attempt any 3 of 4) a) b) c) d)	15 Marks

### Signatures of Team Members

<b>Sr.No.</b>	<b>Name</b>	<b>Signature</b>
1.	Ms. Amrita Nambiar	
2.	Ms. Jacinta Ashita Tigga	

AC –  
Item No. –

**As Per NEP 2020**

**Tolani College of  
Commerce  
(Autonomous)**



Knowledge is Supreme

**Title of the Course: Advanced Excel**

**Programme : Bachelor of Science (Information Technology) Semester I**

**Syllabus for 2 credit Course**

**From the academic year-2024-2025**

## Name of the Course: Advanced Excel

Sr. No.	Heading	Particulars
1	<b>Description of the course :</b>	Advanced Excel" typically refers to an elevated level of proficiency in using Microsoft Excel, a popular spreadsheet software. Individuals with advanced Excel skills are adept at leveraging the software's powerful features to analyze data, create complex models, automate tasks, and generate insightful reports. Here's a more detailed description of advanced Excel skills:
2	<b>Vertical :</b>	Vocational Skill Course
3	<b>Type :</b>	Theory and Practical
4	<b>Credit:</b>	2 credits (1 Credit = Theory and 1 Credit = Project Work)
5	<b>Hours Allotted :</b>	30 Hours
6	<b>Marks Allotted:</b>	50 Marks Continuous Evaluation: 20 Marks Semester-End: 30 Marks
7	<b>Course Objectives:</b>	<ol style="list-style-type: none"> <li>1. To provide learners with an overall introduction and formulas of MS Excel</li> <li>2. To familiarize learners with useful features of Ms excel</li> </ol>
8	<b>Course Outcomes:</b>	<ol style="list-style-type: none"> <li>1. Understand the horizon and scope of MS Excel basic features and formulas</li> <li>2. Effective use of Excel with its strong features</li> </ol>

<b>9</b>	<b>Modules:-</b>
	<b>Module 1: Fundamental Concepts and Formulas in Excel (15 Hours)</b>
	<ul style="list-style-type: none"> <li>• Creating/Saving and editing spreadsheets Drawing charts.</li> <li>• Using Basic Functions: text, math &amp; trig, statistical, date &amp; time, database, financial, logical Using Advanced Functions:</li> <li>• Use of VLookup/HLookup Data analysis – sorting data, filtering data (AutoFilter, Advanced Filter) creating sub-totals and grand totals.</li> </ul>
	<b>Module 2: Processing data in Excel (15 Hours)</b>
<b>10</b>	<ul style="list-style-type: none"> <li>• Data consolidation. Data Validation,</li> <li>• Graphical representation of Data,</li> <li>• <b>Functions:</b> Statistical, conditional, string , Integer</li> </ul>
	<b>Reference Books:</b> <ul style="list-style-type: none"> <li>• <b>Author:</b> Greg Harvey <b>Title:</b> Excel 2019 All-in-One For Dummies <b>Publisher:</b> Wiley <b>Year : 2018</b></li> <li>• <b>Author :</b> Michael Alexander, Dick Kusleika, <b>Title:</b> Microsoft Excel 365 Bible, <b>Publisher:</b> Wiley <b>Year:2022</b></li> </ul>

<b>1</b>	<b>Internal Continuous Assessment: 40%</b>	<b>Semester End Examination : 60%</b>										
<b>12</b>	<b>Continuous Evaluation through:</b>	Practical Assessment										
<b>13</b>	<b>Format of Question Paper:</b> <p style="text-align: center;"><b>Scheme of Evaluation Pattern</b>  <b>Table 1A: Scheme of Continuous Evaluation (CE/Practical)</b>  <b>Scheme of Evaluation Pattern</b></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Sub-components</th> <th>Maximum Marks</th> <th>Conditions for passing</th> </tr> </thead> <tbody> <tr> <td>1) Project</td> <td>15</td> <td rowspan="3">A learner must be present for each of the sub-components.</td> </tr> <tr> <td>2) Journal and Viva</td> <td>5</td> </tr> <tr> <td style="text-align: center;">Total</td> <td>20</td> </tr> </tbody> </table>		Sub-components	Maximum Marks	Conditions for passing	1) Project	15	A learner must be present for each of the sub-components.	2) Journal and Viva	5	Total	20
Sub-components	Maximum Marks	Conditions for passing										
1) Project	15	A learner must be present for each of the sub-components.										
2) Journal and Viva	5											
Total	20											

**Table 1B: Scheme of Semester End Examination (SEE) Evaluation  
Question Paper Pattern for Semester End Examination (SEE)**

**Maximum Marks: 30**

**Duration: 1 Hrs.**

Note: All questions are compulsory. Each question has an internal choice.

Question Number	Nature of Questions	Maximum Marks
1)	<b>Attempt any 3</b>	
a)		15
b)		
c)		
d)		
e)		
2)	<b>Attempt any 3</b>	
a)		15
b)		
c)		
d)		
e)		

AC –  
Item No. –

**As Per NEP 2020**

**Tolani College of  
Commerce  
(Autonomous)**



Knowledge is Supreme

**Title of the Course: Green Computing**

**Programme: B.Sc(Information Technology) Semester I**

**Syllabus for 2 credit Course**

**From the academic year- 2024-2025**

**Name of the Course: Green Computing**

<b>Sr. No.</b>	<b>Heading</b>	<b>Particulars</b>
<b>1</b>	<b>Description of the course :</b>	Green computing, or sustainable computing, is the practice of maximizing energy efficiency and minimizing environmental impact in the ways computer chips, systems and software are designed and used.
<b>2</b>	<b>Vertical :</b>	Skill Enhancement Course
<b>3</b>	<b>Type :</b>	Theory and Project
<b>4</b>	<b>Credit:</b>	2 credits (1 Credit = Theory and 1 Credit = Project Work)
<b>5</b>	<b>Hours Allotted :</b>	30 Hours
<b>6</b>	<b>Marks Allotted:</b>	50 Marks Continuous Evaluation: 20 Marks Semester-End: 30 Marks
<b>7</b>	<b>Course Objectives:</b> <b>1.</b> To decrease the use of dangerous chemicals, maximize energy efficiency throughout the product's lifecycle. <b>2.</b> To maximize recyclability or biodegradability of obsolete manufacturing and production garbage.	
<b>8</b>	<b>Course Outcomes:</b> <b>1.</b> Learn about green assets, modelling and information systems <b>2.</b> Obtain the fundamentals of green computing and its IT strategies	

9	<b>Module 1: Overview Issues and Initiatives, Minimizing Power Usage (15 Hours)</b>
	<ul style="list-style-type: none"> <li>• Problems: Toxins, Power Consumption, Equipment Disposal, Company's Carbon Footprint: Measuring, Details, reasons to bother, Plan for the Future, Cost Savings: Hardware, Power.</li> <li>• Global Initiatives: United Nations, Basel Action Network, Basel Convention, WEEE Directive, RoHS, National Adoption, Asia: Japan, China, Korea.</li> <li>• Power Problems, Monitoring Power Usage, Servers, Low-Cost Options, Reducing Power Use, Data De-Duplication, Virtualization, Management, Bigger Drives, Involving the Utility Company, Low- Power Computers.</li> </ul>
	<b>Module 2: Recycling, Going Paperless, Staying Green (15 Hours)</b> <ul style="list-style-type: none"> <li>• Problems, China, Africa, Materials, Means of Disposal, Recycling, Refurbishing, Make the Decision, Life Cycle, from beginning to end, Life, Cost, Green Design, Recycling Companies, Finding the Best One, Checklist, Certifications, Hard Drive Recycling, cleaning a Hard Drive.</li> <li>• Paper Problems, The Environment, Costs: Paper and Office, Practicality, Storage, Destruction, Going Paperless, Paperless Billing, Handheld Computers vs. the Clipboard, Unified Communications, Intranets, Building an Intranet, Microsoft Office SharePoint Server 2007, Electronic Data Interchange (EDI).</li> <li>• Organizational Check-ups, Chief Green Officer, Evolution, Sell the CEO, SMART Goals, Equipment Check-ups, Gather Data, Tracking the data, Baseline Data, Benchmarking, Analyse Data, Helpful Organizations.</li> </ul>

10	<b>Reference Books:</b> <ul style="list-style-type: none"> <li>• <b>Author :Raj Kumar Patra, Title:</b> Green Computing and Its Applications, <b>Publisher:</b> Nova Science, 5<sup>th</sup> Edition, <b>Year:</b> 2021</li> <li>• <a href="https://e-next.in/bsc-it/sem2/green-computing/">https://e-next.in/bsc-it/sem2/green-computing/</a></li> </ul>											
11	<b>Internal Continuous Assessment: 20%</b>	<b>Semester End Examination : 30%</b>										
12	<b>Continuous Evaluation through:</b>	Project										
13	<b>Format of Question Paper:</b> <p style="text-align: center;"><b>Scheme of Evaluation Pattern</b>  <b>Table 1A: Scheme of Continuous Evaluation (CE/Practical)</b>  <b>Scheme of Evaluation Pattern</b></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Sub-components</th> <th>Maximum Marks</th> <th>Conditions for passing</th> </tr> </thead> <tbody> <tr> <td>1) Project</td> <td>15</td> <td rowspan="3">A learner must be present for each of the sub-components.</td> </tr> <tr> <td>2) Journal and Viva</td> <td>5</td> </tr> <tr> <td style="text-align: center;">Total</td> <td style="text-align: center;">20</td> </tr> </tbody> </table>		Sub-components	Maximum Marks	Conditions for passing	1) Project	15	A learner must be present for each of the sub-components.	2) Journal and Viva	5	Total	20
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1) Project	15	A learner must be present for each of the sub-components.										
2) Journal and Viva	5											
Total	20											

**Table 1B: Scheme of Semester End Examination (SEE) Evaluation**  
**Question Paper Pattern for Semester End Examination (SEE)**

**Maximum Marks: 30**

**Duration: I Hrs.**

Note: All questions are compulsory. Each question has an internal choice.

Question Number	Nature of Questions	Maximum Marks
1)	<b>Attempt any 3</b>	
	a)	15
	b)	
	c)	
	d)	
	e)	
2)	<b>Attempt any 3</b>	
	a)	15
	b)	
	c)	
	d)	
	e)	

AC –

Item No. –

# As Per NEP 2020

## Tolani College of Commerce (Autonomous)



### **Title of the Course: Communication Skills in English - I (Semester I)**

#### **Programmes:**

Bachelor of Commerce
Bachelor of Commerce (Management Studies)
Bachelor of Commerce (Accounting & Finance)
Bachelor of Commerce (Banking & Insurance)
Bachelor of Commerce (Financial Markets)
Bachelor of Science (Information Technology)
Bachelor of Business Administration (Logistics)

**Syllabus for 2 Credit Course from the Academic Year 2024-2025**

## Name of the Course: Communication Skills in English - I

Sr. No.	Heading	Particulars
1	<b>Description of the course :</b>  <b>Including but not limited to :</b>	Communication Skills in English will enable the learners to comprehend and understand effective business communication.  Communication theory, workplace channels, ethical considerations and various communication barriers.
2	<b>Vertical :</b>	Ability Enhancement Course
3	<b>Type :</b>	Theory
4	<b>Credit:</b>	2 credits
5	<b>Hours Allotted :</b>	30 Hours
6	<b>Marks Allotted:</b>	50 Marks Continuous Evaluation 20 marks and Semester End Examination 30 marks
7	<b>Course Objectives:</b> <ol style="list-style-type: none"> <li>1. To provide an overview of Prerequisites to Business Communication skills</li> <li>2. To enable learners to craft effective content and refine their listening and reading skills essential for a productive professional life</li> </ol>	
8	<b>Course Outcomes:</b> <ol style="list-style-type: none"> <li>1. Ability to identify and articulate the key prerequisites necessary for effective business communication.</li> <li>2. Ability to draft coherent and purposeful written content, showcasing refined listening and reading skills applicable to various professional contexts.</li> </ol>	

9	<b>Module 1: Theory of Communication (15 Hours)</b>
	<p><b>1. Concept of Communication:</b></p> <ul style="list-style-type: none"> <li>▶ Meaning, Process and Need of Communication.</li> <li>▶ 7 C's of communication.</li> <li>▶ Emergence of Communication as a key concept in the Corporate and Global world.</li> <li>▶ Impact of technology-enabled Communication.</li> </ul>
	<p><b>2. Communication at Workplace:</b></p> <ul style="list-style-type: none"> <li>▶ Channels: Formal -Vertical, Horizontal, Diagonal and Informal– Grapevine.</li> <li>▶ Verbal Communication: Oral and Written communication.</li> <li>▶ Nonverbal Communication: Vocalics, Kinesics, Haptics, Proxemics, Chronemics, Sign language and Visual aids.</li> <li>▶ Importance of ethics in communication.</li> </ul>
	<p><b>3. Barriers to Communication:</b></p> <ul style="list-style-type: none"> <li>▶ Meaning of barriers to communication</li> <li>▶ Importance of studying barriers to communication</li> <li>▶ Types of Barriers: Physical, Semantic, Socio, Cultural, and Psychological.</li> <li>▶ Ways to Overcome Barriers.</li> </ul>
	<b>Module 2: Language and Writing Skills (15 Hours)</b>
	<p><b>1. Listening Comprehension:</b></p> <ul style="list-style-type: none"> <li>▶ Importance of Listening Skills</li> <li>▶ Obstacles to Listening</li> <li>▶ Cultivating good Listening Skills</li> <li>▶ Practicing reflective listening and paraphrasing</li> </ul>
	<p><b>2. Theory of Business Letter Writing:</b></p> <ul style="list-style-type: none"> <li>▶ Parts and Structure of a letter</li> <li>▶ Traditional layouts of a letter</li> <li>▶ Contemporary layouts of a letter</li> <li>▶ Formal communication on digital platforms: E-mail, Messenger, and LinkedIn.</li> </ul>
	<p><b>3. Formal Correspondence for:</b></p> <ul style="list-style-type: none"> <li>▶ Job Application and Resume Writing.</li> <li>▶ Accepting a Job Offer and Resignation</li> <li>▶ Apology/Thank You Letter</li> <li>▶ Sanction of Leave</li> </ul>

10	<b>Reference Books:</b> <ul style="list-style-type: none"> <li>● Green, Andy. Effective Personal Communication Skills for Public Relations. 10 Jan. 2010.</li> <li>● Huang, Li-Shih. Academic Communication Skills: Conversation Strategies for International Graduate Students. 2010.</li> <li>● Raman, Meenakshi, and Sangeeta Sharma. Technical Communication: Principles and Practice. 2nd ed., Oxford University Press, 2011.</li> <li>● St. John, Walter, and Ben Haskell. Essential Communication Skills for Managers. 2017</li> <li>● Raman, Meenakshi, and Prakash Singh. Business Communication. Second edn, OUP, 2012.</li> </ul>		
11	<b>Internal Continuous Assessment: 40%</b>	<b>Semester End Examination: 60%</b>	
12	<b>Continuous Evaluation through: (20 marks)</b>	1) Reading Assignments/ Email Correspondence/ Book Review/ Listening Comprehension (10 marks) 2) MCQ Based Test (10 marks)	A learner must be present for each of the sub-components
13	<b>Format of SEE Question Paper: (30 marks)</b>		
<b>Question No.</b>	<b>Nature of Question</b>		<b>Maximum Marks</b>
Q-1	Short notes: (attempt any 2 of 3) a) b) c)		10 Marks
Q-2	Draft the following letters: (attempt any 2 of 4) a) Letter of Acceptance of Job b) Letter for Leave Sanction c) Letter of Resignation d) Apology/Thank you Letter		10 Marks
Q-3	a) Draft a Job application letter along with C.V. <b>Or</b> a) Case Study b) Rewrite the provided passage using 7 C's of communication		10 Marks  5 marks 5 marks

### Signatures of Team Members

Sr.No.	Name	Signature
1.	Ms. Amrita Nambiar	
2.	Ms. Jacinta Ashita Tigga	

Approved by the Academic Council on 14-3-26 item no.  
Approved by the BoS in Environmental Studies and Foundation Course on 5-3-26 item no. 01

## **As Per NEP 2020**

# **Tolani College of Commerce (Autonomous)**



### **Title of the Course: Environmental Studies- I**

#### **Name of the Programmes:**

1. Bachelor of Commerce
2. Bachelor of Commerce (Management Studies)
3. Bachelor of Commerce (Accounting & Finance)
4. Bachelor of Commerce (Banking & Insurance)
5. Bachelor of Commerce (Financial Markets)
6. Bachelor of Commerce (Logistics)
7. Bachelor of Commerce (Taxation & Auditing)
8. Bachelor of Science (Information Technology)
9. Bachelor of Science (Data Science)

### **Semester I**

#### **Syllabus for 2 Credit Course**

**From the academic year- 2026-2027**

## Name of the Course: Environmental Studies- I

Sr. No.	Heading	Particulars
1	<b>Description the course:</b>	The course is an introductory inter-disciplinary course to understand working earth's systems. It focusses on the holistic study to understand the interrelationship between humans and nature.
2	<b>Vertical:</b>	Value Education Course
3	<b>Type:</b>	Theory
4	<b>Credit:</b>	2 credits
5	<b>Hours Allotted:</b>	30 Hours
6	<b>Marks Allotted:</b>	50 Marks Continuous Evaluation 20 Marks Semester End Examination 30 Marks
7	<b>Course Objectives:</b> By end of this course learners should: <ol style="list-style-type: none"><li>1. appreciate the different facets of environment and the natural world</li><li>2. understand the role of humans as agents of environmental degradation</li></ol>	
8	<b>Course Outcomes:</b> The learners shall be: <ol style="list-style-type: none"><li>1. sensitised about environmental issues and the need for conservation of environment</li><li>2. able to appreciate Environmental Science as a multi-disciplinary tool for conservation rather than merely a subject</li></ol>	

9	<p><b>Module 1: Understanding the environment (15 Hours)</b></p> <ol style="list-style-type: none"> <li><b>Environment:</b> Meaning, definition, nature, scope and its components; Human and environment relationship</li> <li><b>Ecosystem:</b> Definition, Components and types, Functioning and structure- Food Chain and Food Web, Ecological Pyramids, Biogeochemical cycles.</li> <li><b>Natural Resources:</b> Definition, importance, Classification, Resource utilisation, Importance of forest, water and energy as natural resources</li> <li><b>Biodiversity:</b> Definition, Types of biodiversity, Importance of biodiversity- Intrinsic and Utilitarian value; India as a Megadiverse nation; Biodiversity hotspots in India.</li> </ol> <p><b>Module 2: Environmental Degradation and Associated Problems (15 Hours)</b></p> <ol style="list-style-type: none"> <li><b>Rise in human population and urbanization:</b> Population- Definition, Causes and Impacts of population rise, Concept of Population density; Urbanisation- Definition causes and impacts, Concept of Urban Heat Island</li> <li><b>Pollution:</b> Causes and impacts of Air, Water, Land, Noise, Light pollution</li> <li><b>Climate Change and Global Warming:</b> Concept, Causes and impacts of Ozone depletion, Natural and human induced causes of Global warming and Climate Change and its implication for nature and society.</li> <li><b>Nature at risk:</b> Threats to biodiversity; Impacts of biodiversity loss; IUCN Red data list; Causes and impacts of resource depletion vis-à-vis forest, water and energy</li> </ol>
10	<p><b>Reference Books:</b></p> <ol style="list-style-type: none"> <li>McKinney M.L. &amp; Schoch R.M., 1998: Environmental Science, Jones &amp; Bartlett Publishers, London</li> <li>Rao K.L. 1975: India's Water Wealth, Orient Longman Ltd. New Delhi</li> <li>S.S. Negi (1993) Biodiversity and its Conservation in India, Indus Publications, New Delhi</li> <li>Rajgopalan C (2015): Environmental Studies. Oxford University Press</li> <li>Miller T.G. Jr. Environmental Science, Wadsworth Publishing Co.</li> <li>Brunner R.C., 1989, Hazardous Waste Incineration, McGraw Hill Inc. 480p</li> <li>Rao M N. &amp; Datta, A.K. 1987. Waste Water treatment. Oxford &amp; IBH Publ. Co. Pvt. Ltd. 345p.</li> <li>Trivedi R. K. and P.K. Goel, Introduction to air pollution, Techno-Science Publication</li> <li>Mhaskar A.K., Matter Hazardous, Techno-Science Publication</li> <li>Zimmerman W E (1972) Zimmerman's World Resources and Industries' Harper &amp; Row</li> </ol>
11	<p><b>Other Readings:</b></p> <ol style="list-style-type: none"> <li>Down to Earth, Centre for Science and Environment</li> <li>Census Handbooks Human Development Report-2019</li> <li>Provisional Population Totals Paper 1 of 2011 India, Office of the Registrar General &amp; Census Commissioner India. Product No. 00-001-2011-Cen-Book (E) 13 p.p</li> <li>Human Development Report 2020 "The next frontier Human development and the Anthropocene", United Nations Development Programme (eISBN: 978-92-1-005516-1) 412 p.p <a href="http://hdr.undp.org/en/2020-report">http://hdr.undp.org/en/2020-report</a></li> </ol>
12	<p><b>Websites:</b></p> <ol style="list-style-type: none"> <li><a href="https://unfccc.int/">https://unfccc.int/</a></li> <li><a href="https://www.cbd.int/">https://www.cbd.int/</a></li> <li><a href="https://cpcb.nic.in">https://cpcb.nic.in</a></li> <li><a href="https://mpcb.gov.in">https://mpcb.gov.in</a></li> <li><a href="https://www.iucnredlist.org/">https://www.iucnredlist.org/</a></li> </ol>

<b>12</b>	<b>Internal Continuous Assessment: 40%</b>	<b>Semester End Examination: 60%</b>	
<b>13</b>	<b>Continuous Evaluation through:</b>	1. Fieldwork-based project work and report or assignment or presentation or report-writing or article/ book review or topic-based activity	10 Marks
		2. Class Test	10 Marks
		Total	20 Marks
<b>14</b>	<b>Format of Question Paper:</b>		
	Question Number	Nature of Questions	Maximum Marks
	1)	Attempt any THREE of the following: (From Module I)	15
	A.		
	B.		
	C.		
	D.		
	2)	Attempt any THREE of the following: (From Module II)	15
	A.		
	B.		
	C.		
	D.		

### Signatures of Team Members

<b>Sr. No.</b>	<b>Name</b>	<b>Signature</b>
<b>1.</b>	Mr. Kaustubh Bhagat	

**As Per NEP 2020**

**Tolani College of  
Commerce  
(Autonomous)**



Knowledge is Supreme

**Title of the Course: Environmental Management**

**Semester I**

**Name of the Programmes:**

1. Bachelor of Commerce (Management Studies)
2. Bachelor of Commerce (Accountancy & Finance)
3. Bachelor of Commerce (Banking & Insurance)
4. Bachelor of Commerce (Financial Markets)
5. Bachelor of Science (Information Technology)
6. Bachelor in Commerce (Logistics)

**Syllabus for 2 Credit Course**

**From the academic year- 2025-2026**

## Name of the Course: Environmental Management

Sr. No.	Heading	Particulars
1	<b>Description the course:</b>	The course is an introductory inter-disciplinary course to understand working earth's systems. It focusses on the holistic study to understand the interrelationship between humans and nature. It is also an attempt to understand the future impacts by learning from the past and present actions.
2	<b>Vertical:</b>	Value Education Course
3	<b>Type:</b>	Theory
4	<b>Credit:</b>	2 credits
5	<b>Hours Allotted:</b>	30 Hours
6	<b>Marks Allotted:</b>	50 Marks Continuous Evaluation 20 Marks Semester End Examination 30 Marks
7	<b>Course Objectives:</b> By end of this course learners should: <ol style="list-style-type: none"><li>1. be sensitised about the environmental issues and need for conservation of environment</li><li>2. understand the role of humans as agents of environmental degradation as well as conservation</li></ol>	
8	<b>Course Outcomes:</b> The learners shall: <ol style="list-style-type: none"><li>1. a develop a sense of environmental responsibility</li><li>2. be able to appreciate Environmental Management as a multi-disciplinary tool for conservation rather than merely a subject</li></ol>	

9

**Module 1: Environment and its degradation (15 Hours)**

**1. Environment and Ecology:**

- a. Definition, nature, scope and components of Environment; Human and environment relationship
- b. Definition, Components and types of ecosystems, Structure and Function of Ecosystem- Food Chain, Food Web, Ecological Pyramids, and Biogeochemical cycles- Water, Carbon and Nitrogen cycle

**2. Natural Resource and Biodiversity:**

- a. Definition, Classification and Utilisation of resources, Importance of Forest, Water and Energy resources
- b. Definition, Types, and Importance of biodiversity

**3. Rise in Population and urbanization:**

- a. Definition of population, Causes and Impacts of population rise, Concept of Population density
- b. Definition, causes and impacts of urbanisation; Concept of Urban Heat Island

**4. Resource depletion and Biodiversity loss:**

- a. Causes and impacts of resource depletion vis-à-vis forest, water and energy
- b. Threats to biodiversity; Impacts of biodiversity loss

**Module 2: Sustainable Development and Environment Management (15 Hours)**

**1. Sustainable Development:**

- a. Definition, Need, Importance of Sustainable Development; Sustainable Development Goals (SDGs)
- b. Corporate Social Responsibility: Concept, Need and Importance

**2. Environmental Management:**

- a. Need, Importance and Relevance of Environmental Management, ISO 14001: Environmental Management System
- b. The concept of Carbon neutrality and Net zero; Carbon Banks and Carbon Credits

**3. Disaster Management and Environmental Law:**

- a. Definition, types, and effects of disasters; Factors to be considered in Prevention, Mitigation (Relief and Rehabilitation) and disaster preparedness.
- b. Constitutional Provisions for environment protection; Law- Water (Prevention & Control of Pollution) Act, 1974, Air (Prevention & Control of Pollution) Act, 1981, Wildlife Protection Act, 1972, Forest Conservation Act, 1980, Environmental Protection Act, 1986

**4. Environmental Education and Protection:**

- a. Definition, Scope, Importance, Principles, Methods of Environmental education; Concept of Education for Sustainable Development
- b. Environmental Movements in India- Chipko Movement, Appiko Movement, Save Narmada Movement, Save Western Ghat, Save Jaitapur and Save Aarey

<p><b>10</b></p>	<p><b>Reference Books:</b></p> <ol style="list-style-type: none"> <li>1. Brunner R.C., 1989, Hazardous Waste Incineration, McGraw Hill Inc. 480p</li> <li>2. Gleick, H.P. 1993. Water in crisis, Pacific Institute for Studies in Dev., Environment &amp; Security. Stockholm Env. Institute Oxford Univ. Press. 473p</li> <li>3. McKinney M.L. &amp; Schoch R.M., 1998: Environmental Science, Jones &amp; Bartlett Publishers, London</li> <li>4. Mhaskar A.K., Matter Hazardous, Techno-Science Publication</li> <li>5. Miller T.G. Jr. Environmental Science, Wadsworth Publishing Co.</li> <li>6. Murthy, D. B. N., Disaster Management: Text and Case Studies, Deep and Deep</li> <li>7. Negi S.S. (1993) Biodiversity and its Conservation in India, Indus Publications, New Delhi</li> <li>8. Odum E.P. (1971): Fundamentals of Ecology, W.B. Saunders, Philadelphia</li> <li>9. Parsuraman, S., and Unnikrishnan, ed., India Disasters Report II, Oxford, New Delhi, 2013 Publications, New Delhi, 2013.</li> <li>10. Rajgopalan C (2015): Environmental Studies. Oxford University Press</li> <li>11. Rao K.L. 1975: India's Water Wealth, Orient Longman Ltd. New Delhi</li> <li>12. Rao M N. &amp; Datta, A.K. 1987. Waste Water treatment. Oxford &amp; IBH Publ. Co. Pvt. Ltd. 345p.</li> <li>13. Reza, B. K., Disaster Management, Global Publications, New Delhi, 2010.</li> <li>14. Trivedi R. K. and P.K. Goel, Introduction to air pollution, Techno-Science Publication</li> <li>15. Zimmerman W E (1972) Zimmerman's World Resources and Industries' Harper &amp; Row</li> </ol>
<p><b>11</b></p>	<p><b>Other Readings:</b></p> <ol style="list-style-type: none"> <li>1. Down to Earth, Centre for Science and Environment</li> <li>2. Census Handbooks Human Development Report-2019</li> <li>3. Provisional Population Totals Paper 1 of 2011 India, Office of the Registrar General &amp; Census Commissioner India. Product No. 00-001-2011-Cen-Book (E) 13 p.p</li> <li>4. Human Development Report 2020 "The next frontier Human development and the Anthropocene", United Nations Development Programme (eISBN: 978-92-1-005516-1) 412 p.p <a href="http://hdr.undp.org/en/2020-report">http://hdr.undp.org/en/2020-report</a></li> </ol>
<p><b>12</b></p>	<p><b>Websites:</b></p> <ol style="list-style-type: none"> <li>1. <a href="https://cpcb.nic.in">https://cpcb.nic.in</a></li> <li>2. <a href="https://mpcb.gov.in">https://mpcb.gov.in</a></li> <li>3. <a href="https://shoalconservation.org/project/project-mahseer/">https://shoalconservation.org/project/project-mahseer/</a></li> <li>4. <a href="https://unfccc.int/">https://unfccc.int/</a></li> <li>5. <a href="https://wii.gov.in/">https://wii.gov.in/</a></li> <li>6. <a href="https://www.bnhs.org/">https://www.bnhs.org/</a></li> <li>7. <a href="https://www.cbd.int/">https://www.cbd.int/</a></li> <li>8. <a href="https://www.iucnredlist.org/">https://www.iucnredlist.org/</a></li> <li>9. <a href="https://www.wwfindia.org/">https://www.wwfindia.org/</a></li> </ol>

<b>13</b>	<b>Internal Continuous Assessment: 40%</b>	<b>Semester End Examination: 60%</b>	
<b>14</b>	<b>Continuous Evaluation through:</b>	Class test or Fieldwork-based project work and report or assignment or presentation or report-writing or article/ book review or topic-based activity	20 Marks
<b>15</b>	<b>Format of Question Paper:</b>		
	Question Number	Nature of Questions	Maximum Marks
	1)	Attempt any THREE of the following: (From Module I)	15
	A.		
	B.		
	C.		
	D.		
	2)	Attempt any THREE of the following: (From Module II)	15
	A.		
	B.		
	C.		
	D.		

### Signatures of Team Members

Sr. No.	Name	Signature
1.	Mr. Kaustubh Bhagat	

**As Per NEP 2020**

**Tolani College of  
Commerce  
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Knowledge is Supreme

**Title of the Course: Introduction to Bharatiya Gyan Parampara**

**Name of the Programmes:**

1. Bachelor of Commerce
2. Bachelor of Commerce (Management Studies)
3. Bachelor of Commerce (Accountancy & Finance)
4. Bachelor of Commerce (Banking & Insurance)
5. Bachelor of Commerce (Financial Markets)
6. Bachelor in Business Administration (Logistics)
7. Bachelor of Science (Information Technology)

**Semester I**

**Syllabus for 2 Credit Course**

**From the academic year- 2024-2025**

## Name of the Course: Introduction to Bharatiya Gyan Parampara

Sr. No.	Heading	Particulars
1	<b>Description of the course:</b>	The course is an introductory course to the Indian Knowledge System. The traditional and indigenous knowledge has been neglected for ages. The traditional Indian knowledge has strong scientific basis and can provide simplistic solutions to modern day problems. The course attempts to highlight the contribution of traditional Indian Knowledge System in different fields.
2	<b>Vertical:</b>	Indian Knowledge System
3	<b>Type:</b>	Theory
4	<b>Credit:</b>	2 credits
5	<b>Hours Allotted:</b>	30 Hours
6	<b>Marks Allotted:</b>	50 Marks Continuous Evaluation 20 Marks Semester End Examination 30 Marks
7	<b>Course Objectives:</b> By end of this course learners should be:	<ol style="list-style-type: none"> <li>1. introduced to the rich heritage of Indian Knowledge System</li> <li>2. able to appreciate the contribution of traditional Indian knowledge</li> </ol>
8	<b>Course Outcomes:</b> The learners shall be able to:	<ol style="list-style-type: none"> <li>1. understand the Indian contribution to the various fields of knowledge</li> <li>2. appreciate the ability of the traditional knowledge systems to provide simplistic solutions modern day problem</li> </ol>

9	<p><b>Module 1: An Overview of Bharatiya Gyan Parampara (15 Hours)</b></p> <ol style="list-style-type: none"> <li><b>1. Introduction to Knowledge Systems-</b> Definition; Need for Knowledge Systems; Knowledge Systems in nature; Different types of Knowledge Systems- European- Greek and Roman, Islamic, Asian- Oriental and Indian.</li> <li><b>2. British Education System and India-</b> Macaulay Education System- Concept, Origin, Need and Impacts; Bell model of Education (Madras Monitorial System)- Concept, History, Connection with Indian Education System, Impacts of Madras Monitorial System on British Education System;</li> <li><b>3. Indian Knowledge System-</b> Definition; Framework of Indian Knowledge System; Corpus of Indian Knowledge System- Vedic and Non-Vedic; Indigenous Indian Knowledge; Characteristics of Indian Knowledge System.</li> <li><b>4. Philosophical Systems in Indian Knowledge System-</b> Concept of Philosophy; Different Philosophical approaches in Indian Knowledge Systems- Samkhya and Yoga, Nyaya and Vaisesika, Purva-Mimamsa and Vedanta, Charvaka, Jainism and Buddhism</li> </ol>
	<p><b>Module 2: Contribution of Indian Knowledge Systems (15 Hours)</b></p> <ol style="list-style-type: none"> <li><b>1. Contribution in the fields of polity and management-</b> Concept of raj dharma, Arthashastra- King and Amtya, Janapadas, Administrative set up by Ashoka</li> <li><b>2. Contribution in the fields of science and mathematics-</b> Mathematics: Algebra, Geometry, Pingala and binary system; Science: Chemistry, Astronomy; Architecture: Traditional Indian houses, Temple architecture, Rock-cut, Cave architecture; Nature and conservation: Concept of <i>Panchmahabut</i>, Water conservation, Weather prediction, Concept of sacred groves</li> <li><b>3. Contributions in the fields of health and wellness-</b> Ayurveda: Concept of health, Sapta dhatvah, tridosa and tri gunas; Indian games: Types of Indian games (Indoor- Chess, Chausar, Snake and ladder and Outdoor- Kho-kho, Kabaddi, Logori, Langadi), Games as means to physical and mental well-being; Yoga: Concept, Schools of Yoga, 26 Principles of Yoga, Ashtanga Yoga; Home remedies for minor ailments</li> <li><b>4. Contribution in the fields of arts and Literature-</b> Clay moulding, Stone carving, Wood carving; Nava Rasas; Music and musical instruments; Natya shashtra; Folk art forms</li> </ol>
10	<p><b>Reference Books:</b></p> <ol style="list-style-type: none"> <li>1. Binode Behari Dutt, Town planning in ancient India, Life Span Publishers &amp; Distributors</li> <li>2. Chopra Deepak, Perfect Health--Revised and Updated: The Complete Mind Body Guide, Harmony publication, 2001</li> <li>3. Kak, S.C. (1987). "On Astronomy in Ancient India", Indian Journal of History of Science, 22(3), pp. 205–221.</li> <li>4. Kapoor Kapil, Singh Avadhesh (2021). "Indian Knowledge Systems Vol – I &amp; II", Indian Institute of Advanced Study, Shimla, H.P.</li> <li>5. Mahadevan, B., Bhat Vinayak Rajat, Nagendra Pavana R.N. (2022), "Introduction to Indian Knowledge System: Concepts and Applications", PHI Learning Private Ltd. Delhi.</li> <li>6. Patnaik Naveen The Garden of Life: An Introduction to The Healing Plants of India Doubleday (1 October 1993)</li> <li>7. Prajananda Swami, Histroy of Indian Music, Ram Krishna vedanta math, Kolkata</li> </ol>
11	<p><b>Websites:</b></p> <ol style="list-style-type: none"> <li>1. <a href="http://www.sacredland.org/sacred-groves-of-india/">www.sacredland.org/sacred-groves-of-india/</a></li> <li>2. <a href="http://www.cseindia.org/dte-supplement/forest20031231/sacred_disconnect.htm">www.cseindia.org/dte-supplement/forest20031231/sacred_disconnect.htm</a></li> <li>3. <a href="https://iksindia.org/">https://iksindia.org/</a></li> </ol>

<b>12</b>	<b>Internal Continuous Assessment: 40%</b>	<b>Semester End Examination: 60%</b>	
<b>13</b>	<b>Continuous Evaluation through:</b>	1. Fieldwork-based project work and report or assignment or presentation or report-writing or article/ book review or topic-based activity	10 Marks
		2. MCQ Based Test	10 Marks
		<b>Total</b>	<b>20 Marks</b>
<b>14</b>	<b>Format of Question Paper:</b>		
	<b>Question Number</b>	<b>Nature of Questions</b>	<b>Maximum Marks</b>
	1)	Attempt any THREE of the following: (From Module I)	15
	A.		
	B.		
	C.		
	D.		
	2)	Attempt any THREE of the following: (From Module II)	15
	A.		
	B.		
	C.		
	D.		

### Signatures of Team Members

<b>Sr. No.</b>	<b>Name</b>	<b>Signature</b>
<b>1.</b>	Mr. Kaustubh Bhagat	
<b>2.</b>	Ms. Varada Trivedi	
<b>3.</b>	Ms. Ranjeeta Prajapati	