
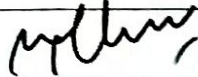


Sheth NKTT College of Commerce and Sheth JTT College of Arts, Thane (Autonomous)
F.Y.B.Sc. (AI and ML) 2025-26

	Semester I Subjects	Credits		Semester II Subjects	Credits
Major			Major		
BAI101	Imperative Programming with C	2	BAP201	Python Programming	2
BAS102	Statistical Data Analysis	2	BAD202	Probability and Distribution	2
BAISP103	Imperative Programming with C and Statistical Data Analysis Practical	2	BARD203	Python Programming and Probability and Distribution Practical	2
Minor		-	Minor	Calculus	2
			BAC204		
OE			OE		2
BAB104	OE 1: Basic Accounting and Practices	2	BAF205	OE1: Financial Markets	2
BAE105	OE2: Business Economics	2	BAE206	OE2: Digital Marketing	
VSC			VSC		
BAD106	Discrete Mathematics	2	BAM207	Database Management System	2
SEC			SEC		
BADP107	Discrete Mathematics Practical	2	AMP208	Database Management System Practical	2
AEC		2	AEC		
BAC108	Corporate communication-I	2	BACC209	Corporate communication-II	2
VEC	Green Technology-I		VEC		2
BAG109	Evolution of IT	2	BAG211	Green Technology -II	
IKS					
BAT110					
CC			CC		
BAS111/	NSS/ Sports/ Cultural/ Yoga	2	BAS211/	NSS/ Sports/ Cultural/ Yoga	2
BAL111/			BAL211/		
BAP111			BAP211		
	Total	22			22


Dr. Yogeshwari Patil
 Department Coordinator


Prof. Heena Chande
 NEP Coordinator


Dr. Dilip Patil
 Principal



VISION: COMMITTED AND PERSEVERING EFFORTS TOWARDS HOLISTIC EDUCATION

Sheth T. J. Education Society's
Sheth N.K.T.T College of Commerce and
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Programme Name: F.Y.B.Sc(AI and ML)		Semester: II
Course Category: Major		
Name of the Department: Science and Technology		
Course Title: Python Programming		
Course Code: BAP201		Course Level: 4.5
Type: Theory		
Course Credit: 2		
Hours Allotted: 30 Hours		
Marks Allotted: 50 Marks		
Course Objectives: <ol style="list-style-type: none"> 1. Understand the concepts and usage data types, variables and other basic elements. 2. Determine the methods to create and manipulate Python programs by utilizing the data structures like lists, dictionaries, tuples. 3. Introduce data Science Tools and plot data using appropriate Python visualization libraries. 		
Course Outcomes: OC1: Aware of the basic elements of python and Implement functions, strings, lists, tuples and dictionaries. OC2: Proficiency in using Numpy and Panda architecture for Data Science Applications.		
Description the course:		Participants will discover the fundamentals of Python syntax, data types, control structures, and functions, enabling them to write clear, concise, and efficient code. Through hands-on exercises and projects, students will develop practical programming skills and gain confidence in solving real-world problems using Python.

Unit No.	Content	Hours
I	<p>Introduction: The Python Programming Language, History, features, Data Types, Variables, operators, Input and Output Operations, Control Statements.</p> <p>Functions and Strings: Defining & Calling a Function, Returning Results, Built-in Functions, Creating Strings, Functions of Strings, Working with Strings, Length of a String, Indexing & Slicing, Repeating & Concatenation of Strings.</p> <p>List, Tuples and Dictionaries: Lists, List Functions and Methods, List Operations, Tuple Functions and Methods, Tuple Operations. Creating a Dictionary, Operators in Dictionary, Dictionary Methods, Using for Loop with Dictionaries, Operations on Dictionaries.</p>	15
II	<p>Introduction to NumPy: The Basics of NumPy Arrays, Computation on NumPy Arrays: Universal Functions, Aggregations: Min, Max, and Everything In Between. Computation on Arrays: Broadcasting, Comparisons, Masks, and Boolean Logic, Fancy Indexing, Sorting Arrays, Structured Data: NumPy's Structured Arrays</p> <p>Data Manipulation with Pandas: Introducing Pandas Objects, Data Indexing and Selection, Operating on Data in Pandas, Handling Missing Data, Hierarchical Indexing, Combining Datasets: Concat and Append, Combining Datasets: Merge and Join, Aggregation and Grouping, Pivot Tables, Vectorized String Operations, Working with Time Series. High-Performance Pandas: eval() and query()</p>	15
	Total Hours	30

References:

1. Think Python Allen Downey O'Reilly 1st 2012
2. Introduction to Problem Solving with Python E. Balagurusamy TMH 1st 2016
3. Let Us Python Y. Kanetkar, BPB 1st 2019
4. Python Data Science Handbook Jake VanderPlas O'Reilly Media 1st 2016

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Programme Name: F.Y.B.Sc(AI and ML)		Semester:II
Course Category/Vertical: Major		
Name of the Department: Science and Technology		
Course Title: Probability and Distribution		
Course Code: BAD202		Course Level: 4.5
Type: Theory		
Course Credit: 2 credits		
Hours Allotted: 30 Hours		
Marks Allotted: 50 Marks		
Course Objectives(CO): (List the course objectives) 1. To explore about random variables and implement various distribution functions, to familiarize with concepts of probability. 2. Learn and implement the concept of expectation, related theorems, to know the concept and implementation of discrete distributions including Bernoulli, Binomial distributions to get acquainted with theory and practical implementation of concepts of continuous distributions.		
Course Outcomes (OC): (List the course outcomes) CO 1. After completion of the course, a student should be able to use discrete and continuous probability distributions, mean and variance. CO 2. Understand the concept of Mathematical Expectation and its properties, Different theoretical discrete distributions like Binomial, Bernoulli's, Poisson's and different theoretical continuous distribution like Uniform, Normal, Gamma, and Exponential.		
Description the course:		Probability Distribution is one of the important concepts in statistics. It has huge applications in business, Finance Investing science and other sectors. It is majorly used to make future predictions based on a sample for a random experiment.

Unit No.	Content	Hours
I	Theory of Probability: Introduction, History, Different terms Axiomatic approach to probability, Mathematical notation, independent events, multiplication law and conditional probability, Bayes theorem, Random Variables and Distribution Functions: Random Variable, distribution function, discrete random variable, continuous random variable, joint probability law.	15
II	Mathematical Expectation: Mathematical expectation and its properties, Expectation of a Function of a Random Variable, Addition Theorem of Expectation, Multiplication Theorem of Expectation, Conditional Expectation and Conditional Variance. Theoretical Discrete Distributions: Introduction, Bernoulli Distribution, Binomial Distribution, Poisson Distribution, Discrete Uniform Distribution. Theoretical Continuous Distributions: Rectangular or Uniform Distribution, Normal Distribution, Gamma Distribution, The Exponential Distribution.	15
	Total Hours	30

References:

Sr. No.	Title	Author/s	Publisher	Edition
1	Fundamentals of Mathematical statistics	S. C, Gupta and V. K. Kapoor	S. Chand and Sons	Tenth
2	Applied Statistics and Probability for Engineers	Douglas C. Montgomery and George C. Runger	Wiley	Sixth
3	Probability, Statistics, and Stochastic Processes	Peter Olofsson and Mikael Andersson	Wiley	second

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Programme Name: F.Y.B.Sc(AI and ML)	Semester:II
Course Category/Vertical: Major	
Name of the Department: Science and Technology	
Course Title: Python Programming and Probability and Distribution Practical	
Course Code: BARDP203	Course Level: 4.5
Type: Practical	
Course Credit: 2	
Hours Allotted: 60 Hours	
Marks Allotted: 50 Marks	
Course Objectives (CO): 1. To learn about special operators, Arrays and lists and operation on them in Python. 2. To explore Dictionaries, Sets, Text processing and operation on them. 3. To understand Data Conversion, data categorization, selection of appropriate data category and Collection and to utilize excel based data modeling skills. 4. To compute Logical and Mathematical Averages, measures of dispersion, compute skewness, moments and kurtosis and to use graph from graphical tool.	
Course Outcomes (OC): OC1: Knowledge about input and output functions in python and have ability to use loops and control their execution OC2: Ability to develop modular Programs using functions and data types like string, array and list of Python OC3: Use Microsoft Excel for business and data analytics, applying insert function library, make use of “Add-Ins Tool pack” for different statistical and mathematical function, learn to use formula and function with cell reference and able to use different types of chart suitable to the data OC4: Do Data Entry and manipulation using data context, to transpose the tabular data, convert data in to tabular format and able to use the excel tools for data categorization	

Sr. No.	Content	Hours
1	Introduction to Programming using Python	
1	Write the program for the following:	
a	Enter the number from the user and depending on whether the number is even or odd, print out an appropriate message to the user.	
b	Write a program to generate the Fibonacci series.	
2	Write the program for the following:	
a	Write a function that reverses the user defined value.	
b	Write a function to check the input value is Armstrong and also write the function for Palindrome.	
c	Write a recursive function to print the factorial for a given number.	
3	Functions	
a	Write a Python program to define and use functions	
b	Write a Python program to demonstrate the use of Built-in Functions.	
4	Strings	
a	Write a Python Program to demonstrate operations and properties of string data types	
b	Write a Python Program implement and demonstrate the use of Membership operators and Identity operators	
5	List	
a	Write a Python Program to create list, apply various functions to it.	
b	Write a Python Program to demonstrate concept of aliasing and cloning	
6	Tuples	
a	Write a Python Program to implement tuples for storing data. Verify the immutability property on tuples	
7	Dictionaries	
a	Write a Python Program to implement Dictionary and operations on dictionaries	
b	Write a Python script to sort (ascending and descending) a dictionary by value.	
c	Write a Python script to concatenate following dictionaries to create a new one. Sample Dictionary : dic1={ 1:10, 2:20} dic2={ 3:30, 4:40} dic3={ 5:50,6:60} Expected Result : { 1: 10, 2: 20, 3: 30, 4: 40, 5: 50, 6: 60}	
d	Write a Python program to sum all the items in a dictionary.	
8	Using the NumPy Package	
a	Programs using NumPy Package and different functions available in it.	
9	Arrays	
a	Write a Python Program to implement arrays for storing homogeneous data items. Apply indexing and slicing operations to access elements of array.	
10	Using the pandas package	
a	Programs using Pandas Package and different functions available in it.	

Unit No.	Content	Hours
1	Discover Probability using formulas: (a) Design and spreadsheet experiment to compute the probability by using formulas. (b) Create a spreadsheet application to compute the Conditional Probability, Independent events.	
2	Bayes Theorem: Formulate and apply Bayes' Theorem Calculations for problems like The "TwoSupplier Example". [Hint: Use Prior Probabilities and Conditional Probabilities to compute Joint and Posterior Probabilities]	
3	Random Variables and Distribution Function: Create spreadsheet application to Compute the Expected Value, Variance, and Standard Deviation of discrete and continuous random variables.	
4	Joint Probability Distribution: (a) Create a spreadsheet application to implement joint probability law. (b) Create a spreadsheet application to calculate the expected mean and variance for Joint probability Distribution.	
5	Mathematical Expectation Addition and Multiplication theorem: (a) Create a spreadsheet application to verify Addition theorem of expectation. (b) Create a spreadsheet application to verify Multiplication theorem of expectation.	
6	Conditional Variance and Conditional variance: Create a spreadsheet application to find conditional variance and conditional expectation.	
7	Theoretical Discrete Distributions 1: (a) Create spreadsheet application to demonstrate Bernoulli Distribution. (b) Create spreadsheet application to Calculate Binomial Distribution in Excel. [Hint: Use BINOM.DIST]	
8	Theoretical Discrete Distributions 2: (a) Create a spreadsheet application to Poisson Probability Distribution. [Hint: Use POISSON] (b) Create spreadsheet application to demonstrate Uniform Discrete Distribution.	
9	Theoretical Continuous Distributions 1:	

	<p>(a) Create spread application for computing probabilities and z values for the standard normal distribution. [Use NORMSDIST and NORMSINV]</p> <p>(b) Create spreadsheet application to demonstrate Uniform Continuous Distribution.</p>	
10	<p>Theoretical Continuous Distributions 2:</p> <p>(a) Create spread application for computing probabilities for the Gamma probability distribution. [Hint: Use GAMMA.DIST]</p> <p>(b) Create spread application for computing probabilities for the exponential probability distribution. [Hint: Use EXPONDIST].</p>	
	Total Hours	60

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Programme Name: F.Y.B.Sc(AI and ML)		Semester:II
Course Category/Vertical: Minor		
Name of the Department: Science and Technology		
Course Title: Calculus		
Course Code: BAC204		Course Level: 4.5
Type: Theory		
Course Credit: 2 credits		
Hours Allotted: 30 Hours		
Marks Allotted: 50 Marks		
Course Objectives(CO): 1. To give the insight of calculus starting with continuity and derivatives. 2. To gain proficiency in integration.		
Course Outcomes (OC): OC1: Quickly and easily find the derivative of a function. OC2: Performing the integration of functions with ease		
Description the course:		The course introduces learners to understanding the sudden changes or spikes in the data by calculating its derivative and integration can then be applied to smooth the data by averaging or filtering out these fluctuations. Introduction, relevance, Usefulness, Application, interest, connection with other courses, demand in the industry, job prospects etc.

Unit No.	Content	Hours
I	Continuity and Derivatives: Limits at Infinity; Horizontal Asymptotes, Derivatives and Rates of Change, The Derivative as a Function. Differentiation rules: Derivatives of Polynomials and Exponential Functions, The Product and Quotient Rules, The Chain Rule, Implicit Differentiation, Derivatives of Logarithmic Functions, Rates of Change in the Natural and Social Sciences, Exponential Growth and Decay, Related Rates, Linear Approximations and Differentials, Hyperbolic Functions	15
II	Integrals: Areas and distances, The Definite Integral, The Fundamental Theorem of Calculus ,Indefinite Integrals and the Net Change Theorem ,The Substitution Rule, Integration by Parts, Trigonometric Integrals , Trigonometric Substitution , Integration of Rational Functions by Partial Fractions , Strategy for Integration , Integration Using Tables and Computer Algebra Systems , Approximate Integration ,Improper Integrals.	15
	Total Hours	30

References:

1. Calculus– Early Transcendentals James Stewart Thomson 6th edition 2008.
2. Calculus and Analytical Geometry by George B. Thomas Jr., Ross L. Finney Maurice D. Weir Addison Wesley Publishing Company 1998
3. Schaum's 3000 Solved Problems in Calculus Elliot Mendelson Tata Mc Graw Hill s1988

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Programme Name: F.Y.B.Sc(AI and ML)		Semester:II
Course Category/Vertical: Open Elective I		
Name of the Department: Science and Technology		
Course Title: Financial Markets		
Course Code: BAF205		Course Level: 4.5
Type: Theory		
Course Credit: 2 credits		
Hours Allotted: 30 Hours		
Marks Allotted: 50 Marks		
Course Objectives(CO): <ol style="list-style-type: none"> 1. To provide students with the complete understanding of Indian financial Markets and its evolution. 2. To give an overview of financial markets, its classification and importance 		
Course Outcomes (OC): OC1: After the successful completion of the course the student will have Knowledge about Indian financial Markets as well as a brief understanding of financial systems in other nations. OC2: Students will be aware about financial markets and its types.		
Description the course:		Basic Knowledge of Indian Financial Market, Types and Understanding of Financial System.

Unit No.	Content	Hours
I	Indian Financial System and Financial Markets An introduction to the financial system, Components of Financial System Financial Markets, Definition, Functions Classification: Primary Market & Secondary Market Financial Markets Structure, Financial instruments	15
II	Commodity And Derivative Market Introduction to Commodities Market - Meaning History & Origin, Types of Commodities Traded, Structure of Commodities Market in India Participants in Commodities Market, Introduction to Derivatives Market – Meaning, Elements of a Derivative Contract, Types of Derivatives, Types of Underlying Assets Participants in Derivatives Market, Difference Between Forwards & Futures	15
	Total Hours	30

References:

- Financial Services and Markets By Dr.S. Gurusamy- Thomson Publication
- Banking & Financial Markets in India By Niti Bhasin - New NC Century
- Indian Financial System By Dr.S.C.Bihari - International Book House Pvt Ltd
- Financial Institutions And Markets By Bhole and Mahakud – Mc Graw Hill

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Programme Name: FYB.Sc (AI and ML)		Semester: II
Course Category/Vertical: Open Elective		
Name of the Department: Science and Technology		
Course Title: Digital Marketing		
Course Code: BAE206		Course Level: 4.5
Type: Theory		
Course Credit: 2 credits		
Hours Allotted: 30 Hours		
Marks Allotted: 50 Marks		
Course Objectives(CO): <ol style="list-style-type: none"> 1. To acquaint the students with the knowledge of growing integration between the traditional and digital marketing concepts and practices in the digital era 2. To familiarize the students with the tools and techniques used by the digital marketers for driving the marketing decisions to attain marketing objectives. 		
Course Outcomes (OC): OC1: Students will be able to understand the concept of digital marketing and its integration with traditional marketing. OC2: Students will be able to understand social media marketing and apply the learnings to create digital media campaigns, enhancing website position and ranking with search engines.		
Description the course:		Digital marketing comprises all marketing efforts that use the Internet. These include digital channels such as search engines, email, websites, social media, etc., that can be used to connect with current and prospective customers.

Unit No.	Content	Hours
I	<p>Introduction to digital marketing: Meaning of Digital Marketing, Differences from Traditional Marketing, Return of Investments on Digital Marketing vs. Traditional Marketing, E Commerce, Tools used for successful marketing, SWOT Analysis of Business for Digital Marketing, Meaning of Blogs, Websites, Portal and Their Differences, Visibility, Visitor Engagement, Conversion Process, Retention, Performance Evaluation.</p> <p>Search Engine Optimization (SEO): On page Optimization Techniques, Off Page Optimization Techniques, Preparing Reports, Creating Search Campaigns, Creating Display Campaigns.</p> <p>Social Media Optimization (SMO): Introduction to Social Media Marketing, Advanced Facebook Marketing.</p>	15
II	<p>Word press Blog Creation, Twitter Marketing, LinkedIn Marketing, Instagram Marketing, social media Analytical Tools.</p> <p>Search Engine Marketing: Meaning and Use of Search Engine Marketing, Tools used — Pay Per Click, Google Adwords, Display Advertising Techniques, Report Generation Website Traffic Analysis, Affiliate Marketing and Ad Designing: Google Analytics, Online Reputation Management, Email Marketing, Affiliate Marketing, Understanding Ad Words Algorithm, Advertisement Designing</p>	15
	Total Hours	30

References:

- 1 Digital Marketing by Seema Gupta McGraw Hill
- 2 Internet Marketing : A practical approach in the Indian context, Oxford Publishing
- 3 Digital Marketing: Strategy, Implementation & Practice, Dave Chaffey & Fiona Ellis

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Programme Name: F.Y.B.Sc(AI and ML)		Semester:II
Course Category: VSC		
Name of the Department: Science and Technology		
Course Title: Database Management System		
Course Code: BAM207		Course Level: 4.5
Type: Theory		
Course Credit: 2		
Hours Allotted: 30 Hours		
Marks Allotted: 50 Marks		
Course Objectives: The objective of the course is to present an introduction to fundamentals of database management systems, with an emphasis on how to organize, maintain and retrieve - efficiently, and effectively - information from a DBMS		
Course Outcomes: CO1: Understand Database as s Relational model for Organizing, structuring, storing of data and SQL to retrieve data. CO2: To understand creation, manipulation and querying of data in databases.		
Description the course:		"Database Management System" introduces learners to the fundamental principles and practices of organizing, storing, and accessing data efficiently. This course provides a comprehensive overview of database concepts, including relational database design, SQL querying, normalization, and indexing. Participants will gain practical skills in designing, implementing, and managing databases to meet the information needs of businesses and organizations. Introduction, relevance, Usefulness, Application, interest, connection with other courses, demand in the industry, job prospects etc.

Unit No.	Content	Hours
I	<p>Introduction: Why Databases? Data versus Information, Introducing the Database, Role and Advantages of the DBMS, Types of Databases</p> <p>Entity Relationship Model:</p> <p>Conceptual modelling and database design: Data modelling using the Entity Relationship model (ER). The enhanced entity relationship model. Relational database design by ER and EER model. Practical database design methodology and use of UML diagrams.</p> <p>Normalization of Database Tables:</p> <p>Database Tables and Normalization, The Need for Normalization, The Normalization Process, Improving the Design, Surrogate Key Considerations, Higher Level Normal Forms, Normalization and Database Design, Denormalization, Data-Modeling Checklist</p>	15
II	<p>Structured Query Language (SQL): Introduction to SQL, Basic SELECT Queries, SELECT Statement Options, FROM Clause Options, ORDER BY Clause Options, WHERE Clause Options, Aggregate Processing, Subqueries, SQL Functions, Relational Set Operators, Crafting SELECT Queries.</p> <p>Advanced SQL: Data Definition Commands, Creating Table Structures, Altering Table Structures, Data Manipulation Commands, Virtual Tables: Creating a View, Sequences, Function and Procedural SQL.</p> <p>Transaction Management and Concurrency Control: What Is a Transaction? Concurrency Control with Locking Methods, Concurrency Control with Time Stamping Methods, Concurrency Control with Optimistic</p>	15
	Total Hours	30

References:

1. Fundamentals of Database systems. Ramez Elmasri, Shamkant B Navathe Pearson. 6th Edition Introduction to Problem Solving with Python E. Balagurusamy TMH 1 st 2016
2. Database Management Systems, Ramakrishnam, Gehrke, McGraw Hill, 2007
3. The Programming Language of Oracle, 4th Revises Edition, Ivan Bayross
4. Oracle PL/SQL Programming, Steven Feuerstein with Bill Pribyl

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Programme Name: F.Y.B.Sc(AI and ML)		Semester: II
Course Category: VSC		
Name of the Department: Science and Technology		
Course Title: Database Management System Practical		
Course Code: BAMP208		Course Level: 4.5
Type: Practical		
Course Credit: 2		
Hours Allotted: 60 Hours		
Marks Allotted: 50 Marks		
Course Objectives: The objective of the course is to present an introduction to fundamentals of database management systems, with an emphasis on how to organize, maintain and retrieve - efficiently, and effectively - information from a DBMS		
Course Outcomes: CO1: Understand Database as s Relational model for Organizing, structuring, storing of data and SQL to retrieve data. CO2: To understand creation, manipulation and querying of data in databases.		
Description the course:	"Database Management System" introduces learners to the fundamental principles and practices of organizing, storing, and accessing data efficiently. This course provides a comprehensive overview of database concepts, including relational database design, SQL querying, normalization, and indexing. Participants will gain practical skills in designing, implementing, and managing databases to meet the information needs of businesses and organizations. Introduction, relevance, Usefulness, Application, interest, connection with other courses, demand in the industry, job prospects etc.	

Sr. No.	Content
1.	List of Practical: (Can be done in Oracle / SQL Server / MySQL)
a	Draw E-R diagram and convert entities and relationships to relation table for a given scenario : Bank
b	College
2	Write relational algebra queries for a given set of relations
3	Defining data
a	Using CREATE statement
b	Using ALTER statement
c	Using DROP statement
d	Using TRUNCATE statement
e	Using RENAME statement
4	Manipulating data
a	Using INSERT statement
b	Using UPDATE statement
c	Using DELETE statement
d	Using SELECT statement
5	Creating and managing the tables
a	Creating table with constraints: NOTNULL, UNIQUE, PRIMARY KEY ,FOREIGN KEY
6	Restricting and sorting data
a	Using DISTINCT,IN, AS, SORT,LIKE,ISNULL, OR
b	Using Group By, Having clause, Order By clause
7	Aggregate and Mathematical functions
a	AVG,MIN,MAX,SUM,COUNT
b	ABS,SQRT,ROUND,TRUNCATE,SIGN,POWER,MOD,FLOOR,CEIL
8	Views and Joins: For a given set of relation tables perform the following
a	Creating view
b	Dropping view
c	Selecting from a view
9	Database trigger
a	Using CREATE OR REPLACE TRIGGER
10	Functions and Procedures.

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Programme Name: F.Y.B.Sc(AI and ML)		Semester:II
Course Category/Vertical: AEC		
Name of the Department: Science and Technology		
Course Title: Corporate Communication – II		
Course Code: BACC209	Course Level: 4.5	
Type: Theory		
Course Credit: 2 credits		
Hours Allotted: 30 Hours		
Marks Allotted: 50 Marks		
Course Objectives (CO): 1. To inculcate basic soft skills in learners and develop their leadership skills 2. To develop the overall personality of students by enabling them to adopt effective time management skills, becoming aware about emotional intelligence, learning about personal branding and make learners aware about basic etiquettes to be followed in personal and professional lives.		
Course Outcomes (OC): OC 1: Learners would develop effective soft skills and leadership skills and would be able to differentiate between listening and hearing and its impact on communication OC 2: Learners would develop their personality, learn time management skills, etiquettes, develop emotional intelligence along with their personal branding skills		
Description the course:	Soft Skills are an integral part of individual development. The course will introduce the learners to the soft skills required for communication in the business world as well as in personal lives. They would be able to showcase the same in the required scenarios in the professional world. Effective learning of soft skills would enable the learners to upgrade their skills and grab positions like soft skill trainers and personality grooming professionals. Introduction, relevance, Usefulness, Application, interest, connection with other courses, demand in the industry, job prospects etc.	

Unit No.	Content	Hours
I	Introduction to Soft Skills – I Soft skills – Meaning, features, scope, importance, relevance of soft skills in the corporate world, relevance of soft skills in personal space, Soft skills v/s hard skills Listening skills – Meaning, Importance, Essentials of good listening skills, Qualities of a good listener, Types of listening skills, Barriers to effective listening, Process of listening, Active v/s Passive Listening Leadership – Meaning, Attributes of a good leader, Styles of leadership, Leading through change	15
II	Personality Development and Etiquettes Personality – Meaning, Determinants of personality, Personality Traits – Locus of Control, Type A and Type B Personality, Machiavellianism, Self-Monitoring Time Management – Meaning, Importance, principles of time management, 4 P's, 4D's of time management, Challenges in time management, Tips for good time management. Etiquettes – Meaning, Importance, Ethics v/s Etiquettes. Types of Etiquettes – Telephone Etiquettes, Email Etiquettes, Meeting Etiquettes, Dining Etiquettes, Cubicle Etiquettes, Dressing and Grooming Etiquettes, Social media Etiquettes, Internet Etiquettes, Workplace Etiquettes	15
	Total Hours	30

References:

1. Daniel Coleman, Emotional Intelligence, Bantam Book, 20 ICT Academy of Kerala, "Life Skills for Engineers", McGraw Hill Education (India) Private Ltd., 2016.
2. Caruso, D. R. and Salovey P, "The Emotionally Intelligent Manager: How to Develop and Use the Four Key Emotional Skills of Leadership", John Wiley & Sons, 2004.
3. Kalyana, "Soft Skill for Managers"; First Edition; Wiley Publishing Ltd, 2015.
4. Larry James, "The First Book of Life Skills"; First Edition, Embassy Books, 2016.

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Programme Name: F.Y.B.Sc(AI and ML)		Semester:II
Course Category/Vertical: Value Education Course		
Name of the Department: Science and Technology		
Course Title: Green Technology – II		
Course Code: BAG210		Course Level: 4.5
Type: Theory		
Course Credit: 2 credits		
Hours Allotted: 30 Hours		
Marks Allotted: 50 Marks		
Course Objectives(CO): <ol style="list-style-type: none"> 1. Understand issues and modern approaches of Green Computing and alternatives for cooling your data center and the need for making computer networks and communications energy efficient. 2. Understand cloud computing in the context of environmental sustainability and various elements of clouds that contribute to total energy consumption 		
Course Outcomes (OC): OC 1: Develop knowledge about the concept green IT standards and certifications related to sustainable IT products as well as Describe green IT in relation to technology. OC 2: Evaluate IT use in relation to environmental perspectives and Formulate plans for reducing IT heating and cooling requirements as well as Implement Green IT in Real Life.		
Description the course:		<p>The course introduces the learners to the concept of sustainable approach to IT resource management, focusing on minimizing environmental impact in the context of environmental concerns. The learners could upgrade their current understanding towards Green IT practices, reducing energy consumption and electronic waste, promoting efficient, cost-effective, and environmentally sustainable IT systems. Students would be able to explore new areas of IT professionals with expertise in Green IT. Introduction, relevance, Usefulness, Application, interest, connection with other courses, demand in the industry, job prospects etc.</p>

Unit No.	Content	Hours
I	<p>Overview and Issues: Problems: Toxins, Equipment Disposal, Company's Carbon Footprint: Measuring, Global Initiatives: United Nations, Basel Action Network, Basel Convention, North America: The United States, Canada, Australia, Europe, WEEE Directive, RoHS, National Adoption, Asia: Japan, China, Korea.</p> <p>Minimizing Power Usage: Power Problems, Monitoring Power Usage, Servers, Low-Cost Options, Power Consumption, Reducing Power Use, Data De-Duplication, Virtualization, Monitors, Power Supplies, Wireless Devices</p>	15
II	<p>Cooling: Cooling Costs, Power Cost, Causes of Cost, Calculating Cooling Needs, Reducing Cooling Costs, Economizers, On-Demand Cooling, HP's Solution, Optimizing Airflow, Hot Aisle/Cold Aisle, Raised Floors, Cable Management, Vapour Seal, Prevent Recirculation of Equipment Exhaust, Supply Air Directly to Heat Sources, Fans, Humidity, Adding Cooling, Fluid Considerations, System Design, Datacenter Design, Centralized Control, Design for Your Needs.</p> <p>Green Networks and Communications: Introduction, Objectives of Green Network Protocols, Green Network Protocols and Standards.</p> <p>Green Cloud Computing and Environmental Sustainability: Introduction, What is Cloud Computing? , Cloud Computing and Energy Usage Model: A Typical Example, Features of Clouds Enabling Green Computing, Green Cloud Architecture</p>	15
	Total Hours	30

References:

1. Green IT Toby Velte, Anthony Velte, & Robert Elsenpete McGraw Hill 2008
2. Harnessing Green It Principles And Practices San Murugesan, G.R. Gangadharan WILEY
3. Green Computing Tools and Techniques for Saving Energy, Money and Resources Bud E. Smith CRC Press 2014

Scheme of Examination

Course with Credit	External Examination	Internal Examination	Total
Credit 4	60 marks	40 marks	100 marks
Credit 2	30 marks	20 marks	50 marks

Internal Examination Structure(Theory)

Internal examination	40 marks	20 marks
Project Presentation/Case Study /Quiz/Group Discussion	10 marks	5 marks
Assignment /Active class Participation/Attendance	10 marks	5 marks
Class test	20 marks	10 marks
Total	40 marks	20 marks

Structure for Class Test

For 10 marks	
Q1. Answer the following (Attempt any 2) a. b. c. d.	10 Marks

External Examination (For 60 Marks)

Q. No.	External	Marks: 60
Q .1 (From Module 1)	Answer the following questions (Any 3) A B C D E F	15 Marks
Q. 2 (From Module 2)	Answer the following questions (Any 3) A B C D	15 Marks

	E F	
Q. 3 (From Module 3)	Answer the following questions (Any 3) A B C D E F	15 Marks
Q. 4 (From Module 4)	Answer the following questions (Any 3) A B C D E F	15 Marks

External Examination (For 30 Marks)

Q. No.	External	Marks: 30
Q. 1 (From Module 1)	Answer the following questions (Any 3) A B C D E F	15 Marks
Q. 2 (From Module 2)	Answer the following questions (Any 3) A B C D E F	15 Marks

Practical Evaluation Internal: 20 marks

1	Problem Solving	10
2	Lab Work/Performance	5
3	Viva	5

Practical External Exam: 30 marks

A Certified copy journal is essential to appear for the practical examination.

1	Practical Question 1	10
2	Practical Question 1	10
3	Journal	5
4	Viva Voce	5

OR

1	Practical Question 1	20
2	Journal	5
3	Viva Voce	5

Sheth T. J. Education Society's
Sheth N.K.T.T College of Commerce and
Sheth J.T.T College of Arts,(Autonomous) Thane (W)

Programme Name: All programmes	Semester: II
Course Category: Certificate Course (CC)	
Name of the Department: Sociology	
Course Title: National Service Scheme Paper II	
Course Code: As per course structure	Course Level:4.5
Type: Theory / Practical	
Course Credit: 2 credits (1 credit = 15 Hours for Theory or 30 Hours of Practical work in a semester)	
Hours Allotted: 30 Hours	
1. Marks Allotted: 50 Marks	
Course Objectives: 1. To make aware the students about NSS ideology ii. To make students understand Youth Development Program in India and Role of Youth Leaders	
Course Outcomes: 1. Students will be inspired from social reformer 2. Students will understand social issues in India.	
<p>Introduction: The NSS introduces students to the concept of voluntary community service as a means of personal development and nation-building. It typically involves engaging in various activities such as environmental conservation, literacy campaigns, health awareness drives, and disaster relief efforts.</p> <p>Relevance and Usefulness: In today's society, where there is a growing need for civic engagement and social cohesion, the NSS plays a crucial role. It instills a sense of civic duty and social responsibility in young people, empowering them to contribute positively to their communities and society at large.</p> <p>Application: Through hands-on participation in community service projects, NSS volunteers gain practical experience in leadership, teamwork, problem-solving, and communication skills. They also develop a deeper understanding of social issues and learn how to address them effectively through grassroots initiatives.</p> <p>Interest and Connection with Other Courses: The NSS intersects with various academic disciplines such as social work, public administration, sociology, and development studies. It provides students with opportunities to apply theoretical knowledge in real-world settings and reinforces the importance of active citizenship and social justice.</p> <p>Demand in the Industry: Employers increasingly value candidates who demonstrate a commitment to community service and civic engagement. Participation in the NSS signals to potential employers that an individual is socially conscious, proactive, and capable of working collaboratively towards common goals.</p>	

Job Prospects: Graduates who have participated in the NSS often find themselves well-equipped for a wide range of career paths. They may pursue roles in the nonprofit sector, government agencies, corporate social responsibility departments, international development organizations, or even entrepreneurship ventures with a social impact focus.

Syllabus: NEP 2020 w.e.f 2024-25

Unit No.	Content	Hours
I	UNIT I: Youth Development - National Youth Policy - Role and Importance of youth leadership, -Leadership capability and its development,	15
II	UNIT II: Social Reformers - Social Reformers: Mother Teresa, Baba Amte, Dr. Abhay Bang and Dr. Rani Bang. - Role and Responsibility of youth in various activities of N.S.S	15
	Total Hours	30

References:

1. National Service Scheme Manual (Revised) 2006, Government of India, Ministry of Youth Affairs and Sports, New Delhi.
2. University of Mumbai National Service Scheme Manual 2009.
3. <http://nss.nic.in>
4. <https://www.rccmindore.com/wp-content/uploads/2023/04/NSS-Notes-II.pdf>

Scheme of Examination

Internal : 20 Marks

External: 30 Marks

Internal	Marks: 20
Assignment	5 marks
Active participation/Attendance	5 Marks
Class test	10 Marks

Paper Pattern for Internal and External Examination

Internal Examination – Class Test

Q.1.MCQ question .

10 marks

External Examination-

Assignment based on Community work.

30 marks

Sheth T. J. Education Society's
Sheth N.K.T.T College of Commerce and
Sheth J.T.T College of Arts, Thane (W)
(Autonomous)

Programme Name: All programmes		Semester: II
Course Category/Vertical: Co-Curricular (CC)		
Name of the Dept: Psychology		
Course Title: Yoga		
Course Code: As mentioned in course structure		Course Level: 4.5
Type: Theory / Practical		
Course Credit: 2 credits		
Hours Allotted: 30 Hours		
Marks Allotted: 50 Marks		
Learning Objectives: <ol style="list-style-type: none"> 1. To impart to the students the knowledge of teachings and philosophy of yoga tradition. 2. To provide the knowledge of various Yoga therapy practices like asana (posture), pranayama (voluntarily regulated breathing techniques). 		
Course Outcomes (CO): OC 1. Students will be able to understand the basic principles and applications of Yoga. OC 2. Students will be able to use the Practical knowledge in their day to day life.		
Description the course: (Including but not limited to)		Yoga practices will be important for the upcoming lifestyle hence students can seek a career in the same. Students will understand the importance of yoga in life. Students will be having practical exposure. Hence, practicing yoga will help students to maintain their health.

Syllabus: NEP 2020 w.e.f 2024-25

Unit No.	Content	Hours
I	Theory of Yoga A) Yoga Meaning and Definition: Micro Circulatory and Macro Circulatory Practices B) Shuddhi Kriya: Shwasan Marg Shuddhi, Kapalbhathi Meditation: Yoga Nidra	10
II	Practical A) Standing Yogasana : Hastapadasana, Urdhva Hastasana, Kati Chakrasana, Sitting Yogasana : Yogmudra Prone Asana : Urdhvamukh Shvanasana, Samkonasana, Supine Yogasana : Utthita Ekpadasana, Supta Ardha Matsyendrasana, Supta Tadasana, Uttan Vakrasana B) Pranayama: Chandrabhyas, Suryabhyas Abdominal Breathing, Thoracic Breathing, Clavicle Breathing	20
	Total Hours	30

References:

1. Rajayoga - Swami Vivekananda - Ramakrishna Ashrama Publications.
2. C.D. Sharma: Critical Survey of Indian Philosophy, Motilal Banarsidass Publications 2003
3. G. V. Kadam - Yoga Life Sutra, Girish Vasant Kadam (2012)

Scheme of Examination

Paper Pattern for External Examination

Practical demonstration of asanas	30 marks
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Paper Pattern for Internal Examination: 20 Marks

Internal	Marks: 20
Viva	10 marks
Quiz	5 marks
Class Participation	5 marks

